



Syllabus 2020-21

S. No.	Department	Pg. No.
1	School of Studies in Ancient Indian History Culture & Tourism & Hotel Management	1-44
2	School of Studies in Anthropology	45-127
3	School of Studies in Biotechnology	128-182
4	School of Studies in Chemistry	183-238
5	Swami Vivekanand Memorial School of Studies in Comparative Religion, Philosophy and Yoga	239-262
6	School of Studies in Computer Science & IT	263-333
7	School of Studies in Economics	334-362
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9	School of Studies in Electronics and Photonics	395-511
10	School of Studies in Geography	512-516
11	School of Studies in Geology and WRM	517-563
12	School of Studies in History	564-654
13	School of Studies in Law	655-809
14	School of Studies in Library & Information Science	810-837
15	School of Studies in Life Science	838-939
16	School of Studies in Literature and Languages	940-1098
17	Institute of Management	1099-1128
18	School of Studies in Mathematics	1129-1184
19	University Institute of Pharmacy	1185-1252
20	School of Studies in Physical Education	1253-1371
21	School of Studies in Physics and Astrophysics	1372-1415
22	School of Studies in Psychology	1416-1531
23	School of Regional Studies and Research	1532-1594
24	School of Studies in Sociology & Social work	1595-1681
25	School of Studies in Statistics	1682-1685
26	Institute of Teacher Education	1686-1824
27	Centre for Women's Studies	1825-1841
28	Renewable Energy Technology & Management	1842-1938
29	Centre for Basic Sciences	1939-2144

MBA

SYLLABUS

TWO YEARS MBA (FULL TIME) PROGRAMME

Academic Session: 2020-2021

**INSTITUTE OF MANAGEMENT
PT. RAVISHANKAR SHUKLA UNIVERSITY, RAIPUR**

**INSTITUTE OF MANAGEMENT
PT. RAVISHANKAR SHUKLA UNIVERSITY, RAIPUR**

**TWO YEAR M.B.A. (FULL TIME) PROGRAMME
COURSE STRUCTURE**

Academic Session: 2020-21

FIRST SEMESTER

MARKS

	External	Internal	Total
111 Management Concepts and Process	70	30	100
112 Organisational Behavior	70	30	100
113 Quantitative Methods	70	30	100
114 Managerial Economics	70	30	100
115 Accounting for Managers	70	30	100
116 Information Technology with	70	30	100
17 Environment and Management	70	30	100
118 Business Legislations	70	30	100
119 Industry Based Project & Viva-I	70	30	100

			900

SECOND SEMESTER

121 Managerial Communication	70	30	100
122 Management Science	70	30	100
123 Human Resource Management	70	30	100
124 Financial Management	70	30	100
125 Marketing Management	70	30	100
126 Production Management	70	30	100
127- Research Methodology	70	30	100
128 Business Ethics & Indian Ethos	70	30	100
129 Industry Based Project& Viva -II	70	30	100

			900

THIRD SEMESTER**MARKS**

231 Organizational Effectiveness & Change	70	30	100
232 International Business	70	30	100
233 Management Information System	70	30	100

- **Specialization -Group A: MARKETING (COMPULSORY)**

234 Marketing Research & Consumer Behavior	70	30	100
235 Sales & Advertising Management	70	30	100
236 Industrial & Service Marketing	70	30	100

- **Specialization Group B (*Any One Group is to be Opted*)**

FINANCE

237F. Security Analysis and Portfolio Mgt.	70	30	100
238F. Management of Financial Services	70	30	100

HUMAN RESOURCE MANAGEMENT

237H. Human Resource Development	70	30	100
238H. Legal Framework of HRM	70	30	100

SYSTEM

237 S. System Analysis & Design	70	30	100
238 S. RDBMS & SQL Concepts	70	30	100

239 TRAINING REPORT & VIVA	70	30	100
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900

FOURTH SEMESTER	MARKS		
241. Strategic Management	70	30	100
242. Retailing Management	70	30	100
243 Corporate Social Responsibility	70	30	100
• Specialization- Group A : MARKETING (COMPULSORY)			
244 International Marketing	70	30	100
• Specialization -Group B :(Any One Group is to be Opted)			
FINANCE			
245F. International Financial Mgt.	70	30	100
246F. Project Planning, Analysis & Mgt	70	30	100
HUMAN RESOURCE MANAGEMENT			
245H. Compensation Management	70	30	100
246H. Mgt. of Industrial Relations	70	30	100
SYSTEM			
245S. Business Process Re-Engineering & ERP	70	30	100
246S. Fundamentals of Computer Architecture	70	30	100

			600

Note:

1. Specialization Group B has three functional specializations in the area of Finance HRM and System. Out of these three specializations, any one as a whole is to be opted. First two papers from the opted specialization are to be studied in the third semester and remaining two papers are to be studied in the fourth semester.
2. Comprehensive viva will be based on all the subjects studied during all the semesters.

MBA - FIRST SEMESTER (Session: 2018-2019)

MANAGEMENT CONCEPTS AND PROCESS (FT-111)

- Concepts, nature, scope, significance, functions and principles of management, historical evolutions of management thoughts, Management Process, System Approaches to Management
 - Planning-concepts, components and steps involved in planning process, MBO, Individual and Group Decision Making.
 - Organizing- principles, centralization, decentralizations, delegation, employees' empowerment, line & Staff Authority, Different types of organization structures, staffing.
 - Directing and Coordinating Assumptions in directing, Principles of Directing, .
 - Controlling, nature, scope, functions, steps and control techniques.

Suggested Readings:

1. Stoner and Freeman, **Management**, Prentice Hall, N. Delhi.
2. Koontz, O' Donnell Wehrich, **Principles of Management**, McGraw Hill, New York.
3. Peter F. Drucker, **The Practice of Management**, Allied Publishers.
4. Massie, **Essentials of Management**, AITBS, New Delhi.
5. Terry and Franklin, **Principles of Management**, AITBS, New Delhi.
6. Agrwal, R.D. **Organisation and Management**- TMH, New Delhi

ORGANISATIONAL BEHAVIOUR (FT-112)

- Understanding Human Behavior, Individual Differences, Personality, Attitudes, Values, Emotional Intelligence.
- Intra-personal Processes: Sensation, Perception, learning, Motivation. Inter-personal Process, stress management.
- Leadership, Socialization, 'Counselling, Mentoring.
- Group Behavior -Intra-group and Inter-group processes and behaviour, Team Development and Team Functioning
- Conflict Management - Intra and Inter personal conflict.

Suggested Readings:

1. Luthans Fred, **Organisational Behaviour**., New York, McGraw Hill.
2. Robbins S.P., **Organisational Behaviour**, New Delhi, PHI*
3. Singh, Dalip, **Emotional Intelligence at Work**, Response Books, Sage
4. Davis Keith, **Human Behaviour at Work**, TMH, New Delhi
5. Pareek Udai, **Organisational Behaviour**, Oxford, IBH, Mumbai
6. Hersey Paul and Blanchard, **Management of Organisational Behaviour**, Prentice Hall of India, New Delhi.
7. Uma Shekharan, **Organisation Behaviour**, TMH, New Delhi.
8. Dwivedi, R.S. **Human Relations and Organisational Behaviour**, Galgotia, New Delhi.

ACCOUNTING FOR MANAGERS (FT-115)

- Financial Accounting – Concept, Importance and Scope, Generally Accepted Accounting Principles, Preparation of Financial Statements with special reference to analysis of a Balance Sheet and Measurement of Business Income
- Financial Statement Analysis - Ratio Analysis, Funds Flow Analysis, The Statement of Cash Flows
- Management Accounting – Concept, Need, Importance and Scope; Basic Concepts in Cost Accounting – Material, Labour, Overheads, Job and Process Costing.
- Budget and Budgetary Control, Types of Budget – Flexible Budget, Cash Budget.
- Costing for Decision-making, Standard Costing, Cost Volume Profit Analysis, Responsibility Accounting.

Suggested Readings :

1. Anthony R N and Reece J S. **Accounting Principles**, Homewood, Lllinois, Richard D. Irwin.
2. Bhattacharya S K and Dearden J. **Accounting for Management** : Text and Cases. New Delhi, Vikas.
3. Heitger, L E and Matulich, Serge. **Financial Accounting**. New York, McGraw Hill.
4. Hingorani, N L. and Ramanathan, A.R. **Management Accounting**., New Delhi, Sultan Chand.
5. Horngren, Charles etc. **Principles of Financial and Management Accounting**. Englewood Cliffs, New Jersey, Prentics Hall Inc.
6. Needles, Belverd, etc. **Financial and Managerial Accounting**. Boston, Houghton Mifflin Company.
7. Vij, Madhu. **Financial and Management Accounting**. New Delhi, Anmol Publications.

Information Technology (FT-116)

- Introductions to Computers- Hardware, Software, System software, Application software and packages, Introduction to embedded software
- Fundamentals of Operating System, DOS, Windows, Introduction to DBMS Concepts and integration of applications, Basics of data processing, Data hierarchy, Data file structures ,Emerging Communication Technologies
- Commonly used software Packages like Microsoft Word, Microsoft Excel, Microsoft Power Point, Tally etc.
- Types of Network- LAN, WAN and MAN, Introduction to Electronic Commerce and Electronic Business, Overview of cyber security, Cloud Computing, Artificial Intelligence.
- Introduction to World Wide Web- Internet Operations- Internet Browsers and Business Websites, Use of Search Engines and Google Applications, Use of internet as a medium of marketing, Managerial issues in reaching consumers / organizations through internet.

Suggested Readings

1. Burch, John and Grudnitski Gary. **Information Systems** : Theory and Practice, New York, John Wiley.
2. David, Van Over. **Foundations of Business Systems**. Fort Worth, Dryden.
3. Eliason, A.L. **On-Line Business Computer Applications**., Chicago, Science Research Association.
4. Estrada, Susan. **Connecting to the Internet**. Sebastopol, C A, O'Reilly.
5. John, Moss Jones, **Automating Managers : the implications of Information Technology for Managers**. London, Pinter.
6. Long, L. **Computers**, Englewood Cliffs, New Jersey, Prentice Hall Inc.
7. Summer, M. **Computers Concepts and Uses**., Englewood Cliffs, New Jersey, Prentice-Hall Inc.

QUANTITATIVE METHODS (FT-113)

- Mathematical basis of Managerial Decision: Functions A.P. & G.P. and their Managerial Applications, Matrices, Markov chains.
- Frequency Distributions and their Analysis - Measures of Central Tendency and Dispersion.
- Probability Theory and Probability Distributions – Binomial, Poisson, Normal and exponential
- Correlation and Regression Analysis (Linear)
- Index Numbers, Time Series Analysis and Forecasting.

Suggested Readings:

1. Chadha, N.K. **Statistics for Behavioural and Social Scientists**, Reliance Publishing House, Delhi.
2. Gupta, S.P. and Gupta M.P. **Business Statistics**, New Delhi, Sultan Chand.
3. Kazmier, L.J. and Pohl, N.F. **Basic Statistics for Business and Economics**, New York, McGraw Hill.
4. Levin Richard I and Rubin David S. **Statistics for Management**, New Jersey, Prentics Hall Inc.
5. Terry, Sineich, **Business Statistics by Examples**. London, Collier Macmillan Publishers.
6. Roy, "**Business Statistics**", Pustak Bhawan, Allahabad.
7. Sharma, J. K. **Business Statistics**, Pearson Education Pte. Ltd.

MANAGERIAL ECONOMICS (FT-114)

- Nature and Scope of Managerial Economics, Fundamental Concepts in Managerial Economics, Role and Responsibilities of Managerial Economist.
- Law & Nature of Demand, Demand Determinants, Demand Forecasting, Demand Function, Elasticity of Demand, Consumer Surplus. Law of Returns and Production Functions and cost output relations, Market structure.
- Price-output decisions under different market conditions - Perfect and Imperfect Competition, Monopoly, Monopolistic Competition, Oligopoly, Non-Price Competition, Price Discrimination, Types of price discrimination.
- Balance of Payment, Concept and measurement of National Income, Gross Domestic Savings, Gross Domestic Capital Formation.
- Nature and Concept of Profit, Theories of Profit, Business Fluctuations and Trade Cycles, Impact of Trade Cycle on Society.

Suggested Readings:

1. Adhikary, M. **Business Economics**, New Delhi, Excel Books.
2. Baumol, W.J. **Economic Theory and Operations Analysis**, New Delhi, Prentice Hall Inc.
3. Chopra, O.P., **Managerial Economics**, New Delhi, Tata Mcgraw Hill.
4. Keat Paul G & Philips K.Y. Young, **Managerial Economics**, Prentice Hall, New Jersey.
5. Koutsoyiannis, A. **Modern Micro Economics**, New York, Macmillan.
6. Milgrom, P and Roberts J. **Economics, Organisation and Management**. Englewood Cliffs, New Jersey, Prentice Hall Inc.
7. Mehta P.L., Analysis, **Problems & Cases**, Sultan Chand & Sons, New Delhi.

MBA - SECOND SEMESTER (Session: 2018-2019)

MANAGERIAL COMMUNICATION (FT-121)

- Importance and Nature of Business Communication, Channels and Media of Communication, Communication Networks, Effectiveness of Communication ; Process of Communication
- Barriers to Communication; Writing Business Reports, Communication Theories
- Oral Communication, Resume preparations, public speaking and negotiations skills; Legal aspects of Business Communication
- Listening Skills, Presentation Skills, Non Verbal Communication
- Feedback Skills, Interview skills, Counselling Skills, Communication on Disciplinary Matters, Group Discussion and Meetings.

Suggested Readings :

1. Bowman, Joel P and Branchaw, Bernadine P. **Business Communication: From Process to Product**, Dryden Press, Chicago.
2. Hatch, Richard.:**Communicating in Business.**, Science Research Associates, Chicago.
3. Murphy, Herta A and Peck, Charrles E. **Effective Business Communications**, Tata Mc Graw Hill, New Delhi.
4. Pearce, C Glenn etc. **Business Communications : Principles and Applications**, John Wiley, New York.
5. Treece, Maira. **Sucessful Business Communications**, Allyn and Bacon Boston.
6. Bahal, Sushil. **Business Communication**, Sage Publication
8. Rao, N. and Das R. P., **Communication Skills**, Himalaya Publishing House

MANAGEMENT SCIENCE (FT-122)

- Management Science – Basic Concepts and its Role in Decision Making, Linear Programming: Formulation, Graphical Method, Simplex Method, Concepts of Duality, Post Optimality Analysis.
- Integer Programming , Branch and Bound Algorithm, Transportation and Assignment Models, Routing Problems, Sensitivity Analysis.
- Queuing Theory; Inventory Management Techniques
- PERT and CPM, Decision Theory and Decision trees.
- Game Theory; Simulation, Markow Analysis, Goal programming.

Suggested Readings :

1. Gould, F.J.etc. **Introduction to Management Science**. Englewood Cliffs, New Jersey, Prentice Hall Inc.
2. Mathur, K and Solow, D. **Management Science**, Englewood Cliffs, New Jersey, Prentice Hall Inc.
3. Narag A.S. **Linear Programming and Decision Making**. New Delhi, Sultan Chand.
4. Sharma, J.K. **Operations Research : Theory and Applications**. New Delh, Macmillian India Ltd.
5. Taha, H.A. **Operations Research – An Introduction**. New York, Mc Millan.
6. Theirouf, R J and Klekamp, R.C. **Decision Making Through Operations Research**, New York, John Wiley.

HUMAN RESOURCE MANAGEMENT (FT-123)

- Concepts and Perspectives on Human Resource Management; Evolution and Philosophy of Human Resource Management, HR challenges in changing environment
- Human Resource Policy and Planning; Human Resource records and Audit, Job Analysis. Methods of , Job Analysis, Description , Job specification.
- Recruiting and Selecting Human Resources ,Placement , and Induction,
- Manpower Training and Development, Performance Appraisal and Potential Evaluation; Job Evaluation, Wage Determination and Compensation management.
- Employees' Welfare; Industrial Relations; Grievance Management, Exit Policy and Implications; Overview of international Human Resource Management.

ENVIRONMENT AND MANAGEMENT (FT-117)

- Business Environment: Nature, Scope and its relevance in Management Decision Making.
- State Participation in Business, Interaction between Government and Business, Socio-Cultural and Political Environment and its effect on Business.
- Government Control over price and distribution; Consumer Protection Act (CPA), New Industrial Policy of the Government, Monetary and Fiscal Policy.
- Industrial Ecology, Environmental Management System : EMS Standards, ISO 14000. Environmental Accounting and Auditing, Clearance/Permissions for establishing industry
- GATT/WTO origin and main section of WTO Agreement, Patents, IPRS, Industrial Pollution – Air, Water, Land Pollution and its effects on Business, Environmental Ethics.

Suggested Readings :

1. Francis Cherumilam, **Business Environment**, Himalaya Publishing House
2. Adhikari, M., **Economic Environment of Business**
3. Gupta, D., **Indian Government & Politics**
4. Ghosh P.K. & Kapoor, G.K. **Business & Society**
5. K.Aswathapa, **Essential of Business Environment**, PHI
6. Sidiqi, Saleem, **Business Environment**, Pearson Education Pte. Ltd

BUSINESS LEGISLATIONS (FT-118)

- The Indian Contract Act 1872, Essentials of a valid contract, Void agreements, Performance of Contracts & its remedies, Quasi-contracts. Agency, Bailment, Pledge, Guarantee and Indemnity.
- An overview of The Negotiable Instruments Act 1881. Holder-in-Due Course, Arbitration.
- The Companies Act, 2013 : Nature and Types of Companies. Formation. Memorandum and Articles of Association, Prospectus Allotment of Shares, Winding Up. .
- Consumer Protection Act , 2019 : Objectives, Consumer Right, Consumer Protection Council, Central consumer Protection Authority, Consumer Dispute Redressal Commission, Mediation, Offences and Penalties. IT Act 2000: Salient features, Digital Signature, Electronic Governance, Electronic Records, Certifying Authorities, Electronic Signature Certificate, Duties of Subscribers, Penalties and Adjudication, Cyber Appellate Tribunal, Offences and Inter Mediaries not to be liable in certain cases.
- An Overview of Labour Legislations in India like Industrial Dispute Act, Trade Union Act, Employee (Workmens') Compensation Act.

Suggested Readings :

1. Tuteja S.K. **Business Law For Managers**, New Delhi, Sultan Chand.
2. Kapoor, N. D. **Mercantile Law**.
3. Datey, V. D. **Business and Corporate Laws**, Taxman
4. Padhi, P. K., **Legal Aspects of Business**, PHI
5. Kuchhal, M. C., **Business Laws**, Vikas Publishing House
6. Pandit, M. S. and Pandit, Sobha., **Business Law**, Himalaya Publishing House
7. Grover and Kapoor, **Company and Business Law**, S. Chand

Industry Based Project – I (FT-119)

Students will prepare Industry Based Projects individually on the basis of topics allotted to them. **The Industry Based Project submitted by the students will be evaluated by the external examiner and viva will be based on the Project.**

3. Stanton & Futrell, **Fundamentals of Marketing**, McGraw Hill, New York.
4. McCarthy, **Basic Marketing**, Universal Book Sellers, New Delhi.
5. Ramaswamy, V.S. I, **Marketing Management : Analysis, Planning: Implementation & Control**, Macmillan, Chennai.
6. Philip Kotler & Armstrong Jr., **Principles of Marketing** : PHI, New Delhi.
7. Ramswamy V.S. & Nama Kumari, S, **Marketing Management Planning, Implementation & Control**, McMillan India Ltd.

PRODUCTION MANAGEMENT (FT-126)

- Meaning, Nature, Significance and Scope / Role / Functions of Production Management, Relationship with other Management Functions, Different Production Systems : Continuous and Mass Production Intermittent Production, Batch / Job-Shop Production
- Product Design , Plant Location, Plant Layout, .
- Production Planning and control, Capacity Planning, Scheduling and Sequencing in the Context of Continuous and Intermittent Systems. TQM & SQC.
- Materials Management -Value Analysis, Waste and Scrap Disposal, Classification and Codification, Standardisation, Variety Reduction, Material Handling, JIT.
- Work study, Methods Study, Work Measurement, Industrial Safety and Safety Management, Maintenance Management.

Suggested Readings :

1. Adam, E E & Ebert, RJ. **Production & Operation Management**. New Delhi, PHI.
2. Paneerselvam, Production Management, PHI
3. Ashwathapa, Production & Operations Management
4. Chunawala and Patel, Production Management
5. Buffa, E.S. **Modern Production Management**, John Wiley (New York).
6. Chary S.N. **Production and Operations Management**, New Delhi, TMH.
7. Dilworth, James B. **Operations Management : Design, Planning & Control for Manufacturing & Services**, Singapore, Mc Graw Hill.

RESEARCH METHODOLOGY (FT-127)

- Concepts of Research, Scientific Approach to Research, Types of Social Science Researches.. Research Process and Planning for Research, Formulation of Research Problem,
- Research Designs – Exploratory, Descriptive and Experimental Research Designs, Sampling Design, Sources and Methods of Data Collection, Observation Design, Interviewing for Research, Formulation of Questionnaire.
- Scaling Techniques, Techniques of Data Analysis (including Statistical Techniques) like ANOVA, Awareness of Software Packages relevant to Management Researches
- Interpretation of Data and Drawing Inferences, Research Report Writing, Research Publications.
- Applications in Marketing Research with special reference to Product Research, Service Research, Advertising Research and Sales Research.

Suggested Readings :

1. Bernet, Roger : **Management Research**, ILO.
2. Kothari, C. R. Research Methodology, New Age International
3. Fowler, Floyd J.Jr., **Survey Methods**, Sage Pub.
4. Salkind, Nell J., **Exploring Research.**, Prentice Hall, NJ.
5. Dwivedi, R.S. Research Methodology in Behavioural Sciences- McMillian.

BUSINESS ETHICS AND INDIAN ETHOS (FT-128)

- Ethics: Nature, Scope , Purpose , Importance of Ethics and moral Standards. Religion and ethics, Source of Ethics, Ethics and Management system ,Ethical issues and Analysis in management. Personal Framework for ethical choices, Values.

Suggested Readings :

1. Das, R.P. **Management of Industrial Relations**, Varanasi, MTC
2. Rao, N and Das R.P. **Cases in Human Resource Management**, Himalaya Publishing House, Mumbai.
3. Aswathappa, K. **Human Resource and Personnel Management** Tata McGraw Hill, New Delhi.
4. De Cenzo, D.A. & Robbins S P. **Human Resource Management**, New York, John Wiley.
5. Guy, V & Mattock J. **The New International Manager**, London, Kogan Page.
6. Holloway, J. ed. **Performance Measurement and Evaluation**. New Delhi, Sage.
7. Monappa, A. & Saiyadain M. **Personnel Management.**, New Delhi, Tata Mc-Graw Hill.
8. Dwivedi, R.S. **HRM in Indian Organisation**, New Delhi, Galgotia.
9. Pareek, Udai. **Designing & Managing Human Resource System**, New Delhi, Oxford Pub. Co.
10. Stone, Lloyed and Leslie W.Rue, **Human Resource and Personnel Management** Richard D. Irwin, Lllionis.
11. Vohra, N. D. Quantitative Techniques for Managers

FINANCIAL MANAGEMENT (FT-124)

- Financial Management: An Overview, Acquisition of funds, allocation of funds and allocation of income, Nature and Scope, Profit Maximisation v/s Wealth Maximisation, Financial leverage, Operating leverage.
- Capital Budgeting : Concept and Significance, Derivative of Cash flow in a Capital Budgeting Situation, Techniques and methods of capital budgeting, conflicts between NPV and IPR, Cost of capital, Weighted Average Cost of Capital.
- Working Capital Management: overview, Management of Cash, Accounts receivables and inventories, Financing current assets. Cash Management Models.
- Retained earnings and Dividend Policy, Types of Dividend, Dividend Theories, Dividend Practices in India. Bonus Shares
- Sources of Long Term and Short-term Finance, Capital Structure Theories and Factors.

Suggested Readings :

1. Hampton, John. **Financial Decision Making**. Englewood Cliffs, New Jersey, Prentice Hall Inc.
2. Van Horner, James C. **Financial Management and Policy**, New Delhi, Prentice Hall of India.
3. Winger, Bornard and Mohan, Nancy. **Principles of Financial Management**, New York, Macmillan Publishing Company.
4. J.C. Van Horne, **Fundamentals of Financial Management**, PHI, New Delhi.
5. Weston Brigham, **Managerial Finance**, McGraw Hill, New York
6. I.M. Pandey, **Financial Management**, Vikas Pub.House, New Delhi.
7. P. Chandra, **Financial Management**, TMH, New Delhi.
8. S.C. Kuchhal, **Financial Management**, Chaityna Publishing House, Aligarh.
9. R.M. Srivastava, **Financial Decision Making**, Himalaya Publishing House, Mumbai.

MARKETING MANAGEMENT (FT-125)

- Marketing: Concept, Nature and scope. Marketing Environment Ps of Marketing, BCG Matrix
- Marketing Information & Research, Market Segmentation and Targeting, Buying Behaviour. Understanding Consumer & Industrial Markets
- Product Decisions- Types of Product, Product mix, Product Life Cycle, New Product Development Stages, Branding and Pricing Methods, Factors Influencing Pricing Decisions, Packaging , CRM including Concept of Relationship Marketing
- Channel Management, Sales Management, Promotion Management .
- Marketing Control. Specific Marketing Issues : Rural Marketing, Retail Marketing, Marketing of E-Business, Consumerism, Globalisation, Green Marketing, Brand ; Meaning and role , Brand Building strategies.

Suggested Readings :

1. Philip Kotler, **Marketing Management Analysis**, PHI, New Delhi.
2. R.S. Davar, **Modern Marketing Management**, Universal Book Sellers, New Delhi.

MBA - THIRD SEMESTER (Session: 2018-2019)

ORGANISATIONAL EFFECTIVENESS AND CHANGE (FT-231)

- An overview of Organisational structure, Behavioural implication of organizational structure, factors influence in designing organizational structure and job design. Organizational Effectiveness- Approaches, need and significance
- Organisational development- nature, goals, process , Diagnosis methods and intervention mechanisms
- Organizational change- need, factors, change agents, resistance and approaches to manage changes.
- Organisational conflicts – causes, nature measures to resolve organisational conflicts.
- Organisational culture and climate, organizational learning, power and politics in the organization, Integration and control.

Suggested Readings

1. S. P Robbins **Organisational Theory** PHI , New Delhi
2. S.P.Robbins **Organisational Behaviour** PHI, New Delhi
3. P.Luthans , **Organisational Behaviour** TMH, New Delhi
4. R.S. Dwivedi ,**Organisational Behaviour and Human Relations** McMillan, New Delhi.
5. Uma Sekharan, **Organisational Behaviour**, TMH, New Delhi.
5. French and Bell, **Organisational Development**, PHI, New Delhi.

INTERNATIONAL BUSINESS (FT – 232)

- Basics of International trade, Trade Theories, Porter's Generic Strategies; Global Entry Strategies; Balance of Payment Instruments of trade policy; tariffs, quotas; Indias Foreign Trade policy .
- Institutional set-up for export promotion in India, salient features of the current EXIM policy . Export procedure documentation. Multinationals (MNCs) in India: Role of Multinationals in the development of developing countries, Export promotion policies.
- Problems and Prospects of Indian Businesses in abroad, Anti - Dumping Duties, regulatory framework of International Trade, Policy and Performance of export zones and EOU , Export Incentives.Foreign Investments in India: Foreign Direct Investment (FDI) and Foreign Institutional Investment(FII) .
- Export marketing : Indian and Global context; WTO: Qrigin of WTO, Implications of enforcement of WTO on Indian Business.
- Trade agreement pertaining to trade in goods and services ,Multilateral Environmental agreement (MEAs), International trade blocks , NAFTA, ASEAN, SAARC, EU, WTO and dispute settlement mechanism.

Suggested Reading :

1. Francis Cherunilam, **International Business**
2. Cherunilam, **Business Environment**.
3. Bhalla, V.K. and Shivramu **International Business Environment and business** , New Delhi , Anmol.
4. Eiteman, D.K. & Stopnehill, **Multinational business Finance** , New York Wesley
5. Subba Rao, **International Business**, Himalaya Publishing House

- Business Ethics: Scope , Need, Importance, Factors influencing Business Ethics, Ethical Theories, Morality and ethics, Value based organization , Ethical pressure in individual in organization.
- Management Ethics: Business Ethics and society, Society expectations from business, Values for Managers, Cultural Contradictions, Spirituality and leadership,
- Ethics in Business Functions: Marketing, Finance, Human Resource and Production, Environmental Ethics, Gender issues ecological consciousness.
- Business Ethos: Interaction between ethos, morality and law, Characteristics, Principles and issues of Business Ethos, Social Responsibility of Business Corporate Governance and Ethics.

Suggested Reading

1. S.K.Chakraborty Human Response in Organisation : Towards the Indian Ethos : TMH, New Delhi.
2. J. Petrick and J. Quinn Management Ethics: Integrity at work
3. S.K. Chakraborty QWL and Managing by Human Values — TMH, New Delhi.

Industry Based Project - II **FT- 129**

Students will prepare industry based projects individually on the basis of topics allotted to them. **The Industry Based Project submitted by the students will be evaluated by the external examiner and viva will be based on the Project.**

SALES AND ADVERTISING MANAGEMENT (FT- 235)

- Sales Management - Meaning, Significance, Functions of Sales Manager, Recruitment, Selection, Training and Motivation of Sales Personnel, Role of Technology in automation of sales function.
- Sales Organization - Theory of Selling, Allocation of Sales Territory, Sales Forecasting, Sales budgeting, Different tools in sales promotion and their specific advantages and limitation, Management of Return on Investment.
- Role of Advertising in Marketing Process, Legal, Ethical and Social Aspect of advertising, advertising media, types, strategy, Media selection.
- Purchase Proposition, Unique Selling Proposition, Measuring Advertising Effectiveness, Advertising Agency and its role.
- Determination of target audience, building of advertising programme – Message, Headlines, Copy Logo, Illustration Appeal, Layout. Campaign Planning, Media Planning, Budgeting, Evaluation.

Suggested Reading :

1. Still, Cundiff and Govani, **Sales Management**, PHI, New Delhi.
2. Charles Futrell, **ABC of Selling**, AITBS, New Delhi.
3. Ramaswamy, **Sales Management**, Sterling, New Delhi.
4. Bellur and Bekman, **Sales Management**, Himalaya, Mumbai.
5. Manendra Mohan, **Advertising Management**, TMH, New Delhi.
6. Aaker, Batra and Myers, **Advertising Management**, Prentice Hall of India, New Delhi.
7. Norris, **Advertising Management**, Prentice Hall of India, New Delhi.
8. B.S. Rathore, **Advertising Management**, Himalaya, Mumbai.

INDUSTRIAL AND SERVICE MARKETING (FT – 236)

- Industrial Marketing: Classification of industrial goods & services, Types of industrial product lines, new product development, industrial product life cycle & strategies, pricing of industrial products.
- Formulating Channel strategies and physical distribution decisions: objectives, nature of industrial distribution channels, Logistics, Promotional Strategies for Industrial goods and services: Sales promotion, publicity and public relations, direct marketing, personal selling, Advertisement
- Concepts, Nature, Emergence, Growth and Importance of Services, Marketing Challenges, Service Classification
- Marketing of Service Business, Understandings Service Market, Services and Consumer Behaviour, Segmentation of Marketing of Services, Management of Service Quality.
- Marketing Mix in Service Marketing, Advertising, Branding of Services, Relationship Marketing, Retail Marketing.

Suggested Readings:

1. Richard M.Hill et, al., **Industrial Marketing**, A.T.B.S, Publishers and Distributors, New Delhi
2. Cross, A.C. etc. **Business Marketing**, Boston, Houghton Mifflin.
3. Michael H.Morris, **Industrial and Organizational Marketing**, Mcmilan Publishing Company, New York
4. David T.Wilson, —Pricing Industrial Products and Services, Institute for the study of Business Markets, College of Business Administration, Pennsylvania State University.
5. Michael D.Hutt, Thomas W.Speh, **Business Marketing management- A strategic view of industrial and organizational markets**, Thomson south western, Singapore.
6. Lovelock, Christopher H. **Managing Services : Marketing Operations and Human Resources**.Englewood Cliffs, New Jersey, Prentice Hall Inc.
7. Lovelock, Christopher H. **Service Marketing**.Englewood Cliffs, New Jersey, Prentice Hall Inc.
8. McDonald, Malcom and Payne, A. **Marketing Planning for Services**. Butterworth, Heinemann.

MANAGEMENT INFORMATION SYSTEMS (MIS) (FT- 233)

- Management Information System. The System Approach and System View of Business, Introduction to the Process of M.I.S. Development.
- Management Information System Design - Defining the Problem, Set System Objectives, Determining information needs, sources, Development and selection of alternative design, Gross Design, Report.
- Implementation of MIS : Stages of Implementation ; Evaluating the system , maintenance of the system ,Technology monitoring, Emerging opportunity for global buisness
- Information system for Decision Making, Basic Information System Related to Finance, Production, Marketing and Human Resources.
- MIS and Decision Making - Phases of Decision making process- Intelligence, Design & choice. Programmed V/s Non-Programmed Decisions. Expert System and Decision Support System.

Suggested Readings :

1. Robert G. Murdic Joel E, Ross, James R. Clagget, **Information Systems for Modern Management**, PHI, New Delhi.
2. Gordon B Davis, M.H. Olson, **Management Information Systems**, Prentice Hall, New Jersey.
3. Jerome Kanter, **Management Oriented Management Information System**, PHI, New Delhi.
4. N. Subramaniam, **Introduction To Computers**, Himalaya, Mumbai.
5. P.K. Sinha, **Computer Fundamentals**, BPB, New Delhi.

SPECILISATION COMPULSORY GROUP A - MARKETING

MARKETING RESEARCH AND CONSUMER BEHAVIOUR (FT- 234)

- Marketing Research – Concept, nature, scope, significance, advantages and limitations, steps involved in marketing research.
- Research design and its types, product pricing, promotion and advertising research, marketing research in India, data collection, sources of data, data analysis and interpretation , major techniques of marketing research and report writing.
- Consumer behavior(CB) - nature , concept ,scope, CB Models, significance of consumer behaviour Consumer vs customer and consumer decision making
- Internal factors influencing consumer behaviour - life style, motivation, attitude, learning, perception and personality.
- External factors influencing buying behaviour – family, groups, social class and cultural , cognitive dissonance, diffusion of innovation.

Suggested Reading :

1. D.D. Sharma, **Marketing Research**, Himalayan Pub. , Mumbai
2. G.C. Beri , **Marketing Research**, TMH, New Delhi
3. M.N. Mishra, **Marketing Research**, Sultanchand , New Delhi.
4. Peter D. Bennet and H.H. Kes, **Consumer Behaviour**
5. Walters and Paul, **Consumer Behaviour**, McGraw Hill, New York.
6. Shiffman, L.G. & Kanuk, LL., **Consumer Behaviour**, PHI, New Delhi
7. Balckwell, Engle and Kollat, **Consumer Behaviour**.
8. Pal, Sumitra, **Consumer behavior**, S. Chand
9. Nair, Suja. **Consumer behavior**, Himalayan Pub. , Mumbai
10. **Solomon**, **Consumer Behaviour**, Pearson

Suggested Readings :

1. Bhalla, V.K. **Management of Financial Services**. Anmol, New Delhi.
2. Bhalla, V.K. And Dilbag, Singh. **International Financial Centres**. New Delhi, Anmol.
3. Ennew C, Trevor Watkins & Mike Wright : **Marketing of Financial Services**, Heinemann Professional Pub.
4. Giordan, E and K. Natrajan, **Emerging Scenario of Financial Services**, Himalaya Publishing House.
5. Meidan, Arthur Brennet, M. **Option Pricing : Theory & Applications**. Toronto, Lexington Books.
6. Kim, Suk and Kim, Seung. **Global Corporate Finance : Text and Cases**. Miami Florida, Kolb.
7. P.R. Agrawal, **Mutual Funds**, Orient Law House, Allahabad.
8. Khan M. Y. **Financial Services**, TMH

HUMAN RESOURCE MANAGEMENT AREA

Human Resource Development (FT –237 H)

- HRM Vs HRD, HRD Philosophy and Goals of HRD, HRD Sub-systems/Process Mechanisms , HRD Intervention Mechanism.
- Effectiveness of Training : Identifying Training Needs, Organising Training Programmes, Evaluation and Follow-up of Training, Recent Development in Training System
- Performance Appraisal & Management, Potential Appraisal & Development, Feedback and Performance Counselling.
- HRD Climate and Practices in organizations, HRD Culture, HRD Audit, HRD Culture and Climate in Indian Organisations.
- Career & succession Planning & Development, Introduction to concept and Processes of Quality Management and continuous improvement processes,

Suggested Readings :

- Sungara Raju, S.M., **Total Quality Management**, New Delhi, Tata McGraw-Hill Pub.Co.Ltd.
1. Pareek and Rao, **Designing and Managing Human Resource, Systems**, Oxford & IBH Pub. House
 2. French and Bell, **Organisation Development**, PHI, New Delhi.
 3. Rao, T.V., **Recent Experiences in HRD**, New Delhi. Oxford & IBH
 4. Pareek, Udai, **Evaluation of HRD**, Jaipur, Rawat Publications
 5. Rao T.V., **HRD Audit**, Oxford IBH, Mumbai.

LEGAL FRAMEWORK OF HUMAN RESOURCE MANAGEMENT (FT -238 H)

- Emergence and Objectives of Labour Laws and their impact on Socio-Economic Environment. Employees Welfare Measure.
- Social Security Measures and Laws- Workmen's Compensation Act, Employees' State Insurance Act.
- Provident Fund Act , Payment of Gratuity Act and Maternity Benefits Act.
- Wage Legislations and Bonus Act – The Law of Minimum Wages, Payment of Wages Act, Payment of Bonus Act.
- Laws Relating to Working Conditions in Factories Act, Contract Labour (R &A) Act.

Suggested Readings :

1. Ghaiye, B R, **Law and Procedure of Departmental Enquiry in Private and Public Sector**. Lucknow, Eastern Law Company.
2. Malhotra, O P. **The Law of Industrial Disputes**. Vol.I and II. Bombay, N.M. Tripathi.
3. Malik, P L. **Handbook of Industrial Law**. Lucknow, Eastern Book.
4. Saini, Debi S. **Labour Judiciary, Adjudication and Industrial Justice**. New Delhi, Oxford.
5. Saini, Debi S. **Redressal of Labour Grievances, Claims and Disputes**, New Delhi, Oxford & IBH.
6. Seth, D.D. **Industrial Dispute Act, 1947**. Vol.I & II. Bombay, N.M. Tripathi.
7. Srivastava S.C. **Industrial Relations and Labour Law**. New Delhi, Vikas.
8. N.D. Kapoor, **Mercantile Law** Sultan Chand and Sons, New Delhi.

9. Newton M P Payne, A. The Essence of Service Marketing. New Delhi, Prentice Hall of India.
10. Verma, H V. **Marketing of Services**. New Delhi, Global Business Press.
11. **Industrial Marketing**, Krishna K Havaldar, 2nd Edition, Tata McGraw Hill
12. **Industrial Marketing Management**, Michael D Hutt and Thomas W Speh, The Dryden Press

SPECILISATION GROUP – B
(**ANY ONE GROUP IS TO BE OPTED**)
FINANCE AREA

SECURITY ANALYSIS AND PORTFOLIO MANAGEMENT (FT- 237 F)

- Investment Return and Risk, Cost of Investing in Securities; Mechanics of Investing; Markets and Brokers; Investment Companies; Objectives of Security Analysis; Investment Alternatives; Valuation Theories of Fixed and Variable Income Securities.
- The Return to Risk and the Investment Decision; Derivative markets, Fundamental and Technical Analysis, Efficient Market Theory.
- Portfolio Management – An Optimum Portfolio Selection Problem, Markowitz Portfolio Theory, The Mean Variance Criterion (MVC) – The Nature of Investment Risk, MVC and Portfolio Selection, the Investment in Liquid Assets, Portfolios of Two Risky Securities, A Three Security Portfolio, The relationship between the Unleveraged and Leveraged Portfolio.
- Sharpe Single Index Model; Application of Market Model in Portfolio Construction; Capital Asset Pricing Model, Factor Models and Arbitrage Pricing Theory.
- Optimum Portfolios – Constructing the Optimum Portfolio, Portfolio Investment Process; Bond Portfolio Management Strategies; Investment Timing and Portfolio Performance Evaluation.

Suggested Readings :

1. Amling, Frederic. **Investment Englewood Cliffs**, New Jersey, PHI .
2. Bhalla, V.K. **Investment Management : Security Analysis and Portfolio Management**, New Delhi, S.Chand.
3. Fischer, Donald E. and Joardan, Ronald J. **Security Analysis and Portfolio Management**, New Delhi, PHI.
4. Alexander, Gordon J. and Sharpe, William F. **Fundamentals of Investments**, Englewood Cliffs, New Jersey, Prentice Hall Inc.
5. Elton, Edwin J and Gruber, Martin J. **Modern Portfolio Theory and Investment Analysis**. New York, John Wiley.
6. Lee, Cheng F. etc. **Security Analysis and Portfolio Management**. Scott, Foresman.
7. Markowitz, Harry M. Mean. **Variance Analysis in Portfolio Choice and Capital Markets**. London, Basic Blackwell.
8. Kevin, S. **Security Analysis and Portfolio Management**, PHI

MANAGEMENT OF FINANCIAL SERVICES (FT- 238 F)

- Financial System and Markets; Indian Financial System, Concept, Nature and Scope of Financial Services; Regulatory Framework for Financial Services; Management of Risk in Financial Services;
- Mutual Funds; Merchant Banking Services : Managing of Issue Shares and Bonds, Hire Purchase; Debt Securitization;
- Housing Finance; Credit Rating; Venture Capital, Factoring, Forfeiting and Bill Credit Discounting, Insurance.
- Evaluation of an Acquisition, Takeover and Merger, Leasing and Financial Evaluation of a Lease.
- Money Market, Foreign Investment : FDI, FIIs investment Strategies, New Market Instruments. Corporate Risk Management.

6. Hawryzkiewyca I.T. **Database Analysis & Design**, Macmillan, New York. Weldon J. Database Administration, Plenum Press, New York

TRAINING REPORT AND VIVA (FT -239)

The training report submitted by the students will be evaluated by the external examiner and viva will be based on the training report.

SYSTEM AREA

SYSTEMS ANALYSIS AND DESIGN (FT – 237 S)

- Overview of Systems Analysis and Design; Software applications today – the changing scenarios – Introduction to different methodologies and Structured System Analysis – Problem identification – requirement analysis : tools and techniques – feasibility analysis – operational. Technical and economical feasibility – details of SDLC approach. Business Systems Concept.
- System Development Life Cycle; Project Selection; Feasibility Study. Tool for Analysis and Design of Business Systems; Methodologies Available; Need for Structured Techniques; Structured Techniques Available. System Requirement Specification and Analysis; Data Flow Diagrams; Data Dictionaries; Process Organisation and Intersections; Decision Analysis; Decision Trees and Tables.
- Expansion, Explosion and Normalization, Detailed Design; Modulation; Module Specification; File Design; Data Base Design,
- System Control and Quality Assurance; Documentation Tools. Testing Techniques Available; System Controls and Audit Trails; System Administration and Training; Conversion and Operations Plan.
- Hardware and Software Selection; Hardware Acquisition; Benchmarking, Vendor Selection, Operating System Selection, Language Processors, Performance and Acceptance Testing Criteria. Managing Data Processing in an Organisation; Data Processing Setup; Project Management Techniques for Managing Software Projects.

Suggested Readings :

1. Award. Elias M. **Systems Analysis and Design**. 2nd ed., new Delhi. PHI
2. Coad, Peter and Edward, Yourdon. **Object-Oriented Analysis**. 2nd ed., Englewood Cliff, New Jersey, yourdon Press.
3. Whitten, J.L. etc. **System Analysis and Design Methods**. New Delhi. Galgotia.
4. Marco. T.D. **Structured Analysis & System Specification**, New Delhi, Yourdon press.
5. Rajaraman, V. **Analysis and Design of Systems**. New Delhi, PHI.

RDBMS & SQL CONCEPTS (FT – 238 S)

- Database - Definition, Concepts and Developments - Traditional file Oriented approach, Need for Database, Uses of Database, Design of Database, Distributed Data Processing System.
- RDBMS : Introduction - Database and DBMS Software, Three Layered Architecture, Advantages and Disadvantages of a Database, History; Data Modeling – Object Oriented and Record Based Models, E.R. Model and E-R Diagram Examples and Exercises, Hierarchical, Network, Relational Model, Normalisation Techniques - 1st, 2nd, 3rd normal form, Examples and Exercises, E.F. Codd's 12 Rules for a relational Database.
- Database Concepts – Transaction Management, Properties of a Transaction, Commit and Rollback, Concurrency, Locking, Access Control, Data Integrity, Integrity Constraints, Auditing, Backup and Recovery; Data Dictionary – System Catalogue, Distributed Database and Distributed Data Access.
- Introduction to Client – Server and ODBC connectivity. SQL : SQL Language – DML Commands – Select, Insert, Update, Delete – retrieving data, summarizing data, adding data to the database, updating data to the database and deleting data.
- Simple queries – use of WHERE, Arithmetic, Comparison and logical operators, ORDER BY, GROUP BY and Group Functions. Multi table queries, Sub-queries, Views; DDL Commands – Table and View Create, Alter, Drop Integrity Constraints; Transaction Processing – Commit, Rollback, Save point.

Suggested Readings :

1. Coleman, Pat and Peter Dyson, **Internets BPB Publication**, New Delhi.
2. Keen, Peter and Mark McDonald, **The e-Process Edge**, Delhi. Tata McGraw Hill.
3. Oberoi, Sundeep **e-Security and You**, Delhi, Tata McGraw Hill.
4. Richart, Alberto Manuel and Stephen Asbury, **Active Server Pages 3**, IDG Books, Delhi.
5. Hansen G.W. & Hansen J.V. **Data Base Management & Design**, PH, Englewood Cliff, New Jersey.

CORPORATE SOCIAL RESPONSIBILITY (FT- 243)

- Corporate Social Responsibility: Concept, Historical Evolution of CSR, Developmental Phases of CSR ,Benefits and Criticisms, CSR in Emerging Economies of the world
- National voluntary Guidelines on Social, Environmental and Economic Responsibilities of Business: Principles for Ethics, Transparency and Accountability in business practices, Products Life Cycle Sustainability , Employees' well-being, Stakeholder Engagement, Safety of Human Rights, Environment Protection, Policy Advocacy, Inclusive Growth for all stake holders, Customer Value
- SEBI Guidelines for Corporate Social Responsibility Reporting, Provisions for CSR in Companies Act 2013: Definition, CSR Activities, CSR Committees, CSR Policy, CSR Expenditure, CSR Reporting, Display of CSR activities on its website
- Understanding the thrust areas mentioned in schedule VII of the Companies Act 2013, Understanding the practices adopted by companies with respect to CSR Committees, activities and policy
- Impact of CSR Practices on Sustainable development, Generation of Employment, Promotion of Education, Gender Equality and women empowerment, Improvement of Health services

Suggested readings

1. Sanjay K. Agarwal, Corporate Social Responsibility in India, SAGE Publications.
2. Madhumita Chatterji, Corporate Social Responsibility, Oxford University Press

MARKETING AREA (COMPULSORY)

INTERNATIONAL MARKETING (FT –244)

- Nature, Scope and Significance of International Marketing, Foreign Trade Concepts and Theories.
- Analysis of International Marketing Environment. Trends in India's Foreign Trade, Governmental Agencies in International Marketing, Export Houses.
- International Marketing Intelligence and Marketing Research, Organisational Structures in Foreign Market, Managing International Marketing Communication and its Sales Force.
- Planning for Overseas Market- Product Strategy, International Product Life Cycle, Pricing Decisions, Distribution Channel Decisions: Organization of Shipping ,Chartering Practices , Marine Cargo Insurance, and Promoting Products for Exports including Fairs and Exhibitions.
- Export finance, Methods of Payment, Letter of Credit, ECGC, Brief study of International Economic Institutions – World Bank, GATT, UNCTAD,IMF etc.

Suggested Readings :

1. Bhattacharya, B. **Export Marketing : Strategies for Success**, New Delhi, Global Business Press.
2. Johri, Lalit M. **International Marketing : Strategies for Success**. University of Delhi, Faculty of Management Studies.
3. Keegan, Warren. **Global Marketing Management**. Englewood Cliffs, New Jersey, Prentice Hall Inc.

MBA - FOURTH SEMESTER (Session: 2018-2019)

STRATEGIC MANAGEMENT (FT – 241)

- Nature, Purpose, Importance and historical evolution of Business Policy, Concept and applications of Corporate Strategy, Strategic Management : Definition, model and process for Strategy Formulation :Ansoff growth vector.
- Strategic Intent – Vision, Mission, Purpose and Objectives,
- Environmental Analysis : External environment and organisational Appraisal; Environmental threat and opportunity profile; competitive advantage of a firm, Core competency, strategic advantage profile; SWOT Analysis.
- Strategic Alternatives-merger, acquisition, diversification, modernisation, integration, joint venture, turn around. Strategic Choice- objective and subjective considerations in strategic choice; Managing Cultural Diversity; Global Entry Strategy.
- Strategic Implementation, Activating Strategies, Structural Implementation, Functional Implementation, Leadership implementation, Behavioural Implementation, Strategy Evaluation, Strategic Control, Operational Control Techniques of Strategic Evaluation and Control.

Suggested Readings :

1. Azhar Kazmi, **Business Policy & Strategic Management**, TMH, New Delhi.
2. Keen, Peter and Mark McDonald, **The e-Process Edge**, Delhi. Tata McGraw Hill.
3. P.K. Ghosh, **Business Policy-Strategic Planning and Mgmt.**, Sultan Chand and Sons, New Delhi.
4. V.P. Michael, **Business Policy and Environment**, Sultan Chand and Sons, New Delhi.
5. R.M. Srivastava, **Corporate Strategy and Planning**, Himalaya, Mumbai.
6. R. Nanjundiah, **Strategic Planning and Business Policy**, Himalaya, Mumbai.
7. Steiner, Miner, **Management Policy and Strategy**, MacMillan, London.
8. I. Ansoff, **Strategic Management**, MacMillan, London.
9. Peters Tom. **Business School in a Box**, New York, Macmillian.
10. Hamel G. & Prahalad C.K. **Competing for the Future**, Boston, HBS Press.

RETAILING MANAGEMENT (FT – 242)

- Retailing: Nature, Scope and opportunities, Types of retailers: merchandise retailers, non-store retail formats, service retailing; types of ownership, functions of retailers; FDI and retailing in India, Emerging issues of Retailing in India different kinds
- Customer Buying Behaviour: types of buying decisions, buying process, social factors influencing buying decisions in retailing.
- Retail Market Strategy: definitions, retail planning process, financial strategy, location strategy, human resource strategy, retail MIS.
- Retail Mix Strategies: buying merchandise, pricing, retail communication mix, multi channel retailing.
- Managing the store, store layout and design, space planning, merchandise presentation techniques, store ambience, customer service

Suggested Readings :

1. Ahuja, G K & Gupta, Ravi. **Systematic Approach to Income Tax**, Allahabad, Bharat Law House.
2. Bhalla, V.K. **Modern Working Capital Management**, New Delhi, Anmol.
3. Bhalla, V.K. **Financial Management and Policy**, New Delhi, Anmol.
4. Chandra, Prasanna. **Projects : Preparation, Appraisal, Budgeting and Implementation**, New Delhi, Tata Mc Graw Hill.
5. Dhankar, Raj S. **Financial Management of Public Sector Undertakings**. New Delhi, Westville.

HRM AREA

COMPENSATION MANAGEMENT (FT- 245 H)

- Wage Determination : Wage concepts; minimum fair and living wages. Process and Theories of Wage Determination, job Evaluation and Job Pricing. Machinery for wage fixation, Managerial Remuneration in India. Job Evaluation Techniques.
- Human Resource Record and Audit; Rewards, Incentives and Wage Differentials: Types of rewards and incentives; different incentive plans, Dearness Allowance and other Allowances, Fringe Benefits. Wage Differentials , Profits – Sharing , Co Partnership & Payment of Bonus with special reference to India.
- Wage and Productivity : Concept of Productivity, Productivity of Labour and payment of Wages , the level of living of Indian Workers wages and earnings of Indian worker. Problem of low productivity in the Indian workforce.
- Wage regulations in India : Salient provisions of : Minimum Wages Act, 1948 , Payment of Wages Act, 1936 Payment of Bonus Act, 1965, Equal Remuneration Act, 1976
- Wage Policies in India : Concept of wage policy: Objectives, Evolution and Development of wage policy and its constraints in Indian Organisations.

Suggested Readings :

1. E.B. Flippo , **Personnel Management** , TMH
2. Decenzo and Robbins , **Human Resource Management**, PHI, New Delhi.
3. N.D. Kapoor, **Mercantile Law**, Sultan Chand & Sons.
4. A.M. Sharma , **Compensation Management**, Himalaya Publishing House, Mumbai.
5. Dewivedi, R.S. **Personnel and Human Resource Management – An Indian Experiences**, New Delhi, Galgotia.

4. Onkvisit, Sak and Shaw, J.J. **International Marketing : Analysis and Strategy** : New Delhi, Prentice Hall of India.
5. Terpstra, Vern and Sarthy, R. **International Marketing**. Orlando, Dryden Press.
6. Walter, I and Murphy, T. **Handbook of International Business**, New York, John Wiley.

FINANCE AREA

INTERNATIONAL FINANCIAL MANAGEMENT (FT –245 F)

- International Financial Management: Nature, Scope and Objectives, Domestic v/s International Financial Management, Theories of International Financial Management, International Financial System and institutions.
- Types of Foreign Exchange Markets and Transactions, Quoting Foreign Exchange Rates, Spread, Cross Rates, Forward Rates, Quoting Forward Rates; Organisation of the Foreign Exchange Markets; Foreign Exchange Risk.,
- Accounting and Transaction Exposures, Theory and Practice of Forecasting Exchange Rates. Forward Contracts; Future Contracts; Other Derivative Securities; Types of Traders; Futures Markets and the use of Futures in Hedging.
- Forward and Future Prices; Interest Rate Futures; Swaps; Options Markets; Properties of Stock Option Prices; Trading Strategies Involving Options; Options on Stock Indices; Currencies and Futures Contracts; General Approach to Pricing Derivatives Securities; Interest Rate Derivative Securities; Derivatives Market in India.
- International Receivables and Inventory Management, International Investment Strategy, International Cash Management, International Financial Strategies.

Suggested Readings :

1. Abdullah, F.A. **Financial Management for the Multinational Firm**. Englewood Cliffs, New Jersey, PHI.
2. Bhalla, V.K. **International Financial Management**, New Delhi, Anmol.
3. Buckley, Adrian, **Multinational Finance**, New York, PHI.
4. Kim, Suk and Kim, Seung. **Global Corporate Finance : Text and Cases**, Miami Florida, Kolb.
5. Shapiro, Alan C. **Multinational Financial Management**, New Delhi, PHI.
6. AbP.G. Apte, **International Financial Management**, TMH, New Delhi. Shapiro, **Multinational Financial Management**, PHI, New Delhi.

PROJECT PLANNING, ANALYSIS AND MANAGEMENT (FT – 246 F)

- Generation and Screening of Project Idea; Capital Expenditure; Importance and Difficulties; Market Demand and Situational Analysis; Technical Analysis; Financial Analysis; Analysis of Project Risk; Firm Risk and Market Risk; Social Cost Benefit Analysis.
- Multiple Projects and Constraints; Network Techniques for Project Management, Problem of Time and Cost Overrun in Public Sector Enterprises in India; Assessment of the Tax Burden; Environmental Appraisal of Projects.
- Project Finance : Project Financing in India, Infrastructure Finance Vs. Project Finance, Business and Major Players (Global and India).
- Role of FI and banks and shift in Portfolio of FI and banks, Skills required for Career in Infrastructure Finance.
- Infrastructure Projects Appraisal in a Financial Institution : Appraisal process.

- Enterprise Resources Planning : Evolution of ERP-MRP and MRP II problems of system islands need for system integration and interface early ERP Packages
- ERP products and Markets – Opportunities and problems in ERP selection and implementation; ERP implementation : identifying ERP benefits team formation – Consultant intervention-Selection ERP – Process of ERP
- E-Business : Introduction to 1 – Net technologies – Evolution of E-commerce, EDI and E-Business, Security and Privacy Issues – technologies for E-Business, Future and Growth of E-Business.

Suggested Readings :

1. Carr, D K and Johansson, H J. **Best Practices in Re-engineering**. New York, McGraw Hill.
2. Champy, James, **Re-engineering Management : The Mandate for New Leadership**. London, Harper Collins.
3. Coulson-Thomas, C. **Business Process Re-engineering : Myth & Reality**. London, Kogan Page.
4. Hammer, Michael. **Re-engineering the Corporation : A Manifesto for Business Revolution**. London, Nicholas Brealey.
5. Jayaraman, M S. et al. **Business Process Re-engineering**. New Delhi, Tata McGraw Hill.
6. Hammer, Micheal and Jamts Chamby, **Reengineering the Corporation**.
7. Ptak, Carol A. & Eli Schragenheim, **ERP**, St. Lucie Press, New York.

FUNDAMENTALS OF COMPUTER ARCHITECTURE (FT – 246 S)

- Fundamental of Data Processing and Input/Output
Fundamental of OS, Types of OS-Batch, Time Sharing, Parallel, Real time, Networks, Client Server
- File Systems, Directory .Structure, Process Management, Switching, Scheduling
- Memory Management, Swapping, Segmentation, Paging, Virtual Memory
- Multi-programming and Multitasking System
- Parallel Processing, Virtual Storage, Open Systems

Suggested Readings :

1. Leon and Leon , **Fundamentals of IT**
2. Rajaramana , **Fundamentals of Computers**

- Enterprise Resources Planning : Evolution of ERP-MRP and MRP II problems of system islands need for system integration and interface early ERP Packages
- ERP products and Markets – Opportunities and problems in ERP selection and implementation; ERP implementation : identifying ERP benefits team formation – Consultant intervention-Selection ERP – Process of ERP
- E-Business : Introduction to 1 – Net technologies – Evolution of E-commerce, EDI and E-Business, Security and Privacy Issues – technologies for E-Business, Future and Growth of E-Business.

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1. Carr, D K and Johansson, H J. **Best Practices in Re-engineering**. New York, McGraw Hill.
2. Champy, James, **Re-engineering Management : The Mandate for New Leadership**. London, Harper Collins.
3. Coulson-Thomas, C. **Business Process Re-engineering : Myth & Reality**. London, Kogan Page.
4. Hammer, Michael. **Re-engineering the Corporation : A Manifesto for Business Revolution**. London, Nicholas Brealey.
5. Jayaraman, M S. et al. **Business Process Re-engineering**. New Delhi, Tata McGraw Hill.
6. Hammer, Micheal and Jamts Chamby, **Reengineering the Corporation**.
7. Ptak, Carol A. & Eli Schragenheim, **ERP**, St. Lucie Press, New York.

FUNDAMENTALS OF COMPUTER ARCHITECTURE (FT – 246 S)

- Fundamental of Data Processing and Input/Output
Fundamental of OS, Types of OS-Batch, Time Sharing, Parallel, Real time, Networks, Client Server
- File Systems, Directory .Structure, Process Management, Switching, Scheduling
- Memory Management, Swapping, Segmentation, Paging, Virtual Memory
- Multi-programming and Multitasking System
- Parallel Processing, Virtual Storage, Open Systems

Suggested Readings :

1. Leon and Leon , **Fundamentals of IT**
2. Rajaramana , **Fundamentals of Computers**

Choice Based Credit System: Session 2020-21

अध्ययनशाला का नाम : Institute of Management

पाठ्यक्रम: चौथस बेस्ट पाठ्यक्रम: द्वितीय सेमेस्टर

प्रश्नपत्र का नाम : **MANAGEMENT CONCEPTS AND PROCESS**

कुल क्रेडिट : 3 कुल अंक: 100

पाठ्यक्रम विवरण:

- Concepts, principles of management ,historical evolutions of management thoughts Management Process. Planning, steps involved in planning process.
- Individual and Group Decision Making, Organizing- principles, centralization, decentralizations, delegation, Different types of organization structures.
- Directing and Coordinating, Controlling, steps and control techniques.

Suggested Readings:

1. Stoner and Freeman, Management, Prentice Hall, N. Delhi.
2. Koontz, O' Donnell Wechrich, Principles of Management, McGraw Hill, New York.
3. Terry and Franklin, Principles of Management, AITBS, New Delhi.
4. Agrwal, R.D.Organisation and Management- TMH, New Delhi

अध्ययनशाला का नाम : Institute of Management

पाठ्यक्रम: चौथस बेस्ट पाठ्यक्रम: तृतीय सेमेस्टर

प्रश्नपत्र का नाम : **MANAGERIAL COMMUNICATION**

कुल क्रेडिट : 3 कुल अंक: 100

पाठ्यक्रम विवरण:

- Business Communication, Channels and Media of Communication, Effectiveness of Communication : Process of Communication
- Barriers to Communication; Writing Business Reports, Oral Communication, Resume preparations, public speaking
- Listening Skills, Presentation Skills, Feedback Skills, Interview skills, Group Discussion.

Suggested Readings :

1. Murphy, Herta A and Peck, Charrles E. Effective Business Communications, Tata Mc Graw Hill, New Delhi.
2. Pearce, C Glenn etc. Business Communications : Principles and Applications, John Wiley, New York.
3. Treece, Maira. Successful Business Communications, Allyn and Bacon Boston.
4. Bahal, Sushil, Business Communication, Sage Publication
5. Rao, N. and Das R. P., Communication Skills, Himalaya Publishing House

Pre-Ph.D. Course Work (Session 2018-19)

Research Methodology (101)

Unit 1

- Concepts of Research, Research Process and Planning for Research, Formulation of Research Problem.

Unit 2

- Research Designs – Exploratory, Descriptive and Experimental Research Designs, Sampling Design.

Unit 3

- Hypothesis Testing: Parametric and Non-Parametric Tests, especially t-test, Z test, ANOVA (F test), Chi square test. Data Analysis and Interpretation of Data. Use of SPSS for Data Analysis, Drawing Inferences.

Unit 4

- Report Writing, Ethical issues in Social Sciences Research, Plagiarism and its prevention, Nuances in publishing process in academic journals: Citation Index, h-Index, i10-Index, JIF and Journal Metrics, References : different styles like APA, Havard, Chicago and MLA.

Unit 5

- Basic knowledge of Microsoft Word, Excel, Power Point, Use of Internet Resources for research: Google & Google Scholar, Infilbnet resources.

Review of Literature and Seminar (102)

1. Project based on review of research work: use of literature, knowledge of national and International Journals, Impact factor, Citation index, SCI Journals. (To be supervised and evaluated by Guide concerned).
2. Seminars; Open seminar, evaluation will be done by member of DRC.

Pre-Ph.D. Course Work (Session 2019-20)

Research Methodology (101)

Unit 1

- Concepts of Research, Research Process and Planning for Research, Formulation of Research Problem.

Unit 2

- Research Designs – Exploratory, Descriptive and Experimental Research Designs, Sampling Design.

Unit 3

- Hypothesis Testing: Parametric and Non-Parametric Tests, especially t-test, Z test, ANOVA (F test), Chi square test. Data Analysis and Interpretation of Data. Use of SPSS for Data Analysis, Drawing Inferences.

Unit 4

- Report Writing, Ethical issues in Social Sciences Research, Plagiarism and its prevention, Nuances in publishing process in academic journals: Citation Index, h-Index, i10-Index, JIF and Journal Metrics, References : different styles like APA, Havard, Chicago and MLA.

Unit 5

- Basic knowledge of Microsoft Word, Excel, Power Point, Use of Internet Resources for research: Google & Google Scholar, Infilbnet resources.

Review of Literature and Seminar (102)

1. Project based on review of research work: use of literature, knowledge of national and International Journals, Impact factor, Citation index, SCI Journals. (To be supervised and evaluated by Guide concerned).
2. Seminars; Open seminar, evaluation will be done by member of DRC.

Pre-Ph.D. Course Work (Session 2020-21)

Research Methodology (101)

Unit 1

- Concepts of Research, Research Process and Planning for Research, Formulation of Research Problem.

Unit 2

- Research Designs – Exploratory, Descriptive and Experimental Research Designs, Sampling Design.

Unit 3

- Hypothesis Testing: Parametric and Non-Parametric Tests, especially t-test, Z test, ANOVA (F test), Chi square test. Data Analysis and Interpretation of Data. Use of SPSS for Data Analysis, Drawing Inferences.

Unit 4

- Report Writing, Ethical issues in Social Sciences Research, Plagiarism and its prevention, Nuances in publishing process in academic journals: Citation Index, h-Index, i10-Index, JIF and Journal Metrics, References : different styles like APA, Havard, Chicago and MLA.

Unit 5

- Basic knowledge of Microsoft Word, Excel, Power Point, Use of Internet Resources for research: Google & Google Scholar, Infilbnet resources.

Review of Literature and Seminar (102)

1. Project based on review of research work: use of literature, knowledge of national and International Journals, Impact factor, Citation index, SCI Journals. (To be supervised and evaluated by Guide concerned).
2. Seminars; Open seminar, evaluation will be done by member of DRC.

Pt. Ravishankar Shukla University, Raipur

Scheme of Examination

M.A./M.Sc. (MATHEMATICS) (Semester-I)

2020 - 21 (Examination – Dec. 2020) onwards

There shall be five papers. Each paper shall have 100 marks. **Overall tally of marks will be 500.**

Paper	Description	Theory	Sessional	Practical	Total Marks
I	Advanced Abstract Algebra (I)	80	20	-	100
II	Real Analysis (I)	80	20	--	100
III	Topology	80	20	--	100
IV	Advanced Complex Analysis (I)	80	20	--	100
V	Advanced Discrete Mathematics (I)	80	20	--	100

M.Sc./M.A. Course (First Semester)
PAPER -I

Advanced Abstract Algebra (I)

Max. Marks 80

- Unit-I** Groups - Normal and Subnormal series. Composition series. Jordan-Holder theorem. Solvable groups. Nilpotent groups.
- Unit-II** Field theory- Extension fields. Algebraic and transcendental extensions. Separable and inseparable extensions. Normal extensions.
- Unit-III** Perfect fields. Finite fields. Primitive elements. Algebraically closed fields.
- Unit-IV** Automorphisms of extensions. Galois extensions. Fundamental theorem of Galois theory.
- Unit-V** Solution of polynomial equations by radicals. Insolvability of the general equation of degree 5 by radicals.

Books Recommended:

1. P.B.Bhattacharya, S.K.Jain, S.R.Nagpaul: Basic Abstract Algebra, Cambridge University press
2. I.N.Herstein: Topics in Algebra, Wiley Eastern Ltd.
3. Quazi Zameeruddin and Surjeet Singh : Modern Algebra

References

1. M.Artin, Algebra, Prentice -Hall of India, 1991.
2. P.M. Cohn, Algebra, Vols. I, II & III, John Wiley & Sons, 1982, 1989, 1991.
3. N.Jacobson, Basic Algebra, Vols. I, W.H. Freeman, 1980 (also published by Hindustan Publishing Company).
4. S.Lang, Algebra, 3rd edition, Addison-Wesley, 1993.
5. I.S. Luther and I.B.S. Passi, Algebra, Vol. I-Groups, Vol.II-Rings, Narosa Publishing House (Vol.I-1996, Vol. II-1999)
6. D.S.Malik, J.N.Mordeson, and M.K.Sen, Fundamentals of Abstract Algebra, Mc Graw-Hill, International Edition, 1997.
7. Vivek Sahai and Vikas Bist: Algebra, Narosa Publishing House, 1999.
8. I. Stewart, Galois theory, 2nd edition, Chapman and Hall, 1989.
9. J.P. Escofier, Galois theory, GTM Vol.204, Springer, 2001..
10. Fraleigh, A first course in Algebra Algebra, Narosa, 1982.

M.Sc./M.A. Course (First Semester)
PAPER-II

Real Analysis (I)

Max. Marks 80

Unit-I Sequences and series of functions, pointwise and uniform convergence, Cauchy criterion for uniform convergence, Weierstrass M-test, Abel's and Dirichlet's tests for uniform convergence, uniform convergence and continuity, uniform convergence and differentiation, Weierstrass approximation theorem.

Unit-II Power series, uniqueness theorem for power series, Abel's and Tauber's theorems. Rearrangements of terms of a series, Riemann's theorem.

Unit-III Functions of several variables, linear transformations, Derivatives in an open subset of \mathbb{R}^n , Chain rule, Partial derivatives, interchange of the order of differentiation, Derivatives of higher orders, Taylor's theorem, Inverse function theorem, Implicit function theorem.

Unit-IV Jacobians, extremum problems with constraints, Lagrange's multiplier method, Differentiation of integrals.

Unit-V Partitions of unity, Differential forms, Stoke's theorem.

Recommended Books:

1. Principle of Mathematical Analysis By Walter Rudin (3rd edition) McGraw-Hill, Kogakusha, 1976, International student edition.
2. Real Analysis By H.L.Roydon, Macmillan Pub.Co.Inc.4th Edition, New York .1962.

References

1. T.M. Apostol, Mathematical Analysis, Narosa Publishing House, New Delhi,1985.
2. Gabriel Klambauer, Mathematical Analysis, Marcel Dekkar,Inc. New York,1975.
3. A.J. White, Real Analysis; an introduction, Addison-Wesley Publishing Co.,Inc.,1968.

4. G.de Barra, Measure Theory and Integration, Wiley Eastern Limited, 1981.
5. E. Hewitt and K. Stromberg. Real and Abstract Analysis, Berlin, Springer, 1969.
6. P.K. Jain and V.P. Gupta, Lebesgue Measure and Integration, New Age International (P) Limited Published, New Delhi, 1986 Reprint 2000).
7. I.P. Natanson, Theory of Functions of a Real Variable. Vol. I, Frederick Ungar Publishing Co., 1961.
8. Richard L. Wheeden and Antoni Zygmund, Measure and Integral: An Introduction to Real Analysis, Marcel Dekker Inc.1977.
9. J.H. Williamson, Lebesgue Integration, Holt Rinehart and Winston, Inc. New York. 1962.
10. A. Friedman, Foundations of Modern Analysis, Holt, Rinehart and Winston, Inc., New York, 1970.
11. P.R. Halmos, Measure Theory, Van Nostrand, Princeton, 1950.
12. T.G. Hawkins, Lebesgue's Theory, of Integration: Its Origins and Development, Chelsea, New York, 1979.
13. K.R. Parthasarathy, Introduction to Probability and Measure, Macmillan Company of India Ltd., Delhi, 1977.
14. R.G. Bartle, The Elements of Integration, John Wiley & Sons, Inc. New York, 1966.
15. Serge Lang, Analysis I & II, Addison-Wesley Publishing Company, Inc. 1969.
16. Inder K. Rana, An Introduction to Measure and Integration, Norosa Publishing House, Delhi, 1997.
17. Walter Rudin, Real & Complex Analysis, Tata McGraw-Hill Publishing Co.Ltd. New Delhi, 1966.

M.Sc./M.A. Course (First Semester)
PAPER-III

Topology

Max. Marks 80

- Unit-I** Countable and uncountable sets. Infinite sets and the Axiom of Choice. Cardinal numbers and its arithmetic. Schroeder-Bernstein theorem. Cantor's theorem and the continuum hypothesis. Zorn's lemma, well-ordering theorem.
- Unit-II** Definition and examples of topological spaces. Bases and sub-bases. Subspaces and relative topology. Alternate methods of defining a topology in terms of Kuratowski Closure Operator and Neighbourhood Systems. Continuous functions and homeomorphism.
- Unit-III** First and Second Countable spaces. Lindelof's theorems. Separable spaces. Second countability and separability. Separation axioms; their Characterizations and basic properties. Urysohn's lemma, Tietze extension theorem.
- Unit-IV** Compactness. Continuous functions and compact sets. Basic properties of Compactness. Compactness and finite intersection property. Sequentially and countably compact sets. Local compactness and one point compactification. Stone-Cech compactification.
- Unit-V** Compactness in metric spaces. Equivalence of compactness, countable compactness and sequential compactness in metric space. Connected spaces. Connectedness on the real line. Components. Locally connected spaces.

Recommended Books:

1. James R.Munkres, Topology, A First Course, Prentice Hall of India Pvt. Ltd., New Delhi, 2000.
2. K.D.Joshi, Introduction to General Topology, Wiley Eastern Ltd., 1983.

References

1. J. Dugundji, Topology, Allyn and Bacon, 1966 (reprinted in India by Prentice Hall of India Pvt. Ltd.).
2. George F.Simmons, Introduction to Topology and modern Analysis, McGraw-Hill Book Company, 1963.
3. J.Hocking and G Young, Topology, Addison-Wiley Reading, 1961.

4. J.L. Kelley, General Topology, Van Nostrand, Reinhold Co., New York,1995.
5. L. Steen and J. Seebach, Counter examples in Topology, Holt, Rinehart and Winston, New York, 1970.
6. W.Thron, Topologically Structures, Holt, Rinehart and Winston, New York,1966.
7. N. Bourbaki, General Topology Part I (Transl.),Addison Wesley, Reading, 1966.
8. R. Engelking, General Topology, Polish Scientific Publishers, Warszawa, 1977.
9. W. J. Pervin, Foundations of General Topology, Academic Press Inc. New York,1964.
10. E.H.Spanier, Algebraic Topology, McGraw-Hill, New York,1966.
11. S. Willard, General Topology, Addison-Wesley, Reading, 1970.
12. Crump W.Baker, Introduction to Topology, Wm C. Brown Publisher, 1991.
13. Sze-Tsen Hu, Elements of General Topology, Holden-Day,Inc.1965.
14. D. Bushaw, Elements of General Topology, John Wiley & Sons, New York, 1963.
15. M.J. Mansfield, Introduction to Topology, D.Van Nostrand Co. Inc.Princeton,N.J.,1963.
16. B. Mendelson, Introduction to Topology, Allyn & Bacon, Inc., Boston,1962.
17. C. Berge, Topological Spaces, Macmillan Company, New York,1963.
18. S.S. Coirns, Introductory Topology, Ronald Press, New York, 1961.
19. Z.P. Mamuzic, Introduction to General Topology, P. Noordhoff Ltd.,Groningen, 1963.
20. K. K. Jha, Advanced General Topology, Nav Bharat Prakashan, Delhi.

M.Sc./M.A. Course (First Semester)
PAPER-IV

Complex Analysis (I)

Max. Marks 80

- Unit-I** Complex integration, Cauchy-Goursat. Theorem. Cauchy's integral formula. Higher order derivatives. Morera's Theorem. Cauchy's inequality and Liouville's theorem. The fundamental theorem of algebra. Taylor's theorem. Laurent's series. Isolated singularities. Meromorphic functions.
- Unit-II** Maximum modulus principle. Schwarz lemma. The argument principle. Rouché's theorem Inverse function theorem.
- Unit-III** Residues. Cauchy's residue theorem. Evaluation of integrals. Branches of many valued functions with special reference to $\arg z$, $\log z$ and z^a .
- Unit-IV** Bilinear transformations, their properties and classifications. Definitions and examples of Conformal mappings.
- Unit-V** Spaces of analytic functions. Hurwitz's theorem. Montel's theorem Riemann mapping theorem.

Recommended Books:

1. Complex Analysis By L.V.Ahlfors, McGraw - Hill, 1979.
2. J.B. Conway, Functions of one Complex variable, Springer-Verlag, International student-Edition, Narosa Publishing House, 1980.

References

1. H.A. Priestly, Introduction to Complex Analysis, Clarendon Press, Oxford 1990.
2. Complex Function Theory By D.Sarason
3. Liang-shin Hahn & Bernard Epstein, Classical Complex Analysis, Jones and Bartlett Publishers International, London, 1996.
4. S. Lang, Complex Analysis, Addison Wesley, 1977.
5. D. Sarason, Complex Function Theory, Hindustan Book Agency, Delhi, 1994.
6. Mark J.Ablowitz and A.S. Fokas, Complex Variables: Introduction and Applications, Cambridge University press, South Asian Edition, 1998.
7. E. Hille, Analytic Function Theory (2 Vols.) Gonn & Co., 1959.
8. W.H.J. Fuchs, Topics in the Theory of Functions of one Complex Variable, D.Van Nostrand Co., 1967.

9. C.Caratheodory, Theory of Functions (2 Vols.) Chelsea Publishing Company, 1964.
10. M.Heins, Complex Function Theory, Academic Press, 1968.
11. Walter Rudin, Real and Complex Analysis, McGraw-Hill Book Co., 1966.
12. S.Saks and A.Zygmund, Analytic Functions, Monografic Matematyczne, 1952.
13. E.C Titchmarsh, The Theory of Functions, Oxford University Press, London.
14. W.A. Veech, A Second Course in Complex Analysis, W.A. Benjamin, 1967.
15. S.Ponnusamy, Foundations of Complex Analysis, Narosa Publishing House, 1997.

M.Sc./M.A. Course (First Semester)
PAPER-V

Advanced Discrete Mathematics (I)

Max. Marks 80

Unit-I Formal Logic-Statements. Symbolic Representation and Tautologies. Quantifiers, Predicates and Validity. Propositional Logic. Semigroups & Monoids-Definitions and Examples of Semigroups and monoids (including those pertaining to concatenation operation).

Unit-II Homomorphism of semigroups and monoids. Congruence relation and Quotient Semigroups. Subsemigroup and submonoids. Direct Products. Basic Homomorphism Theorem.

Unit-III Lattices-Lattices as partially ordered sets. Their properties. Lattices as Algebraic Systems. sublattices, Direct products, and Homomorphisms. Some Special Lattices e.g., Complete, Complemented and Distributive Lattices. Boolean Algebras-Boolean Algebras as Lattices. Various Boolean Identities. The Switching Algebra example. Subalgebras,

Unit-IV Direct Products and Homomorphisms. Join-Irreducible elements, Atoms and Minterms. Boolean Forms and Their Equivalence. Minterm Boolean Forms, Sum of Products Canonical Forms. Minimization of Boolean Functions. Applications of Boolean Algebra to Switching Theory (using AND,OR & NOT gates). The Karnaugh Map Method.

Unit-V Grammars and Languages-Phrase-Structure Grammars. Rewriting Rules. Derivations. Sentential Forms. Language generated by a Grammar. Regular, Context-Free, and Context Sensitive Grammars and Languages. Regular sets, Regular Expressions. Notions of Syntax Analysis, Polish Notations. Conversion of Infix Expressions to Polish Notations. The Reverse Polish Notation.

Recommended Books:

1. Elements of Discrete Mathematics By C.L.Liu
2. J.P. Tremblay & R. Manohar, Discrete Mathematical Structures with Applications to Computer Science, McGraw-Hill Book Co., 1997.

References

1. J.L. Gersting, Mathematical Structures for Computer Science, (3rd edition), Computer Science Press, New York.
2. Seymour Lipschutz, Finite Mathematics (International) edition (1983), McGraw-Hill Book Company, New York.
3. S.Wiitala, Discrete Mathematics-A Unified Approach, McGraw-Hill Book Co.
4. J.E. Hopcroft and J.D Ullman, Introduction to Automata Theory, Languages & Computation, Narosa Publishing House.
5. C.L Liu, Elements of Discrete Mathematics, McGraw-Hill Book Co.
6. N. Deo. Graph Theory with Application to Engineering and Computer Sciences. Prentice Hall of India
7. K.L.P.Mishra and N.Chandrashekar, Theory of Computer Science PHI(2002)

Pt. Ravishankar Shukla University, Raipur

Scheme of Examination

M.A./M.Sc. (MATHEMATICS) (Semester-II)

2020 - 21 (Examination - May-June 2021) onwards

There shall be five theory papers. Each paper shall have 100 marks.

Overall tally of marks will be 500.

Paper	Description	Theory	Sessional	Practical	Total Marks
I	Advanced Abstract Algebra (II)	80	20	-	100
II	Real Analysis (II)	80	20	--	100
III	General and Algebraic Topology	80	20	--	100
IV	Advanced Complex Analysis (II)	80	20	--	100
V	Advanced Discrete Mathematics (II)	80	20	--	100

M.Sc./M.A. Course (Second Semester)

PAPER-I

Advanced Abstract Algebra (II)

Max. Marks 80

Unit-I Modules - Cyclic modules. Simple modules. Semi-simple modules. Schuler's Lemma. Free modules. Noetherian and artinian modules and rings-Hilbert basis theorem. Wedderburn Artin theorem. Uniform modules, primary modules, and Noether-Lasker theorem.

Unit-II Linear Transformations - Algebra of linear transformation, characteristic roots, matrices and linear transformations.

Unit-III Canonical Forms - Similarity of linear transformations. Invariant subspaces. Reduction to triangular forms. Nilpotent transformations. Index of nilpotency. Invariants of a nilpotent transformation. The primary decomposition theorem. Jordan blocks and Jordan forms.

Unit-IV Smith normal form over a principal ideal domain and rank. Fundamental structure theorem for finitely generated modules over a Principal ideal domain and its applications to finitely generated abelian groups.

Unit-V Rational canonical form. Generalised Jordan form over any field.

Books Recommended:

1. P.B.Bhattacharya, S.K.Jain, S.R.Nagpaul : Basic Abstract Algebra, Cambridge University press
2. I.N.Herstein : Topics in Algebra, Wiley Eastern Ltd.
3. Quazi Zameeruddin and Surjeet Singh : Modern Algebra

References

1. M.Artin, Algebra, Prentice -Hall of India, 1991.
2. P.M. Cohn, Algebra, Vols. I,II &III, John Wiley & Sons, 1982,1989,1991.
3. N.Jacobson, Basic Algebra, Vols. I & II,W.H. Freeman, 1980 (also published by Hindustan Publishing Company).
4. S.Lang, Algebra, 3rd edition, Addison-Wesley, 1993.

5. I.S. Luther and I.B.S. Passi, Algebra, Vol. I-Groups, Vol.II-Rings, Narosa Publishing House (Vol.I-1996,Vol. II-1999)
6. D.S.Malik, J.N.Mordeson, and M.K.Sen, Fundamentals of Abstract Algebra, Mc Graw-Hill, International Edition,1997.
7. K.B. Datta, Matrix and Linear Algebra, Prentice Hall of India Pvt. Ltd., New Delhi,2000.
8. S.K.Jain,A. Gunawardena and P.B Bhattacharya, Basic Linear Algebra with MATLAB, Key College Publishing (Springer-Verlag),2001.
9. S.Kumaresan, Linear Algebra, A Geometric Approach, Prentice-Hall of India, 2000.
10. Vivek Sahai and Vikas Bist, Algebra, Narosa Publishing House, 1999.
11. I. Stewart, Galois theory, 2nd edition, chapman and Hall, 1989.
12. J.P. Escofier, Galois theory, GTM Vol.204, Springer, 2001.
13. T.Y. Lam, lectures on Modules and Rings, GTM Vol. 189, Springer-Verlag,1999.
14. D.S. Passman, A Course in Ring Theory, Wadsworth and Brooks/Cole Advanced Books and Softwares, Pacific groves. California, 1991.
15. Fraleigh , A first course in Algebra Algebra, Narosa,1982.

M.Sc./M.A. Course (Second Semester)
PAPER-II

Real Analysis (II)

Max. Marks 80

Unit-I Definition and existence of Riemann-Stieltjes integral, Properties of the Integral, integration and differentiation, the fundamental theorem of Calculus, integration of vector-valued functions, Uniform convergence and Riemann-Stieltjes integration, Rectifiable curves.

Unit-II Lebesgue outer measure. Measurable sets. Regularity. Measurable functions. Borel and Lebesgue measurability. Non-measurable sets. Integration of Non-negative functions. The General integral. Integration of Series.

Unit-III Measures and outer measures, Extension of a measure. Uniqueness of Extension. Completion of a measure. Measure spaces. Integration with respect to a measure. Riemann and Lebesgue Integrals.

Unit-IV The Four derivatives. Lebesgue Differentiation Theorem. Differentiation and Integration. Functions of Bounded variation.

Unit-V The L^p -spaces. Convex functions. Jensen's inequality. Holder and Minkowski inequalities. Completeness of L^p , Convergence in Measure, Almost uniform convergence

Recommended Books:

1. Principle of Mathematical Analysis by W. Rudin
2. Real Analysis by H. L. Roydon

References

1. T.M. Apostol, Mathematical Analysis, Narosa Publishing House, New Delhi, 1985.
2. Gabriel Klambauer, Mathematical Analysis, Marcel Dekkar, Inc. New York, 1975.
3. A.J. White, Real Analysis; an introduction, Addison-Wesley Publishing Co., Inc., 1968.
4. G.de Barra, Measure Theory and Integration, Wiley Eastern Limited, 1981.
5. E. Hewitt and K. Stromberg. Real and Abstract Analysis, Berlin, Springer, 1969.

6. P.K. Jain and V.P. Gupta, Lebesgue Measure and Integration, New Age International (P) Limited Published, New Delhi, 1986 Reprint 2000).
7. I.P. Natanson, Theory of Functions of a Real Variable. Vol. 1, Frederick Ungar Publishing Co., 1961.
9. Richard L. Wheeden and Antoni Zygmund, Measure and Integral: An Introduction to Real Analysis, Marcel Dekker Inc.1977.
10. J.H. Williamson, Lebesgue Integration, Holt Rinehart and Winston, Inc. New York. 1962.
11. A. Friedman, Foundations of Modern Analysis, Holt, Rinehart and Winston, Inc., New York, 1970.
12. P.R. Halmos, Measure Theory, Van Nostrand, Princeton, 1950.
13. T.G. Hawkins, Lebesgue's Theory, of Integration: Its Origins and Development, Chelsea, New York, 1979.
14. K.R. Parthasarathy, Introduction to Probability and Measure, Macmillan Company of India Ltd., Delhi, 1977.
15. R.G. Bartle, The Elements of Integration, John Wiley & Sons, Inc. New York, 1966.
16. Serge Lang, Analysis I & II, Addison-Wesley Publishing Company, Inc. 1969.
17. Inder K. Rana, An Introduction to Measure and Integration, Norosa Publishing House, Delhi, 1997.

M.Sc./M.A. Course (Second Semester)
PAPER-III

General and Algebraic Topology

Max. Marks 80

Unit-I Tychonoff product topology in terms of standard sub-base and its characterizations. Projection maps. Separation axioms and product spaces.

Unit-II Product spaces. Connectedness and product spaces. Compactness and product spaces (Tychonoff's theorem). Countability and product spaces.

Unit-III Embedding and metrization. Embedding lemma and Tychonoff embedding. The Urysohn metrization theorem. Metrization theorems and Paracompactness-Local finiteness. The Nagata-Smirnov metrization theorem. Paracompactness. The Smirnov metrization theorem.

Unit-IV Nets and filter. Topology and convergence of nets. Hausdorffness and nets. Compactness and nets. Filters and their convergence. Canonical way of converting nets to filters and vice-versa. Ultra-filters and Compactness.

Unit-V The fundamental group and covering spaces-Homotopy of paths. The fundamental group. Covering spaces. The fundamental group of the circle and the fundamental theorem of algebra

Recommended Books:

1. James R.Munkres, Topology, A First Course, Prentice Hall of India Pvt. Ltd., New Delhi,2000.
2. K.D.Joshi, Introduction to General Topology, Wiley Eastern Ltd., 1983.

References

1. J. Dugundji, Topology, Allyn and Bacon, 1966 (reprinted in India by Prentice Hall of India Pvt. Ltd.).
2. George F.Simmons, Introduction to Topology and modern Analysis, McGraw-Hill Book Company, 1963.
3. J.Hocking and G Young, Topology, Addison-Wiley Reading, 1961.
4. J.L. Kelley, General Topology, Van Nostrand, Reinhold Co., New York,1995.
5. L. Steen and J. Seebach, Counter examples in Topology, Holt, Rinehart and Winston, New York, 1970.

6. W.Thron, Topologically Structures, Holt, Rinehart and Winston, New York,1966.
7. N. Bourbaki, General Topology Part I (Transl.),Addison Wesley, Reading, 1966.
8. R. Engelking, General Topology, Polish Scientific Publishers, Warszawa, 1977.
9. W. J. Pervin, Foundations of General Topology, Academic Press Inc. New York,1964.
10. E.H.Spanier, Algebraic Topology, McGraw-Hill, New York,1966.
11. S. Willard, General Topology, Addison-Wesley, Reading, 1970.
12. Crump W.Baker, Introduction to Topology, Wm C. Brown Publisher, 1991.
13. Sze-Tsen Hu, Elements of General Topology, Holden-Day,Inc.1965.
14. D. Bushaw, Elements of General Topology, John Wiley & Sons, New York, 1963.
15. M.J. Mansfield, Introduction to Topology, D.Van Nostrand Co. Inc.Princeton,N.J.,1963.
16. B. Mendelson, Introduction to Topology, Allyn & Bacon, Inc., Boston,1962.
17. C. Berge, Topological Spaces, Macmillan Company, New York,1963.
18. S.S. Coirns, Introductory Topology, Ronald Press, New York, 1961.
19. Z.P. Mamuzic, Introduction to General Topology, P. Noordhoff Ltd.,Groningen, 1963.
20. K.K.Jha, Advanced General Topology, Nav Bharat Prakashan, Delhi.

M.Sc./M.A. Course (Second Semester)
PAPER-IV

Advanced Complex Analysis (II)

Max. Marks 80

- Unit-I** Weierstrass' factorisation theorem. Gamma function and its properties. Riemann Zeta function. Riemann's functional equation. Runge's theorem. Mittag-Leffler's theorem.
- Unit-II** Analytic Continuation. Uniqueness of direct analytic continuation. Uniqueness of analytic continuation along a curve. Power series method of analytic continuation Schwarz Reflection Principle. Monodromy theorem and its consequences.
- Unit-III** Harmonic functions on a disk. Harnack's inequality and theorem. Dirichlet Problem. Green's function.
- Unit-IV** Canonical products. Jensen's formula. Poisson-Jensen formula. Hadamard's three circles theorem. Order of an entire function. Exponent of Convergence. Borel's theorem. Hadamard's factorization theorem.
- Unit-V** The range of an analytic function. Bloch's theorem. The Little Picard theorem. Schottky's theorem. Montel Caratheodory and the Great picard theorem. Univalent functions. Bieberbach's conjecture (Statement only) and the "1/4-theorem.

Recommended Books:

1. L.V. Ahlfors, Complex Analysis, MCGraw - Hill, 1979.
3. J.B. Conway, Functions of one Complex variable, Springer-Verlag, International student-Edition, Narosa Publishing House, 1980.

References

1. H.A. Priestly, Introduction to Complex Analysis, Clarendon Press, Oxford 1990.
2. Liang-shin Hahn & Bernard Epstein, Classical Complex Analysis, Jones and Bartlett Publishers International, London, 1996.
3. S. Lang, Complex Analysis, Addison Wesley, 1977.
4. Mark J. Ablowitz and A.S. Fokas, Complex Variables: Introduction and Applications, Cambridge University press, South Asian Edition, 1998.

5. E. Hille, Analytic Function Theory (2 Vols.) Gonn & Co., 1959.
6. W.H.J. Fuchs, Topics in the Theory of Functions of one Complex Variable, D.Van Nostrand Co., 1967.
7. C.Caratheodory, Theory of Functions (2 Vols.) Chelsea Publishing Company, 1964.
8. M.Heins, Complex Function Theory, Academic Press, 1968.
9. Walter Rudin, Real and Complex Analysis, McGraw-Hill Book Co., 1966.
10. S.Saks and A.Zygmund, Analytic Functions, Monografic Matematyczne, 1952.
11. E.C Titchmarsh, The Theory of Functions, Oxford University Press, London.
12. W.A. Veech, A Second Course in Complex Analysis, W.A. Benjamin, 1967.
13. S.Ponnusamy, Foundations of Complex Analysis, Narosa Publishing House, 1997.
14. D. Sarason, Complex Function Theory, Hindustan Book Agency, Delhi, 1994.

M.Sc./M.A. Course (Second Semester)
PAPER-V

Advanced Discrete Mathematics (II)

Max. Marks 80

Unit-I Graph Theory-Definition of (Undirected) Graphs, Paths, Circuits, Cycles, & Subgraphs. Induced Subgraphs. Degree of a vertex. Connectivity. Planar Graphs and their properties. Trees. Euler's Formula for connected planar Graphs. Complete & Complete Bipartite Graphs. Kuratowski's Theorem (statement only) and its use.

Unit-II Spanning Trees, Cut-sets, Fundamental Cut -sets, and Cycle. Minimal Spanning Trees and Kruskal's Algorithm. Matrix Representations of Graphs. Euler's Theorem on the Existence of Eulerian Paths and Circuits. Directed

Unit-III Graphs. In degree and Out degree of a Vertex. Weighted undirected Graphs. Dijkstra's Algorithm.. strong Connectivity & Warshall's Algorithm. Directed Trees. Search Trees. Tree Traversals.

Unit-IV Introductory Computability Theory-Finite State Machines and their Transition Table Diagrams. Equivalence of finite State Machines. Reduced Machines. Homomorphism.

Unit-V Finite Automata. Acceptors. Non-deterministic Finite Automata and equivalence of its power to that of Deterministic Finite Automata. Moore and mealy Machines. Turing Machine and Partial Recursive Functions. The Pumping Lemma. Kleene's Theorem.

Recommended Books:

1. Elements of Discrete Mathematics By C.L.Liu
2. Graph Theory and its application By N.Deo
3. Theory of Computer Science By K.L.P.Mishra and N.Chandrashekar

References

1. J.P. Tremblay & R. Manohar, Discrete Mathematical Structures with Applications to Computer Science, McGraw-Hill Book Co., 1997.
2. J.L. Gersting, Mathematical Structures for Computer Science, (3rd edition), Computer Science Press, New York.
3. Seymour Lipschutz, Finite Mathematics (International) edition 1983), McGraw-Hill Book Company, New York.

4. S.Wiitala, Discrete Mathematics-A Unified Approach, McGraw-Hill Book Co.
5. J.E. Hopcroft and J.D Ullman, Introduction to Automata Theory, Languages & Computation, Narosa Publishing House.
6. C.L Liu, Elements of Discrete Mathematics, McGraw-Hill Book Co.
7. N. Deo. Graph Theory with Application to Engineering and Computer Sciences. Prentice Hall of India.

Pt. Ravishankar Shukla University, Raipur

Scheme of Examination

M.A./M.Sc. (MATHEMATICS) (Semester-III)

2020 - 21 (Examination – Dec. 2020) onwards

There shall be five theory papers. Two compulsory and three optional. Each paper shall have 100 marks. Out of these five papers, the paper which has theory and practical both, the theory part shall have 70 marks and practical part shall have 30 marks. **Overall tally of marks in theory and practical will be 500.**

Paper	Description	Theory	Sessi- onal	Practi- cal	Remark	
Compulsory Papers						
I	Integration Theory and Functional Analysis (I)	80	20	--	--	
II	Partial Differential Equations & Mechanics (I)	80	20	--	--	
Optional Papers						
III	A	Fundamentals of Computer Science (Object Oriented Programming and Data Structure)	70	--	30	For regular students only
	B	Fuzzy Set Theory & Its Applications (I)	80	20	--	--
	C	Mathematical Biology (I)	80	20	--	--
IV	A	Operations Research (I)	80	20	--	--
	B	Wavelets (I)	80	20	--	--
V	A	Programming in C (with ANSI Features) (I)	70	--	30	For regular students only
	B	Graph Theory (I)	80	20	--	--

M.Sc./M.A. Course (Third Semester)
PAPER -I
Integration Theory and Functional Analysis (I)

Max. Marks 80

Integration Theory:

Unit-I Signed measure. Hahn decomposition theorem, mutually singular measures. Radon-Nikodym theorem. Lebesgue decomposition. Riesz representation theorem. Extension theorem (Caratheodory).

Unit-II Lebesgue-Stieltjes integral, product measures, Fubini's theorem. Differentiation and Integration. Decomposition into absolutely continuous and singular parts.

Unit-III Baire sets. Baire measure, continuous functions with compact support. Regularity of measures on locally compact spaces. Integration of continuous functions with compact support, Riesz-Markoff theorem.

Functional Analysis :

Unit-IV Normed linear spaces. Banach spaces and examples. Quotient space of normed linear spaces and its completeness, equivalent norms. Riesz Lemma, basic properties of finite dimensional normed linear spaces and compactness.

Unit-V Weak convergence and bounded linear transformations, normed linear spaces of bounded linear transformations, dual spaces with examples.

Books Recommended :

1. P.R. Halmos, Measure Theory, Van Nostrand, Princeton, 1950.
2. B.Choudhary and S.Nanda, Functional Analysis with Applications. Wiley Eastern Ltd. 1989.
3. H.L. Royden, Real Analysis, Macmillan Publishing Co. Inc., New York, 4'h Edition, 1993.

References

1. S.K. Berberian, Measure and integration, Chelsea Publishing Company, New York, 1965.
2. G. de Barra, Measure Theory and Integration, Wiley Eastern Limited, 1981.
3. P.K. Jain and V.P. Gupta, Lebesgue Measure and Integration, New Age International (P) Limited, New Delhi, 2000.
4. Richard L. Wheeden and Antoni Zygmund, Measure and Integral : An Introduction to Real Analysis, Marcel Dekker Inc. 1977.
5. J.H. Williamson, Lebesgue Integration, Holt Rinehart and Winston, Inc. New York. 1962.
6. T.G. Hawkins, Lebesgue's Theory of Integration: Its Origins and Development, Chelsea, New York, 1979.
7. K.R. Parthasarathy, Introduction to Probability and Measure, Macmillan Company of India Ltd., Delhi, 1977.
8. R.G. Bartle, The Elements of Integration, John Wiley & Sons, Inc. New York, 1966.
9. Serge Lang, Analysis I & II, Addison-Wesley Publishing Company, Inc. 1967.
10. Inder K. Rana, An Introduction to Measure and Integration, Narosa Publishing House, Delhi, 1997.
11. Walter Rudin, Real & Complex Analysis, Tata McGraw-Hill Publishing.
12. Edwin Hewitt and Korl Stromberg, Real and Abstract Analysis, Springer-Verlag, New York.
13. Edwin Hewitt and Kenneth A. Ross, Abstract Harmonic Analysis, Vol. 1, Springer-Verlag, 1993.
14. G. Bachman and L. Narici, Functional Analysis, Academic Press, 1966.
15. N. Dunford and J.T. Schwartz, Linear Operators, Part I, Interscience, New York, 1958.
16. R.E. Edwards, Functional Analysis, Holt Rinehart and Winston, New York, 1965.
17. C. Goffman and G. Pedrick, First Course in Functional Analysis, Prentice Hall of India, New Delhi, 1987.
18. P.K. Jain, O.P. Ahuja and Khalil Ahmad, Functional Analysis, New Age International (P) Ltd. & Wiley Eastern Ltd., New Delhi, 1997.
19. R.B. Holmes, Geometric Functional Analysis and its Applications, Springer-Verlag, 1975.
20. K.K. Jha, Functional Analysis, Students' Friends, 1986.
21. L.V. Kantorovich and G.P. Akilov, Functional Analysis, Pergamon Press, 1982.
22. E. Kreyszig, Introductory Functional Analysis with Applications, John Wiley & Sons, New York, 1978.
23. B.K. Lahiri, Elements of Functional Analysis, The World Press Pvt. Ltd., Calcutta, 1994.
24. A.H.Siddiqui, Functional Analysis with Applications, Tata McGraw-Hill Publishing Company Ltd. New Delhi

25. B.V. Limaye, Functional Analysis, Wiley Eastern Ltd.
26. L.A. Lustenik and V.J. Sobolev, Elements of Functional Analysis, Hindustan Publishing Corporation, New Delhi, 1971.
27. G.F. Simmons, Introduction to Topology and Modern Analysis, McGraw-Hill Book Company, New York, 1963.
28. A.E. Taylor, Introduction to Functional Analysis, John Wiley and Sons, New York, 1958.
29. K.Yosida, Functional Analysis, 3rd edition Springer-Verlag, New York, 1971.
30. J.B. Conway, A Course in Functional Analysis, Springer-Verlag, New York, 1990.
31. Walter Rudin, Functional Analysis, Tata McGraw-Hill Publishing Company Ltd., New Delhi, 1973.
32. A. Wilansky, Functional Analysis, Blaisdell Publishing Co., 1964.
33. J. Tinsley Oden & Leszek F. Dernkowicz, Applied Functional Analysis, CRC Press Inc., 1996.

M.Sc./M.A. Course (Third Semester)
PAPER -II
Partial Differential Equations and Mechanics (I)

Max. Marks 80

Partial Differential Equations

Unit-I Examples of PDE. Classification. Transport Equation-Initial value Problem. Non-homogeneous Equation. Laplace's Equation-Fundamental Solution, Mean Value Formulas, Properties of Harmonic Functions, Green's Function, Energy Methods.

Unit-II Heat Equation-Fundamental Solution, Mean Value Formula, Properties of Solutions, Energy Methods. Wave Equation-Solution by Spherical Means, Non-homogeneous Equations, Energy Methods.

Analytical Dynamics:

Unit-III Generalized coordinates. Holonomic and Non-holonomic systems. Scleromic and Rheonomic systems. Generalized potential. Lagrange's equations of first kind. Lagrange's equations of second kind. Uniqueness of solution. Energy equation for conservative fields. Hamilton's variables. Donkin's theorem. Hamilton canonical equations. Cyclic coordinates. Routh's equations.

Unit-IV Poisson's Bracket. Poisson's Identity. Jacobi-Poisson Theorem. Motivating problems of calculus of variations, Shortest distance. Minimum surface of revolution. Brachistochrone problem. Isoperimetric problem. Geodesic. Fundamental lemma of calculus of variations. Euler's equation for one dependent function and its generalization to (i) 'n' dependent functions, (ii) higher order derivatives. Conditional extremum under geometric constraints and under integral constraints.

Gravitation:

Unit-V Attraction and potential of rod, disc, spherical shells and sphere. Surface integral of normal attraction (application & Gauss' theorem). Laplace and Poisson equations. Work done by selfattracting systems. Distributions for a given potential. Equipotential surfaces. Surface and solid harmonics. Surface density in terms of surface harmonics.

Books Recommended :

1. L.C. Evans, Partial Differential Equations, Graduate Studies in Mathematics, Volume 19, AMS, 1998.
2. F. Gantmacher, Lectures in Analytic Mechanics, MIR Publishers, Moscow, 1975.
3. R.C.Mondal, Classical Mechanics, Prentice Hall of India
4. S.L. Loney, An Elementary Treatise on Statics, Kalyani Publishers, New Delhi, 1979.

References

1. Books on Partial differential equation by I.N. Sneddon, F. John, P. Prasad and R. Ravindran, Amarnath etc.
2. A.S. Ramsey, Dynamics Part II, The English Language Book Society and Cambridge University Press, 1972.
3. H. Goldstein, Classical Mechanics (2nd edition), Narosa Publishing House, New Delhi.
4. I.M. Gelfand and S.V. Fomin, Calculus of Variations, Prentice Hall.
5. Narayan Chandra Rana & Pramod Sharad Chandra Joag, Classical Mechanics, Tata McGraw Hill, 1991.
6. Louis N. Hand and Janet D. Finch, Analytical Mechanics, Cambridge University Press, 1998.
7. A.S. Ramsey, Newtonian Gravitation, The English Language Book Society and the Cambridge University Press.

M.Sc./M.A. Course (Third Semester)
PAPER-III (A)
Fundamentals of Computer Science-Theory and Practical
(Object Oriented Programming and Data Structure)

Max. Marks. 100
(Theory-70 +Practical-30)

- Unit-I** Object Oriented Programming-Classes and Scope, nested classes, pointer class members; Class initialization, assignment and destruction.
- Unit-II** Overloaded functions and operators; Templates including class templates; class inheritance and virtual functions.
- Unit-III** Data Structures-Analysis of algorithms, q, W, 0, o, w notations ; Sequential and linked representations, Lists, Stacks, and queues;
- Unit-IV** Trees: Binary tree- search tree implementation, B-tree (concept only);
- Unit-V** Sorting: Insertion sort, shell sort, quick-sort, heap sort and their analysis; Hashing-open and closed.

Books Recommended :

1. S.B. Lipman, J. Lajoi: C++ Primer, Addison Wesley.
2. B. Stroustrup; The C++ Programming Language, Addison Wesley.
3. C.J. Date : Introduction to Database Systems, Addison Wesley.
4. C. Ritchie: Operating Systems-Incorporating UNIX and Windows, BPB Publications.
5. M.A. Weiss, Data Structures and Algorithm Analysis in C++, Addison Wesley.

Practical Examination Scheme

Max. Marks – 30	Time Duration – 3 Hrs.
Practical (two)	20 Marks(10 marks each)
Viva	05 Marks
Sessional	05 Marks

M.Sc./M.A. Course (Third Semester)
PAPER-III (B)
Fuzzy Set Theory and Its Applications (I)

Max Marks – 80

- UNIT-I** Fuzzy sets-Basic definitions, α -level sets. Convex fuzzy sets. Basic operations on fuzzy sets. Types of fuzzy sets. Cartesian products, Algebraic products. Bounded sum and difference, t-norms and t-conorms.
- UNIT-II** The Extension Principle- The Zadeh's extension principle. Image and inverse image of fuzzy sets. Fuzzy numbers. Elements of fuzzy arithmetic.
- UNIT-III** Fuzzy Relations on Fuzzy sets, Composition of Fuzzy relations. Min-Max composition and its properties.
- UNIT-IV** Fuzzy equivalence relations. Fuzzy compatibility relations. Fuzzy relation equations. Fuzzy graphs, Similarity relation.
- UNIT-V** Possibility Theory-Fuzzy measures. Evidence theory. Necessity measure. Possibility measure. Possibility distribution. Possibility theory and fuzzy sets. Possibility theory versus probability theory.

REFERENCES :

1. H.J. Zmmemann, Fuzzy set theory and its Applications, Allied Publishers Ltd. New Delhi, 1991.
2. G.J. Klir and B. Yuan- Fuzzy sets and fuzzy logic, Prentice-Hall ol India, New Delhi, 1995.

M.Sc./M.A. Course (Third Semester)
PAPER-III (C)
Mathematical Biology (I)

Max. Marks - 80

Part-A: Simple Single Species Models

UNIT-I

Continuous Population Models: Phase plane analysis of ODE. Exponential Growth model, the Logistic Population Model, qualitative analysis, Harvesting in Population Models, Constant-yield harvesting, constant-effort harvesting, a case study of eutrophication of a lake.

UNIT-II

Discrete Population Models: Linear Models, graphical solution of difference equations, equilibrium analysis, period-doubling and chaotic behavior, discrete-time metered models, two-age group model and delayed recruitment, a case study of oscillation in flour beetle populations.

Part-B : Models for interacting species

UNIT-III

Introduction and Mathematical preliminaries: The Lotka-Volterra equations, the chemostat, equilibria and linearization, qualitative solutions of linear systems, periodic solutions and limit cycles, models for giving up smoking and retaining of workers by their peers.

UNIT-IV

Continuous Models for Two Interacting Populations: Species in competitions, Predator-Prey system, Kolmogorov Models, Mutualism, The community matrix, the nature of interactions between species, invading species and coexistence, a predator and two competing prey, two predators competing for prey.

UNIT-V

Harvesting in Two-Species Models: Harvesting of species in competition, Harvesting of predator-prey systems, some economic aspects of harvesting, optimization of harvesting returns.

Text Book:

1. Fred Brauer, Carlos Castillo-Chavez, Mathematical Models in Population Biology and Epidemiology, Biology, Springer (2010)

Reference Books:

1. Nicholas F. Britton, Essential Mathematical Biology, Springer-Verlag (2003)
2. J.D.Murray, Mathematical Biology I. An Introduction, Springer-Verlag (2002) 3rd Edition.
3. J.D.Murray, Mathematical Biology II. Spatial Models and Biomedical Application, Springer-Verlag (2003) 3rd Edition.

M.Sc./M.A. Course (Third Semester)
PAPER -IV (A)
Operations Research (I)

Max. Marks 80

- Unit-I** Operations Research and its Scope. Necessity of Operations Research in Industry. Linear Programming-Simplex Method. Theory of the Simplex Method.
- Unit-II** Duality and Sensitivity Analysis. Other Algorithms for Linear Programming-Dual Simplex Method.
- Unit-III** Parametric Linear Programming. Upper Bound Technique. Interior Point Algorithm. Linear Goal Programming.
- Unit-IV** Transportation and Assignment Problems.
- Unit-V** Network Analysis-Shortest Path Problem. Minimum Spanning Tree Problem. Maximum Flow Problem. Minimum Cost Flow Problem. Network Simplex Method. Project Planning and Control I with PERT-CPM.

Books Recommended :

1. F.S. Hillier and G.J. Ueberman. Introduction to Operations Research (Sixth Edition), McGraw Hill International Edition, Industrial Engineering Series, 1995. (This book comes with a CD containing tutorial software).
2. G. Hadley, Linear Programming, Narosa Publishing House, 1995.
3. G. Hadley, Nonlinear and Dynamic Programming, Addison-Wesley, Reading Mass.
4. H.A. Taha, Operations Research -An introduction, Macmillan Publishing Co., Inc., New York.
5. Kanti Swarup, P.K. Gupta and Man Mohan, Operations Research, Sultan Chand & Sons, New Delhi
6. Mokhtar S. Bazaraa, John J. Jarvis and Hanif D. Sherali, Linear Programming and Network flows, John Wiley & Sons, New York, 1990.

References

1. S.S. Rao, Optimization Theory and Applications, Wiley Eastern Ltd., New Delhi.

2. Prem Kumar Gupta and D.S. Hira, Operations Research-An Introduction. S. Chand & Company Ltd., New Delhi.
3. N.S. Kambo, Mathematical Programming Techniques, Affiliated East-West Press Pvt. Ltd., New Delhi, Madras
4. R.K. Rathy, An Introduction to Fluid Dynamics, Oxford and IBH Publishing Company, New Delhi, 1976.
5. A.D. Young, Boundary Layers, AIAA Education Series, Washington DC, 1989.
6. S.W. Yuan, Foundations of Fluid Mechanics, Prentice Hall of India Private Limited, New Delhi, 1976.
7. UNDO Systems Products (Visit website <http://www.Hndo.com/productsf.html>)
 - (i) UNDO (the linear programming solver)
 - (ii) UNDO Callable Library (the premier optimisation engine)
 - (iii) LINGO (the linear, non-linear, and integer programming solver with mathematical modelling language)
 - (i) What's Best I (the spreadsheet add-in that solves linear, non-linear, and integer problems).

All the above four products are bundled into one package to form the Solver Suite. For more details about any of the four products one has to click on its name.

- (i) Optimisation Modelling with UNDO (8" edition) by Linus Schrage.
- (ii) Optimisation Modelling with LINGO by Unus Schrage.

More details available on the Related Book page York, 1979.

M.Sc./M.A. Course (Third Semester)
PAPER-IV (B)
Wavelets (I)

Max Marks – 80

- Unit-I.** Preliminaries-Different ways of constructing wavelets- Orthonormal bases generated by a single function: the Balian-Low theorem. Smooth projections on $L^2(\mathbb{R})$.
- Unit-II.** Local sine and cosine bases and the construction of some wavelets. The unitary folding operators and the smooth projections.
- Unit-III.** Multiresolution analysis and construction of wavelets. Construction of compactly supported wavelets and estimates for its smoothness. Band limited wavelets.
- Unit-IV.** Orthonormality. Completeness. Characterization of Lemarie-Meyer wavelets and some other characterizations. Franklin wavelets and Spline wavelets on the real line.
- Unit-V.** Orthonormal bases of piecewise linear continuous functions for $L^2(\mathbb{T})$. Orthonormal bases of periodic splines. Periodization of wavelets defined on the real line.

REFERENCES:

1. Eugenic Hernandez and Guido Weiss, A First Course on Wavelets, CRC Press, New York, 1996.
2. C.K. Chui, An Introduction to Wavelets, Academic Press, 1992.
3. I.Daubechies, Ten Lectures on Wavelets, CBS-NSF Regional Conferences in Applied Mathematics, 61, SIAM, I 1992.
4. Y.Meyer,Wavelets, algorithms and applications (Tran.by R.D. Rayan,SIAM, 1993.
5. M.V. Wickerhauser, Adapted wavelet analysis from theory to software, Wellesley, MA, A.K. Peters, 1994.

M.Sc./M.A. Course (Third Semester)
PAPER -V (A)
Programming in C (with ANSI features) Theory and Practical (I)

Max. Marks. 100
(Theory-70 +Practical-30)

- Unit-I** An overview of programming. Programming language, Classification. C Essentials-Program Development. Functions. Anatomy of a C Function. Variables and Constants. Expressions. Assignment Statements. Formatting Source Files. Continuation Character. The Preprocessor.
- Unit-II** Scalar Data Types-Declarations, Different Types of Integers. Different kinds of Integer Constants. Floating-Point Types. Initialization. Mixing Types. Explicit Conversions-Casts. Enumeration Types. The Void Data Type. Typedefs. Finding the Address of an object. Pointers.
- Unit-III** Control Flow-Conditional Branching. The Switch Statement. Looping. Nested Loops. The break and continue Statements. The goto statement. Infinite Loops.
- Unit-IV** Operators and Expressions-Precedence and Associativity. Unary Plus and Minus operators. Binary Arithmetic Operators. Arithmetic Assignment Operators. Increment and Decrement Operators. Comma Operator. Relational Operators. Logical Operators. Bit - Manipulation Operators. Bitwise Assignment Operators. Cast Operator. Size of Operators. Conditional Operator. Memory Operators.
- Unit-V** Arrays -Declaring an Array. Arrays and Memory. Initializing Arrays. Encryption and Decryption.

Books Recommended :

1. Peter A. Darnell and Philip E. Margolis, C: A Software Engineering Approach, Narosa Publishing House (Springer International Student Edition) 1993.
2. Samuel P. Harkison and Gly L. Steele Jr., C : A Reference Manual, 2nd Edition, Prentice Hall, 1984.
3. Brian W. Kernighan & Dennis M. Ritchie, The C Programme Language, 2nd Edition (ANSI Features), Prentice Hall 1989.

Practical Examination Scheme

Max. Marks – 30	Time Duration – 3 Hrs.
Practical (two)	20 Marks(10 marks each)
Viva	05 Marks
Sessional	05 Marks

M.Sc./M.A. Course (Third Semester)
PAPER-V (B)
Graph theory (I)

Max. Marks - 80

- Unit-I: Operations on graphs, matrices and vector spaces: Topological operations, Homeomorphism, homomorphism, contractions, derived graphs, Binary operations.
- Unit-II: Matrices and vector spaces: Matrices and vector spaces : The adjacency matrix, The determinant and the spectrum, Spectrum properties, The incidence matrix, cycle space and Bond space, Cycle bases and cycle graphs.
- Unit-III: Colouring packing and covering: Vertex coverings, critical graphs, Girth and chromatic number, uniquely colourable graphs, edge-colourings, Face colourings and Beyond, The achromatic and the Adjoint Numbers.
- Unit-IV: Combinational formulations: Setting up of combinational formulations, the classic pair of duals, Gallai, Norman-Rabin Theorems, Clique parameters, The Rosenfeld Numbers.
- Unit-V: Perfect Graphs: Introduction to the "SPGC", Triangulated (Chordal) graphs, Comparability graphs, Interval graphs, permutation graphs, circular arc graphs, split graphs, weakly triangulated graphs.

REFERENCES :

1. K.R.Parthasarathy, Basic graph theory, Tata Mc graw Hill publishing company limited , 1994.
2. R.J.Wilson, Introduction to graph theory, Longman Harlow, 1985.
3. John Clark, Derek Allon Holton, A first look at graph Theory, World Scientific Singapore, 1991.
4. Frank Hararary, Graph Theory Narosa, New Delhi, 1995.
5. Ronald Gould and Benjamin Cummins, Graph Theory, California.
6. Narsingh Deo, Graph Theory with applications to Engineering and Computer Science, Prentice-Hall of India Private Limited, New Delhi, 2002.

Pt. Ravishankar Shukla University, Raipur

Scheme of Examination

M.A./M.Sc. (MATHEMATICS) (Semester-IV)

2020 - 21 (Examination - May-June 2021) onwards

There shall be five papers. Two compulsory and three optional papers. Each paper shall have 100 marks. The paper which has theory and practical both, the theory part shall have 70 marks and practical part shall have 30 marks. **Overall tally of marks in theory and practical will be 500.**

Paper	Description	Theory	Sessi- onal	Practic al	Remark	
Compulsory Papers						
I	Functional Analysis (II)	80	20	--	--	
II	Partial Differential Equations & Mechanics (II)	80	20	--	--	
Optional Papers						
III	A	Operating System and Database Management System	70	--	30	For regular students only
	B	Fuzzy Set Theory & Its Applications (II)	80	20	--	--
	C	Mathematical Biology(II)	80	20	--	--
IV	A	Operations Research (II)	80	20	-	--
	B	Wavelets (II)	80	20	-	--
V	A	Programming in C (with ANSI Features) (II)	70	--	30	For regular students only
	B	Graph Theory (II)	80	20	--	

M.Sc./M.A. Course (Fourth Semester)
PAPER -I
Functional Analysis (II)

Max. Marks 80

- Unit-I** Uniform boundedness theorem and some of its consequences. Open mapping and closed graph theorems.
- Unit-II** Hahn-Banach theorem for real linear spaces, complex linear spaces and normed linear spaces. Reflexive spaces. Weak Sequential Compactness. Compact Operators. Solvability of linear equations in Banach spaces. The closed Range Theorem.
- Unit-III** Inner product spaces. Hilbert spaces. Orthonormal Sets. Bessel's inequality. Complete orthonormal sets and Parseval's identity.
- Unit-IV** Structure of Hilbert spaces. Projection theorem. Riesz representation theorem. Adjoint of an operator on a Hilbert space. Reflexivity of Hilbert spaces.
- Unit-V** Self-adjoint operators, Positive, projection, normal and unitary operators. Abstract variational boundary-value problem. The generalized Lax-Milgram theorem.

Books Recommended :

1. B.Choudhary and S.Nanda, Functional Analysis with Applications. Wiley Eastern Ltd. 1989.
2. H.L. Royden, Real Analysis, Macmillan Publishing Co. Inc., New York, 4th Edition, 1993.

References

1. Serge Lang, Analysis I & II, Addison-Wesley Publishing Company, Inc. 1967.
2. Walter Rudin, Real & Complex Analysis, Tata McGraw-Hill Publishing.
3. Edwin Hewitt and Korl Stromberg, Real and Abstract Analysis, Springer-Verlag, New York.
4. Edwin Hewitt and Kenneth A. Ross, Abstract Harmonic Analysis, Vol. 1, Springer-Verlag, 1993.

5. G. Bachman and L. Narici, Functional Analysis, Academic Press, 1966.
6. N. Dunford and J.T. Schwartz, Linear Operators, Part I, Interscience, New York, 1958.
7. R.E. Edwards, Functional Analysis, Holt Rinehart and Winston, New York, 1965.
8. C. Goffman and G. Pedrick, First Course in Functional Analysis, Prentice Hall of India, New Delhi, 1987.
9. P.K. Jain, O.P. Ahuja and Khalil Ahmad, Functional Analysis, New Age International (P) Ltd. & Wiley Eastern Ltd., New Delhi, 1997.
10. R.B. Holmes, Geometric Functional Analysis and its Applications, Springer-Verlag, 1975.
11. K.K. Jha, Functional Analysis, Students' Friends, 1986.
12. L.V. Kantorovich and G.P. Akilov, Functional Analysis, Pergamon Press, 1982.
13. E. Kreyszig, Introductory Functional Analysis with Applications, John Wiley & Sons, New York, 1978.
14. B.K. Lahiri, Elements of Functional Analysis, The World Press Pvt. Ltd., Calcutta, 1994.
15. A.H.Siddiqui, Functional Analysis with Applications, Tata McGraw-Hill Publishing Company Ltd. New Delhi
16. B.V. Limaye, Functional Analysis, Wiley Eastern Ltd.
17. L.A. Lustenik and V.J. Sobolev, Elements of Functional Analysis, Hindustan Publishing Corporation, New Delhi, 1971.
18. G.F. Simmons, Introduction to Topology and Modern Analysis, McGraw-Hill Book Company, New York, 1963.
19. A.E. Taylor, Introduction to Functional Analysis, John Wiley and Sons, New York, 1958.
20. K.Yosida, Functional Analysis, 3rd edition Springer-Verlag, New York, 1971.
21. J.B. Conway, A Course in Functional Analysis, Springer-Verlag, New York, 1990.
22. Walter Rudin, Functional Analysis, Tata McGraw-Hill Publishing Company Ltd., New Delhi, 1973.
23. A. Wilansky, Functional Analysis, Blaisdell Publishing Co., 1964.
24. J. Tinsley Oden & Leszek F. Dernkowicz, Applied Functional Analysis, CRC Press Inc., 1996.

M.Sc./M.A. Course (Fourth Semester)
PAPER -II
Partial Differential Equations and Mechanics (II)

Max. Marks 80

Partial Differential Equations

Unit-I Nonlinear First Order PDE-Complete Integrals, Envelopes, Characteristics, HamiltonJacobi Equations (Calculus of Variations, Hamilton's ODE, Legendre Transform, Hopf-Lax Formula, Weak Solutions, Uniqueness), Conservation Laws (Shocks, Entropy Condition, LaxOleinik formula, Weak Solutions, Uniqueness, Riemann's Problem, Long Time Behaviour)

Unit-II Representation of Solutions-Separation of Variables, Similarity Solutions (Plane and Travelling Waves, Solitons, Similarity under Scaling), Fourier and Laplace Transform, Hopf-Cole Transform, Hodograph and Legendre Transforms, Potential Functions.

Unit-III Asymptotics (Singular Perturbations, Laplace's Method, Geometric Optics, Stationary Phase, Homogenization), Power Series (Non-characteristic Surfaces, Real Analytic Functions, Cauchy-Kovalevskaya Theorem).

Analytical Dynamics:

Unit-IV Hamilton's Principle. Principle of least action. Poincare Cartan Integral invariant. Whittaker's equations. Jacobi's equations. Lee Hwa Chung's theorem, canonical transformations and properties of generating functions.

Unit-V Hamilton-Jacobi equation. Jacobi theorem. Method of separation of variables. Lagrange Brackets. Condition of canonical character of a transformation in terms of Lagrange brackets and Poisson brackets,

invariance of Lagrange brackets and Poisson brackets under canonical transformations.

Books Recommended :

1. L.C. Evans, Partial Differential Equations, Graduate Studies in Mathematics, Volume 19, AMS, 1998.
2. F. Gantmacher, Lectures in Analytic Mechanics, MIR Publishers, Moscow, 1975.
3. R.C.Mondal, Classical Mechanics, Prentice Hall of India

References

1. Books on Partial differential equation by I.N. Sneddon, F. John, P. Prasad and R. Ravindran, Amarnath etc.
2. A.S. Ramsey, Dynamics Part II, The English Language Book Society and Cambridge University Press, 1972.
3. H. Goldstein, Classical Mechanics (2nd edition), Narosa Publishing House, New Delhi.
4. I.M. Gelfand and S.V. Fomin, Calculus of Variations, Prentice Hall.
5. Narayan Chandra Rana & Pramod Sharad Chandra Joag, Classical Mechanics, Tata McGraw Hill, 1991.
6. Louis N. Hand and Janet D. Finch, Analytical Mechanics, Cambridge University Press, 1998.

M.Sc./M.A. Course (Fourth Semester)
PAPER-III (A)
Operating System and Database Management System
- Theory and Practical

Max. Marks. 100

(Theory-70 +Practical-30)

Unit-I Database Systems-Role of database systems, database system architecture and data modeling.

Unit-II Introduction to relational algebra and relational calculus.

Unit-III Introduction to SQL: Basic features including views; Integrity constraints; Database design-normalization up to BCNF.

Unit-IV Operating Systems- Overview of operating system, user interface, processor management, memory management.

Unit-V I/O management, concurrency and Security, network and distributed systems.

Books Recommended :

1. S.B. Lipman, J. Lajoi: C++ Primer, Addison Wesley.
2. B. Stroustrup; The C++ Programming Language, Addison Wesley.
3. C.J. Date : Introduction to Database Systems, Addison Wesley.
4. C. Ritchie: Operating Systems-Incorporating UNIX and Windows, BPB Publications.
5. M.A. Weiss, Data Structures and Algorithm Analysis in C++, Addison Wesley.

Practical Examination Scheme

Max. Marks – 30	Time Duration – 3 Hrs.
Practical (two)	20 Marks(10 marks each)
Viva	05 Marks
Sessional	05 Marks

M.Sc./M.A. Course (Fourth Semester)
PAPER-III (B)
Fuzzy Set Theory & Its Applications (II)

Max Marks – 80

- Unit-I** Fuzzy Logic-An overview of classical logic, Multivalued logics, Fuzzy propositions. Fuzzy quantifiers. Linguistic variables and hedges. Inference from conditional fuzzy propositions, the compositional rule of inference.
- Unit-II** Approximate Reasoning-An overview of Fuzzy expert system. Fuzzy implications and their selection. Multiconditional approximate reasoning. The role of fuzzy relation equation.
- Unit-III** An introduction to Fuzzy Control-Fuzzy controllers. Fuzzification. Defuzzification and the various defuzzitication methods.
- Unit-IV** Decision Making in Fuzzy Environment-Individual decision making. Multiperson decision making. Multicriteria decision making. Multistage decision making.
- Unit-V** Fuzzy ranking methods. Fuzzy linear programming.

REFERENCES :

1. H.J. Zmmemann, Fuzzy set theory and its Applications, Allied Publishers Ltd. New Delhi, 1991.
2. G.J. Klir and B. Yuan- Fuzzy sets and fuzzy logic, Prentice-Hall ol India, New Delhi, 1995.

M.Sc./M.A. Course (Fourth Semester)
PAPER-III (C)
Mathematical Biology (II)

Max. Marks - 80

Part-A: Population Models

UNIT-I

Models for population with age structure: Linear discrete models, linear continuous models, the method of characteristics, nonlinear continuous models.

UNIT-II

Models for population with spatial structure: A general metapopulation model, a metapopulation model with residence and travel, the diffusion equation, solution by separation of variables. Linear reaction-diffusion equations, nonlinear reaction-diffusion equations, two-species interactions, diffusion in two dimensions.

Part-B: Disease Transmission Models

UNIT-II

Epidemic models: Introduction to epidemic models, The logistic equation in epidemiology (1.3), simple Kermack-McKendrick epidemic model, network and compartmental epidemic models.

UNIT-IV

More complicated epidemic models: models with exposed period, treatments models, an influenza model, quarantine-isolation models.
An SIR model with a general infectious period, the age of infection epidemic model, models with disease deaths, a vaccination model, the next generation matrix.

UNIT-V

Models for endemic diseases: A model for diseases with no immunity, the SIR model with births and deaths, some applications: Herd immunity, age of infection, the inter-epidemic period, epidemic approach to endemic equilibrium, the SIS model with births and deaths, temporary immunity, diseases population control.

Text Book:

1. Fred Brauer, Carlos Castillo-Chavez, Mathematical Models in Population Biology and Epidemiology, Biology, Springer (2010)

Reference Books:

1. Nicholas F. Britton, Essential Mathematical Biology, Springer-Verlag (2003)
2. J.D.Murray, Mathematical Biology I. An Introduction, Springer-Verlag (2002) 3rd Edition.
3. J.D.Murray, Mathematical Biology II. Spatial Models and Biomedical Application, Springer-Verlag (2003) 3rd Edition.

M.Sc./M.A. Course (Fourth Semester)
PAPER -IV (A)
Operations Research (II)

Max. Marks 80

- Unit-I** Dynamic Programming-Deterministic and Probabilistic Dynamic programming.
- Unit-II** Game Theory-Two-Person, Zero-Sum Games. Games with Mixed Strategies. Graphical . Solution. Solution by Linear Programming.
- Unit-III** Integer Programming-Pure and Mixed Integer Programming Problem, Gomory's All-I P.P. Method, Construction of Gomory's Constraints, Fractional Cut Method-All Integer LPP, Fractional Cut Method- Mixed Integer LPP, Branch and Bound Technique.
- Unit-IV** Queueing system: Deterministic Queueing system, probability distribution in Queueing, classification of Queueing models, Poission Queueing system.
- Unit-V** Nonlinear Programming-One/and Multi-Variable Unconstrained Optimization. Kuhn-Tucker Conditions for Constrained Optimization. Quadratic Programming. Separable Programming. I Convex Programming. Non-convex Programming.

Books Recommended :

1. F.S. Hillier and G.J. Ueberman. Introduction to Operations ResBareft (Sixth Edition), McGraw Hill International Edition, Industrial Engineering Series, 1995. (This book comes with a CD containing tutorial software).
2. G. Hadley, Linear Programming, Narosa Publishing House, 1995.
3. G. Hadly, Nonlinear and Dynamic Programming, Addison-Wesley, Reading Mass.
4. H.A. Taha, Operations Research -An introduction, Macmillan Publishing Co., Inc., New Yark.
5. Kanti Swarup, P.K. Gupta and Man Mohan, Operations Research, Sultan Chand & Sons, New Delhi
6. Mokhtar S. Bazaraa, John J. Jarvis and Hanif D. Sherali, Linear Programming and Network flows, John Wiley & Sons, New York, 1990.

References

1. S.S. Rao, Optimization Theory and Applications, Wiley Eastern Ltd., New Delhi.
2. Prem Kumar Gupta and D.S. Hira, Operations Research-An Introduction. S. Chandra & Company Ltd., New Delhi.
3. N.S. Kambo, Mathematical Programming Techniques, Affiliated East-West Press Pvt. Ltd., New Delhi, Madras
4. R.K. Rathy, An Introduction to Fluid Dynamics, Oxford and IBH Publishing Company, New Delhi, 1976.
5. A.D. Young, Boundary Layers, AIAA Education Series, Washington DC, 1989.
6. S.W. Yuan, Foundations of Fluid Mechanics, Prentice Hall of India Private Limited, New Delhi, 1976.
7. UNDO Systems Products (Visit website <http://www.Hndo.com/productsf.html>)
 - (i) UNDO (the linear programming solver)
 - (ii) UNDO Callable Library (the premier optimisation engine)
 - (iii) LINGO (the linear, non-linear, and integer programming solver with mathematical modelling language)
 - (i) What's Best I (the spreadsheet add-in that solves linear, non-linear, and integer problems).

All the above four products are bundled into one package to form the Solver Suite. For more details about any of the four products one has to click on its name.

- (i) Optimisation Modelling with UNDO (8" edition) by Linus Schrage.
 - (ii) Optimisation Modelling with LINGO by Unus Schrage.
- More details available on the Related Book page York, 1979.

M.Sc./M.A. Course (Fourth Semester)
PAPER-IV (B)
Wavelets (II)

Max Marks – 80

Unit-I Characterizations in the theory of wavelets-The basic equations and some of its applications.

Unit-II Characterizations of MRA wavelets, low-pass filters and scaling functions. Non-existence of smooth wavelets in $H^2(\mathbb{R})$.

Unit-III Frames - The reconstruction formula and the Balian-Low theorem for frames. Frames from translations and dilations. Smooth frames for $H^2(\mathbb{R})$.

Unit-IV Discrete transforms and algorithms-The discrete and the fast Fourier transforms. The discrete and the fast cosine transforms.

Unit-IV The discrete version of the local sine and cosine bases. Decomposition and reconstruction algorithms for wavelets.

REFERENCES:

1. Eugenic Hernandez and Guido Weiss, A First Course on Wavelets, CRC Press, New York, 1996.
2. C.K. Chui, An Introduction to Wavelets, Academic Press, 1992.
3. I. Daubechies, Ten Lectures on Wavelets, CBS-NSF Regional Conferences in Applied Mathematics, 61, SIAM, I 1992.
4. Y. Meyer, Wavelets, algorithms and applications (Tran. by R.D. Rayan, SIAM, 1993).
5. M.V. Wickerhauser, Adapted wavelet analysis from theory to software, Wellesley, MA, A.K. Peters, 1994.

M.Sc./M.A. Course (Fourth Semester)
PAPER -V (A)
Programming in C (with ANSI features) (II)
Theory and Practical

Max. Marks. 100
(Theory-70 +Practical-30)

Unit-I Storage Classes-Fixed vs. Automatic Duration. Scope. Global variables. The register Specifier. ANSI rules for the syntax and Semantics of the storage-class keywords.

Unit-II Pointers Pointer Arithmetic. Passing Pointers as Function Arguments. Accessing Array Elements through Pointers. Passing Arrays as Function Arguments. Sorting Algorithms. Strings. Multidimensional Arrays. Arrays of Pointers. Pointers to Pointers.

Unit-III Functions-Passing Arguments. Declarations and Calls. Pointers to Functions. Recursion. The main Function. Complex Declarations. The C Preprocessor-Macro Substitution. Conditional Compilation. Include Facility. Line Control.

Unit-IV Structures and Unions-Structures. Dynamic Memory Allocation. Linked Lists. Unions, enum Declarations.

Unit-V Input and Output-Streams, Buffering. The <Stdio.h> Header File. Error Handling. Opening and Closing a File. Reading and Writing Data. Selecting an I/O Method. Unbuffered I/O Random Access. The standard library for Input/Output.

Books Recommended :

1. Peter A. Darnell and Philip E. Margolis, C: A Software Engineering Approach, Narosa Publishing House (Springer International Student Edition) 1993.
2. Samuel P. Harkison and Gly L. Steele Jr., C : A Reference Manual, 2nd Edition, Prentice Hall, 1984.
3. Brian W. Kernighan & Dennis M. Ritchie, The C Programme Language, 2nd Edition (ANSI Features), Prentice Hall 1989.

Practical Examination Scheme

Max. Marks – 30

Practical (two)

Viva

Sessional

Time Duration – 3 Hrs.

20 Marks(10 marks each)

05 Marks

05 Marks

M.Sc./M.A. Course (Fourth Semester)
PAPER-V (B)
Graph theory-II

Max. Marks - 80

- Unit-I: Ramsey Theory: Perfectness-preserving operations, Forbidden Subgraph orientations, Ramsey numbers and Ramsey graphs.
- Unit-II: Groups: Permutation groups, The automorphism group, graphs with given group, symmetry concepts, pseudo-similarity and stability, spectral studies of the Automorphism group.
- Unit-III: Polynomials and Graph Enumeration: The colour polynomials, The chromatic polynomial, The bivariate colouring polynomials.
- Unit-IV: Graph Enumeration: Co-chromatic (co-dichromatic) graphs and chromatically unique graphs, Graph Enumeration.
- Unit-V: Digraphs & Networks: Digraphs, Types of connectedness, Flows in Networks, Menger's and Konig's Theorem, Degree sequences.

REFERENCES :

1. K.R.Parthasarathy, Basic graph theory, Tata Mc graw Hill publishing company limited , 1994.
2. R.J.Wilson, Introduction to graph theory, Longman Harlow, 1985.
3. John Clark, Derek Allon Holton, A first look at graph Theory, World Scientific Singapore, 1991.
4. Frank Hararary, Graph Theory Narosa, New Delhi, 1995.
5. Ronald Gould and Benjamin Cummins, Graph Theory, California.
6. Narsingh Deo, Graph Theory with applications to Engineering and Computer Science, Prentice-Hall of India Private Limited, New Delhi, 2002.

Pt. Ravishankar Shukla University, Raipur
Ph.D. Course Work (Mathematics)
2020-21 & Onward

Scheme of Examination

There shall two papers, one theory paper and one project work. Each of 100 marks.

S.No.	Particulars		Max. Marks	
1	Theory Paper	Research Methodology, Quantitative techniques and Computers	100	100
2	Project Work	Dissertation/Project Script	50	100
		Seminar	20	
		Viva Voce	30	
Grand Total				200

Details of Syllabus Paper I

Research Methodology, Quantitative techniques and Computers

M.M. 100

Unit I – Research Methodology:

Introduction to research methodology, Meaning, objectives, types, significance of Research. Identification, Selection of Research problem, Formulation of research objectives, Research design, components, importance and typology, Quantitative and qualitative methodology, hypotheses. Research ethics.

Unit II - Scientific Writing : Importance of Science Writing , Meaning and nature of Scientific Style , Writing effective scientific prose, Effective word selection in Science writing, Common mathematical functions and their abbreviations, Symbols, Operators Commonly used in Mathematics, Greek, Roman letters used in mathematics, Mathematical Theorems and properties, Mathematics Journals and their abbreviations.

Unit III - Style and Usage for Mathematics :

Review : Mathematics Subject Classifications (MSC). Mathematical Review, MathSciNet and other E-Resources.

Manuscript Preparation :

Structure of a Standard Mathematics Paper (in brief), Other Forms of Mathematics Manuscripts.

Usage : Mathematical Expressions, Alphabets used in Mathematical Expressions, Bracketing, Limits, Fractions, Multiplication, Vectors, Tensors, and n-forms, Summations, Products, Unions, and Integrals.

Unit IV - Typesetting Mathematical Text with LATEX :

Sample Document, Type Style, Environments, Lists, Centering, Tables, Verbatim, Vertical and Horizontal Spacing. Equation Environments, Fonts, Hats, and Underlining, Braces, Arrays and Matrices, Customized Commands, Theorem-like Environments, Math Styles, Document Classes and the Overall Structure, Titles for Documents, Sectioning Commands, Packages, Inputting Files, Inputting Pictures, Making a Bibliography, Making an Index, Slides.

Unit V - MATLAB :

Arithmetic Operations, built-in-MATH functions, scalar variables, Creating Arrays, built-in-functions for handling arrays, Mathematical Operations with Arrays, Script Files, Two dimensional plots, programming in MATLAB, Polynomial, curve fitting, and interpolation, Three-dimensional plots.

Books recommended :

1. C.R.Kothari, Research Methodology, New Age International Publishers (2004)
2. Michael Davis : Ethics and the University. Routledge (1999)
3. Harold Rabinowitz, Suzanne Vogel : The Manual of Scientific Style. Academic Press (2009)
4. Laslie Lamport : LATEX. Addison Wesley Publication Company (1994)
5. David F. Griffiths, Desmond J. Higham : Learning LATEX. Society for Industrial and Applied Mathematics, Philadelphia (1997)
6. Amos Gilat : MATLAB : An Introduction with Applications. John Wiley & Sons, INC (2004)

Paper II
Project Work

M.M. 100

This paper will consist of three components

- | | | |
|-------|---|----|
| (i) | Dissertation/Project work leading to Ph.D. Work | 50 |
| (ii) | Seminars (two) | 20 |
| (iii) | Viva-Voce on Dissertation | 30 |

Elementary Mathematics for Finance and Economics

Unit I

1. Mathematical Models in Economics-
Introduction, A model of the market, Market equilibrium, Excise Tax.
2. The elements of Finance-
Interest and capital growth, Income generation, The interval of compounding.
3. The Cobweb Model-
Stability of market equilibrium, The general linear case, Economic interpretation
4. Mathematical terms and notations-
Sets, functions, Graphs, Equations, Supply and demand sets for a market.

Unit II

1. Introduction to Calculus-
Rate of change of a function, rules for finding the derivative, Marginal cost as a derivative, derivative of composite and inverse functions.
2. Introduction to Optimization-
Profit maximization, critical points, optimization in an interval, infinite interval.
3. The derivative in Economics-
Nonlinear economic models, Elasticity of demand, profit maximization, competition versus monopoly, The efficient small firm, startup and breakeven points.

Unit III

1. Matrix Algebra-
Matrix, multiplication of matrix, inverse of matrix, Determinant, Cramer's rule.
2. Linear equations-
Linear equations in matrix form, solutions of linear equations by row operations, Echelon form, consistent and inconsistent systems, Rank, A two-industry 'economy', Arbitrage portfolios and state prices, Income determination model.
3. Input-Output model-
An economy with many industries, Technology matrix, Existence of solution.

Unit IV

1. Linear Programming-

- Graphical approach- production, diet problem
Simplex algorithm, Dual problem.
2. General Equilibrium and Game Theory-
Utility maximization and demand function, Profit maximization and supply function,
abstract economy and a competitive equilibrium

Unit V

1. First order differential equations-
Continuous time models, types of differential equations, separable differential equations,
continuous time model of price adjustment.
2. Second order differential equations-
Market trends and consumer demand, Linear equations with constant coefficients,
Solution of homogeneous equations, behavior of solutions.

Book Name:

Mathematics for Economics and Finance- by M. Anthony and N.Biggs
Cambridge University Press

Elementary Mathematics for Social Sciences

Unit-I: Algebra and Equations

The Real Numbers, Polynomials, Factoring, Rational Expressions, Exponents and Radicals, First-Degree Equations, Quadratic Equations.

Unit-II: Graphs, Lines, and Inequalities

Graphs, Equations of Lines, Linear Models, Linear Inequalities, Polynomial and Rational Inequalities,

Unit-III: Functions and Graphs

Functions, Graphs of Functions, Applications of Linear Functions, Quadratic Functions and Applications, Polynomial Functions, Rational Functions

Unit-IV: Exponential and Logarithmic Functions

Exponential Functions, Applications of Exponential Functions, Logarithmic Functions, Logarithmic and Exponential Equations

Unit-V: Systems of Linear Equations and Matrices

Systems of Two Linear Equations in Two Variables, Larger Systems of Linear Equations, Applications of Systems of Linear Equations, Basic Matrix Operations, Matrix Products and Inverses, Applications of Matrices

Recommended Book:

M.L.Lial, T.W.Hungerford, J.P.Holcomb, B.Mullins: *Mathematics with Applications in the Management, Natural and Social Sciences*, 7th ed. Pearson.

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Pt. Ravishankar Shukla University, Raipur (CG)

Revised Ordinance -131

**(Adoption of Pharmacy Council of India (New Delhi) Rules and Syllabus for the
Bachelors of Pharmacy (B.Pharm.) Course
(w.e.f the year 2018-2019)**

1. Short Title

The first degree in Pharmacy of four years (Eight Semester) Course hereinafter called four year Degree Course shall be designated as Bachelor in Pharmacy in short B. Pharm.

2. Minimum qualification for admission

2.1 First year B. Pharm:

Candidate shall have passed 10+2 examination conducted by the respective state/central government authorities recognized as equivalent to 10+2 examination by the Association of Indian Universities (AIU) with English as one of the subjects and Physics, Chemistry, Mathematics (P.C.M) and or Biology (P.C.B / P.C.M.B.) as optional subjects individually. Any other qualification approved by the Pharmacy Council of India as equivalent to any of the above examinations.

2.2. B. Pharm lateral entry (to third semester):

A pass in D. Pharm. course from an institution approved by the Pharmacy Council of India under section 12 of the Pharmacy Act.

3. Duration of the program

The course of study for B.Pharm shall extend over a period of eight semesters (four academic years) and six semesters (three academic years) for lateral entry students. The curricula and syllabi for the program shall be prescribed from time to time by Pharmacy Council of India, New Delhi.

4. Medium of instruction and examinations

Medium of instruction and examination shall be in English.

5. Working days in each semester

Each semester shall consist of not less than 100 working days. The odd semesters shall be conducted from the month of June/July to November/December and the even semesters shall be conducted from December/January to May/June in every calendar year.

6. Attendance and progress

A candidate is required to put in at least 80% attendance in individual courses considering theory and practical separately. The candidate shall complete the prescribed course satisfactorily to be eligible to appear for the respective examinations.

7. Program/Course credit structure

As per the philosophy of Credit Based Semester System, certain quantum of academic work viz. theory classes, tutorial hours, practical classes, etc. are measured in terms of credits. On satisfactory completion of the courses, a candidate earns credits. The amount of credit associated with a course is dependent upon the number of hours of instruction per week in that course. Similarly, the credit associated with any of the other academic, co/extra-curricular activities is dependent upon the quantum of work expected to be put in for each of these activities per week.

Shukla
10/7/18

Roy

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7.1. Credit assignment

7.1.1. Theory and Laboratory courses

Courses are broadly classified as Theory and Practical. Theory courses consist of lecture (L) and /or tutorial (T) hours, and Practical (P) courses consist of hours spent in the laboratory. Credits (C) for a course is dependent on the number of hours of instruction per week in that course, and is obtained by using a multiplier of one (1) for lecture and tutorial hours, and a multiplier of half (1/2) for practical (laboratory) hours. Thus, for example, a theory course having three lectures and one tutorial per week throughout the semester carries a credit of 4. Similarly, a practical having four laboratory hours per week throughout semester carries a credit of 2.

7.2. Minimum credit requirements

The minimum credit points required for award of a B. Pharm. degree is 208. These credits are divided into Theory courses, Tutorials, Practical, Practice School and Project over the duration of eight semesters. The credits are distributed semester-wise as shown in Table IX. Courses generally progress in sequences, building competencies and their positioning indicates certain academic maturity on the part of the learners. Learners are expected to follow the semester-wise schedule of courses given in the syllabus.

The lateral entry students shall get 52 credit points transferred from their D. Pharm program. Such students shall take up additional remedial courses of 'Communication Skills' (Theory and Practical) and 'Computer Applications in Pharmacy' (Theory and Practical) equivalent to 3 and 4 credit points respectively, a total of 7 credit points to attain 59 credit points, the maximum of I and II semesters.

8. Academic work

A regular record of attendance both in Theory and Practical shall be maintained by the teaching staff of respective courses.

9. Course of study

The course of study for B. Pharm shall include Semester Wise Theory & Practical as given in Table – I to VIII. The number of hours to be devoted to each theory, tutorial and practical course in any semester shall not be less than that shown in Table – I to VIII.

Table-I: Course of study for semester I

Course code	Name of the course	No. of hours	Tutorial	Credit points
BP101T	Human Anatomy and Physiology- I-Theory	3	1	4
BP102T	Pharmaceutical Analysis- I – Theory	3	1	4
BP103T	Pharmaceutics- I – Theory	3	1	4
BP104T	Pharmaceutical Inorganic Chemistry – Theory	3	1	4
BP105T	Communication skills – Theory *	2	-	2
BP106RBT BP106RMT	Remedial Biology/ Remedial Mathematics – Theory*	2	-	2
BP107P	Human Anatomy and Physiology-I – Practical	4	-	2
BP108P	Pharmaceutical Analysis- I – Practical	4	-	2
BP109P	Pharmaceutics- I – Practical	4	-	2
BP110P	Pharmaceutical Inorganic Chemistry – Practical	4	-	2
BP111P	Communication skills – Practical*	2	-	1
BP112RBP	Remedial Biology – Practical*	2	-	1
Total		32/34^s/36[#]	4	27/29^s/30[#]

Applicable ONLY for the students who have studied Mathematics / Physics / Chemistry at HSC and appearing for Remedial Biology (RB) course.

§ Applicable ONLY for the students who have studied Physics / Chemistry / Botany / Zoology at HSC and appearing for Remedial Mathematics (RM) course.

* Non University Examination (NUE)

Table-II: Course of study for semester II

Course Code	Name of the course	No. of hours	Tutorial	Credit points
BP201T	Human Anatomy and Physiology- II – Theory	3	1	4
BP202T	Pharmaceutical Organic Chemistry- I – Theory	3	1	4
BP203T	Biochemistry – Theory	3	1	4
BP204T	Pathophysiology – Theory	3	1	4
BP205T	Computer Applications in Pharmacy – Theory *	3	-	3
BP206T	Environmental Sciences – Theory *	3	-	3
BP207P	Human Anatomy and Physiology- II –Practical	4	-	2
BP208P	Pharmaceutical Organic Chemistry- I– Practical	4	-	2
BP209P	Biochemistry – Practical	4	-	2
BP210P	Computer Applications in Pharmacy – Practical*	2	-	1
Total		32	4	29

*Non University Examination (NUE)

Table-III: Course of study for semester III

Course code	Name of the course	No. of hours	Tutorial	Credit points
BP301T	Pharmaceutical Organic Chemistry- II Theory	3	1	4
BP302T	Physical Pharmaceutics- I Theory	3	1	4
BP303T	Pharmaceutical Microbiology – Theory	3	1	4
BP304T	Pharmaceutical Engineering – Theory	3	1	4
BP305P	Pharmaceutical Organic Chemistry- II – Practical	4	-	2
BP306P	Physical Pharmaceutics- I – Practical	4	-	2
BP307P	Pharmaceutical Microbiology – Practical	4	-	2
BP 308P	Pharmaceutical Engineering –Practical	4	-	2
Total		28	4	24



Table-IV: Course of study for semester IV

Course code	Name of the course	No. of hours	Tutorial	Credit points
BP401T	Pharmaceutical Organic Chemistry- III- Theory	3	1	4
BP402T	Medicinal Chemistry- I – Theory	3	1	4
BP403T	Physical Pharmaceutics- II – Theory	3	1	4
BP404T	Pharmacology- I – Theory	3	1	4
BP405T	Pharmacognosy and Phytochemistry- I– Theory	3	1	4
BP406P	Medicinal Chemistry- I – Practical	4	-	2
BP407P	Physical Pharmaceutics- II – Practical	4	-	2
BP408P	Pharmacology- I – Practical	4	-	2
BP409P	Pharmacognosy and Phytochemistry- I – Practical	4	-	2
Total		31	5	28

Table-V: Course of study for semester V

Course code	Name of the course	No. of hours	Tutorial	Credit points
BP501T	Medicinal Chemistry- II – Theory	3	1	4
BP502T	Industrial Pharmacy-I– Theory	3	1	4
BP503T	Pharmacology- II – Theory	3	1	4
BP504T	Pharmacognosy and Phytochemistry- II– Theory	3	1	4
BP505T	Pharmaceutical Jurisprudence – Theory	3	1	4
BP506P	Industrial Pharmacy-I – Practical	4	-	2
BP507P	Pharmacology- II – Practical	4	-	2
BP508P	Pharmacognosy and Phytochemistry- II – Practical	4	-	2
Total		27	5	26

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Table-VI: Course of study for semester VI

Course code	Name of the course	No. of hours	Tutorial	Credit points
BP601T	Medicinal Chemistry- III – Theory	3	1	4
BP602T	Pharmacology- III – Theory	3	1	4
BP603T	Herbal Drug Technology – Theory	3	1	4
BP604T	Biopharmaceutics and Pharmacokinetics –Theory	3	1	4
BP605T	Pharmaceutical Biotechnology – Theory	3	1	4
BP606T	Quality Assurance –Theory	3	1	4
BP607P	Medicinal Chemistry- III – Practical	4	-	2
BP608P	Pharmacology- III – Practical	4	-	2
BP609P	Herbal Drug Technology – Practical	4	-	2
Total		30	6	30

Table-VII: Course of study for semester VII

Course code	Name of the course	No. of hours	Tutorial	Credit points
BP701T	Instrumental Methods of Analysis – Theory	3	1	4
BP702T	Industrial Pharmacy-II – Theory	3	1	4
BP703T	Pharmacy Practice – Theory	3	1	4
BP704T	Novel Drug Delivery System – Theory	3	1	4
BP705P	Instrumental Methods of Analysis – Practical	4	-	2
BP706PS	Practice School*	12	-	6
Total		28	5	24

* Non University Examination (NUE)

Table-VIII: Course of study for semester VIII

Course code	Name of the course	No. of hours	Tutorial	Credit points
BP801T	Biostatistics and Research Methodology – Theory	3	1	4
BP802T	Social and Preventive Pharmacy– Theory	3	1	4
BP803ET	Pharma Marketing Management –Theory	3 + 3 = 6	1 + 1 = 2	4 + 4 = 8
BP804ET	Pharmaceutical Regulatory Science– Theory			
BP805ET	Pharmacovigilance– Theory			
BP806ET	Quality Control and Standardization of Herbals – Theory			
BP807ET	Computer Aided Drug Design– Theory			
BP808ET	Cell and Molecular Biology– Theory			
BP809ET	Cosmetic Science– Theory			
BP810ET	Experimental Pharmacology– Theory			
BP811ET	Advanced Instrumentation Techniques– Theory			
BP812ET	Dietary Supplements and Nutraceuticals– Theory			
BP813PW	Project Work	12	-	6
Total		24	4	22

Table-IX: Semester wise credits distribution

Semester	Credit Points
I	27/29 ^{\$} /30 [#]
II	29
III	26
IV	28
V	26
VI	26
VII	24
VIII	22
Extracurricular/ Co curricular activities	01*
Total credit points for the program	209/211^{\$}/212[#]

*The credit points assigned for extracurricular and or co-curricular activities shall be given by the Head of the Institute and the same shall be submitted to the University. The criteria to acquire this credit point shall be defined by the Institute from time to time.

^{\$}Applicable ONLY for the students studied Physics / Chemistry / Botany / Zoology at HSC and appearing for Remedial Mathematics course.

[#]Applicable ONLY for the students studied Mathematics / Physics / Chemistry at HSC and appearing for Remedial Biology course.

10. Program Committee

1. The B. Pharm. program shall have a Program Committee constituted by the Head of the institution in consultation with all the Heads of the departments.

2. The composition of the Program Committee shall be as follows:
A senior teacher shall be the Chairperson; One Teacher from each department handling B.Pharm courses; and four student representatives of the program (one from each academic year), nominated by the Head of the institution.

3. Duties of the Program Committee:

- i. Periodically reviewing the progress of the classes.
- ii. Discussing the problems concerning curriculum, syllabus and the conduct of classes.
- iii. Discussing with the course teachers on the nature and scope of assessment for the course and the same shall be announced to the students at the beginning of respective semesters.
- iv. Communicating its recommendation to the Head of the institution on academic matters.
- v. The Program Committee shall meet at least thrice in a semester preferably at the end of each Sessional Exam (Internal Assessment) and before the end semester exam.

11. Examinations/Assessments

The scheme for internal assessment and end semester examinations is given in Table – X.

11.1 End semester examinations

The End Semester Examinations for each theory and practical course through semesters I to VIII shall be conducted by the university except for the subjects with asterix symbol (*) in table I and II for which examinations shall be conducted by the subject experts at Institute level and the marks/grades shall be submitted to the university.

6

Tables-X: Schemes for internal assessments and end semester examinations semester wise
Semester I

Course code	Name of the course	Internal Assessment				End Semester Exams		Total Marks
		Continuous Mode	Sessional Exams		Total	Marks	Duration	
			Marks	Duration				
BP101T	Human Anatomy and Physiology- I – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP102T	Pharmaceutical Analysis- I – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP103T	Pharmaceutics -I – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP104T	Pharmaceutical Inorganic Chemistry – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP105T	Communication skills – Theory *	5	10	1 Hr	15	35	1.5 Hrs	50
BP106RBT BP106RMT	Remedial Biology/ Mathematics – Theory*	5	10	1 Hr	15	35	1.5 Hrs	50
BP107P	Human Anatomy and Physiology – Practical	5	10	4 Hrs	15	35	4 Hrs	50
BP108P	Pharmaceutical Analysis- I – Practical	5	10	4 Hrs	15	35	4 Hrs	50
BP109P	Pharmaceutics- I – Practical	5	10	4 Hrs	15	35	4 Hrs	50
BP110P	Pharmaceutical Inorganic Chemistry – Practical	5	10	4 Hrs	15	35	4 Hrs	50
BP111P	Communication skills – Practical*	5	5	2 Hrs	10	15	2 Hrs	25
BP112RBP	Remedial Biology – Practical*	5	5	2 Hrs	10	15	2 Hrs	25
Total		70/75^{\$}/80[#]	115/125^{\$}/130[#]	23/24^{\$}/26[#] Hrs	185/200^{\$}/210[#]	490/525^{\$}/ 540[#]	31.5/33^{\$}/ 35[#] Hrs	675/725^{\$}/ 750[#]

Applicable ONLY for the students studied Mathematics / Physics / Chemistry at HSC and appearing for Remedial Biology (RB) course.

\$ Applicable ONLY for the students studied Physics / Chemistry / Botany / Zoology at HSC and appearing for Remedial Mathematics (RM) course.

* Non University Examination (NUE)

Semester II

Course code	Name of the course	Internal Assessment				End Semester Exams		Total Marks
		Continuous Mode	Sessional Exams		Total	Marks	Duration	
			Marks	Duration				
BP201T	Human Anatomy and Physiology-II – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP202T	Pharmaceutical Organic Chemistry- I – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP203T	Biochemistry – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP204T	Pathophysiology – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP205T	Computer Applications in Pharmacy – Theory*	10	15	1 Hr	25	50	2 Hrs	75
BP206T	Environmental Sciences – Theory*	10	15	1 Hr	25	50	2 Hrs	75
BP207P	Human Anatomy and Physiology- II – Practical	5	10	4 Hrs	15	35	4 Hrs	50
BP208P	Pharmaceutical Organic Chemistry-I– Practical	5	10	4 Hrs	15	35	4 Hrs	50
BP209P	Biochemistry – Practical	5	10	4 Hrs	15	35	4 Hrs	50
BP210P	Computer Applications in Pharmacy – Practical*	5	5	2 Hrs	10	15	2 Hrs	25
Total		80	125	20 Hrs	205	520	30 Hrs	725

* The subject experts at institute level shall conduct examinations

Semester III

Course code	Name of the course	Internal Assessment				End Semester Exams		Total Marks
		Continuous Mode	Sessional Exams		Total	Marks	Duration	
			Marks	Duration				
BP301T	Pharmaceutical Organic Chemistry- II – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP302T	Physical Pharmaceutics-I –Theory	10	15	1 Hr	25	75	3 Hrs	100
BP303T	Pharmaceutical Microbiology –Theory	10	15	1 Hr	25	75	3 Hrs	100
BP304T	Pharmaceutical Engineering –Theory	10	15	1 Hr	25	75	3 Hrs	100
BP305P	Pharmaceutical Organic Chemistry- II – Practical	5	10	4 Hr	15	35	4 Hrs	50
BP306P	Physical Pharmaceutics- I –Practical	5	10	4 Hr	15	35	4 Hrs	50
BP307P	Pharmaceutical Microbiology –Practical	5	10	4 Hr	15	35	4 Hrs	50
BP308P	Pharmaceutical Engineering –Practical	5	10	4 Hr	15	35	4 Hrs	50
Total		60	100	20	160	440	28Hrs	600

Semester IV

Course code	Name of the course	Internal Assessment				End Semester Exams		Total Marks
		Continuous Mode	Sessional Exams		Total	Marks	Duration	
			Marks	Duration				
BP401T	Pharmaceutical Organic Chemistry- III- Theory	10	15	1 Hr	25	75	3 Hrs	100
BP402T	Medicinal Chemistry-I – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP403T	Physical Pharmaceutics- II –Theory	10	15	1 Hr	25	75	3 Hrs	100
BP404T	Pharmacology -I – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP405T	Pharmacognosy and Phytochemistry- I- Theory	10	15	1 Hr	25	75	3 Hrs	100
BP406P	Medicinal Chemistry- I – Practical	5	10	4 Hr	15	35	4 Hrs	50
BP407P	Physical Pharmaceutics -II –Practical	5	10	4 Hrs	15	35	4 Hrs	50
BP408P	Pharmacology- I – Practical	5	10	4 Hrs	15	35	4 Hrs	50
BP409P	Pharmacognosy and Phytochemistry- I – Practical	5	10	4 Hrs	15	35	4 Hrs	50
Total		70	115	21 Hrs	185	515	31 Hrs	700

Semester V

Course code	Name of the course	Internal Assessment				End Semester Exams		Total Marks
		Continuous Mode	Sessional Exams		Total	Marks	Duration	
			Marks	Duration				
BP501T	Medicinal Chemistry- II – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP502T	Industrial Pharmacy-I– Theory	10	15	1 Hr	25	75	3 Hrs	100
BP503T	Pharmacology- II – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP504T	Pharmacognosy and Phytochemistry- II– Theory	10	15	1 Hr	25	75	3 Hrs	100
BP505T	Pharmaceutical Jurisprudence – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP506P	Industrial Pharmacy-I– Practical	5	10	4 Hr	15	35	4 Hrs	50
BP507P	Pharmacology- II – Practical	5	10	4 Hr	15	35	4 Hrs	50
BP508P	Pharmacognosy and Phytochemistry- II – Practical	5	10	4 Hr	15	35	4 Hrs	50
Total		65	105	17 Hr	170	480	27 Hrs	650

Semester VI

Course code	Name of the course	Internal Assessment				End Semester Exams		Total Marks
		Continuous Mode	Sessional Exams		Total	Marks	Duration	
			Marks	Duration				
BP601T	Medicinal Chemistry- III – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP602T	Pharmacology- III – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP603T	Herbal Drug Technology –Theory	10	15	1 Hr	25	75	3 Hrs	100
BP604T	Biopharmaceutics and Pharmacokinetics – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP605T	Pharmaceutical Biotechnology– Theory	10	15	1 Hr	25	75	3 Hrs	100
BP606T	Quality Assurance– Theory	10	15	1 Hr	25	75	3 Hrs	100
BP607P	Medicinal Chemistry -III –Practical	5	10	4 Hrs	15	35	4 Hrs	50
BP608P	Pharmacology- III – Practical	5	10	4 Hrs	15	35	4 Hrs	50
BP609P	Herbal Drug Technology –Practical	5	10	4 Hrs	15	35	4 Hrs	50
Total		75	120	18 Hrs	195	555	30 Hrs	750

Semester VII

Course code	Name of the course	Internal Assessment				End Semester Exams		Total Marks
		Continuous Mode	Sessional Exams		Total	Marks	Duration	
			Marks	Duration				
BP701T	Instrumental Methods of Analysis – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP702T	Industrial Pharmacy – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP703T	Pharmacy Practice – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP704T	Novel Drug Delivery System – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP705 P	Instrumental Methods of Analysis – Practical	5	10	4 Hrs	15	35	4 Hrs	50
BP706 PS	Practice School*	25	-	-	25	125	5 Hrs	150
Total		70	70	8Hrs	140	460	21 Hrs	600

* The subject experts at institute level shall conduct examinations

Semester VIII

Course code	Name of the course	Internal Assessment				End Semester Exams		Total Marks
		Continuous Mode	Sessional Exams		Total	Marks	Duration	
			Marks	Duration				
BP801T	Biostatistics and Research Methodology – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP802T	Social and Preventive Pharmacy – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP803ET	Pharma Marketing Management – Theory	10 + 10 = 20	15 + 15 = 30	1 + 1 = 2 Hrs	25 + 25 = 50	75 + 75 = 150	3 + 3 = 6 Hrs	100 + 100 = 200
BP804ET	Pharmaceutical Regulatory Science – Theory							
BP805ET	Pharmacovigilance – Theory							
BP806ET	Quality Control and Standardization of Herbals – Theory							
BP807ET	Computer Aided Drug Design – Theory							
BP808ET	Cell and Molecular Biology – Theory							
BP809ET	Cosmetic Science – Theory							
BP810ET	Experimental Pharmacology – Theory							
BP811ET	Advanced Instrumentation Techniques – Theory							
BP812ET	Dietary Supplements and Nutraceuticals – Theory							
BP812PW	Project Work	-	-	-	-	150	4 Hrs	150
Total		40	60	4 Hrs	100	450	16 Hrs	550

11.2 Internal assessment: Continuous mode

The marks allocated for Continuous mode of Internal Assessment shall be awarded as per the scheme given below.

Table-XI: Scheme for awarding internal assessment: Continuous mode

Theory		
Criteria	Maximum Marks	
Attendance (Refer Table – XII)	4	2
Academic activities (Average of any 3 activities e.g. quiz, assignment, open book test, field work, group discussion and seminar)	3	1.5
Student – Teacher interaction	3	1.5
Total	10	5
Practical		
Attendance (Refer Table – XII)	2	
Based on Practical Records, Regular viva voce, etc.	3	
Total	5	

Table- XII: Guidelines for the allotment of marks for attendance

Percentage of Attendance	Theory	Practical
95 – 100	4	2
90 – 94	3	1.5
85 – 89	2	1
80 – 84	1	0.5
Less than 80	0	0

11.2.1 Sessional Exams

Two Sessional exams shall be conducted for each theory / practical course as per the schedule fixed by the institute. The scheme of question paper for theory and practical Sessional examinations is given below. The average marks of two Sessional exams shall be computed for internal assessment as per the requirements given in tables – X.

Sessional exam shall be conducted for 30 marks for theory and shall be computed for 15 marks. Similarly Sessional exam for practical shall be conducted for 40 marks and shall be computed for 10 marks.

Question paper pattern for theory Sessional examinations For subjects having University examination

- I. Multiple Choice Questions (MCQs) OR =10 x 1 = 10
- Objective Type Questions (5 x 2) OR
- =05 x 2 = 10
- (Answer all the questions)
- I. Long Answers (Answer 1 out of 2) =10 x 1 = 10
- OR
- II. Short Answers (Answer 2 out of 3) =05 x 2 = 10
- Total** =30 marks

3

For subjects having Non University Examination

I. Long Answers (Answer 1 out of 2)	=	1 x 10 = 10
II. Short Answers (Answer 4 out of 6)	=	4 x 5 = 20

Total	=	30 marks

Question paper pattern for practical sessional examinations

I. Synopsis	=	10
II. Experiments	=	25
III. Viva voce	=	05

Total	=	40 marks

12. Promotion and award of grades

A student shall be declared PASS and eligible for getting grade in a course of B.Pharm. program if he/she secures at least 50% marks in each subject (theory and practical) of the course including internal assessment. For example, to be declared as PASS and to get grade, the student has to secure a minimum of 50 marks for the total of 100 including continuous mode of assessment and end semester theory examination and has to secure a minimum of 25 marks for the total 50 including internal assessment and end semester practical examination.

13. Carry forward of marks

In case a student fails to secure the minimum 50% in any Theory or Practical course as specified in 12, then he/she shall reappear for the end semester examination of that course. However his/her marks of the Internal Assessment shall be carried over and he/she shall be entitled for grade obtained by him/her on passing.

14. Improvement of internal assessment

A student shall have the opportunity to improve his/her performance only once in the Sessional exam component of the internal assessment. The re-conduct of the Sessional exam shall be completed before the commencement of next end semester theory examinations.

15. Re-examination of end semester examinations

Reexamination of end semester examination shall be conducted as per the schedule given in table XIII. The exact dates of examinations shall be notified from time to time.

Table-XIII: Tentative schedule of end semester examinations

Semester	For Regular Candidates	For Failed Candidates
I, III, V and VII	November / December	May / June
II, IV, VI and VIII	May / June	November / December

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Question paper pattern for end semester theory examinations

For 75 marks paper

I. Multiple Choice Questions(MCQs) OR Objective Type Questions (10 x 2)	=	20 x 1	= 20
		OR	
		10 x 2	= 20

(Answer all the questions)

II. Long Answers (Answer 2 out of 3) = 2 x 10 = 20

III. Short Answers (Answer 7 out of 9) = 7 x 5 = 35

Total = 75 marks

For 50 marks paper

I. Long Answers (Answer 2 out of 3) = 2 x 10 = 20

II. Short Answers (Answer 6 out of 8) = 6 x 5 = 30

Total = 50 marks

For 35 marks paper

I. Long Answers (Answer 1 out of 2) = 1 x 10 = 10

II. Short Answers (Answer 5 out of 7) = 5 x 5 = 25

Total = 35 marks

Question paper pattern for end semester practical examination

I. Synopsis = 5

II. Experiments = 25

III. Viva voce = 5

Total = 35 marks

16. Academic Progression:

No student shall be admitted to any examination unless he/she fulfills the norms given in 6. Academic progression rules are applicable as follows:

A student shall be eligible to carry forward all the courses of I, II and III semesters till the IV semester examinations. However, he/she shall not be eligible to attend the courses of V semester until all the courses of I and II semesters are successfully completed.

A student shall be eligible to carry forward all the courses of III, IV and V semesters till the VI semester examinations. However, he/she shall not be eligible to attend the courses of VII semester until all the courses of I, II, III and IV semesters are successfully completed.

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A student shall be eligible to carry forward all the courses of V, VI and VII semesters till the VIII semester examinations. However, he/she shall not be eligible to get the course completion certificate until all the courses of I, II, III, IV, V and VI semesters are successfully completed.

A student shall be eligible to get his/her CGPA upon successful completion of the courses of I to VIII semesters within the stipulated time period as per the norms specified in 26.

A lateral entry student shall be eligible to carry forward all the courses of III, IV and V semesters till the VI semester examinations. However, he/she shall not be eligible to attend the courses of VII semester until all the courses of III and IV semesters are successfully completed.

A lateral entry student shall be eligible to carry forward all the courses of V, VI and VII semesters till the VIII semester examinations. However, he/she shall not be eligible to get the course completion certificate until all the courses of III, IV, V and VI semesters are successfully completed.

A lateral entry student shall be eligible to get his/her CGPA upon successful completion of the courses of III to VIII semesters within the stipulated time period as per the norms specified in 26.

Any student who has given more than 4 chances for successful completion of I / III semester courses and more than 3 chances for successful completion of II / IV semester courses shall be permitted to attend V / VII semester classes ONLY during the subsequent academic year as the case may be. In simpler terms there shall NOT be any ODD BATCH for any semester.

Note: Grade AB should be considered as failed and treated as one head for deciding academic progression. Such rules are also applicable for those students who fail to register for examination(s) of any course in any semester.

17. Grading of performances

Letter grades and grade points allocations:

Based on the performances, each student shall be awarded a final letter grade at the end of the semester for each course. The letter grades and their corresponding grade points are given in Table – XII.

Table – XII: Letter grades and grade points equivalent to Percentage of marks and performances

Percentage of Marks Obtained	Letter Grade	Grade Point	Performance
90.00 – 100	O	10	Outstanding
80.00 – 89.99	A	9	Excellent
70.00 – 79.99	B	8	Good
60.00 – 69.99	C	7	Fair
50.00 – 59.99	D	6	Average
Less than 50	F	0	Fail
Absent	AB	0	Fail

A learner who remains absent for any end semester examination shall be assigned a letter grade of AB and a corresponding grade point of zero. He/she should reappear for the said evaluation/examination in due course.

18. The Semester grade point average (SGPA)

The performance of a student in a semester is indicated by a number called 'Semester Grade Point Average' (SGPA). The SGPA is the weighted average of the grade points obtained in all the courses by the student during the semester. For example, if a student takes five courses (Theory/Practical) in a semester with credits C1, C2, C3, C4 and C5 and the student's grade points in these courses are G1, G2, G3, G4 and G5, respectively, and then students'

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SGPA is equal to:

$$SGPA = \frac{C_1G_1 + C_2G_2 + C_3G_3 + C_4G_4 + C_5G_5}{C_1 + C_2 + C_3 + C_4 + C_5}$$

The SGPA is calculated to two decimal points. It should be noted that, the SGPA for any semester shall take into consideration the F and ABS grade awarded in that semester. For example if a learner has a F or ABS grade in course 4, the SGPA shall then be computed as:

$$SGPA = \frac{C_1G_1 + C_2G_2 + C_3G_3 + C_4 * ZERO + C_5G_5}{C_1 + C_2 + C_3 + C_4 + C_5}$$

19. Cumulative Grade Point Average (CGPA)

The CGPA is calculated with the SGPA of all the VIII semesters to two decimal points and is indicated in final grade report card/final transcript showing the grades of all VIII semesters and their courses. The CGPA shall reflect the failed status in case of F grade(s), till the course(s) is/are passed. When the course(s) is/are passed by obtaining a pass grade on subsequent examination(s) the CGPA shall only reflect the new grade and not the fail grades earned earlier. The CGPA is calculated as:

$$CGPA = \frac{C_1S_1 + C_2S_2 + C_3S_3 + C_4S_4 + C_5S_5 + C_6S_6 + C_7S_7 + C_8S_8}{C_1 + C_2 + C_3 + C_4 + C_5 + C_6 + C_7 + C_8}$$

Where, C₁, C₂, C₃, is the total number of credits for semester I, II, III and S₁, S₂, S₃, is the SGPA of semester I,II,III.

20. Declaration of class

The class shall be awarded on the basis of CGPA as follows:
First Class with Distinction = CGPA of 7.50 and above
First Class = CGPA of 6.00 to 7.49
Second Class = CGPA of 5.00 to 5.99

21. Project work

All the students shall undertake a project under the supervision of a teacher and submit a report. The area of the project shall directly relate any one of the elective subject opted by the student in semester VIII. The project shall be carried out in group not exceeding 5 in number. The project report shall be submitted in triplicate (typed & bound copy not less than 25 pages).

The internal and external examiner appointed by the University shall evaluate the project at the time of the Practical examinations of other semester(s). Students shall be evaluated in groups for four hours (i.e., about half an hour for a group of five students). The projects shall be evaluated as per the criteria given below.

Evaluation of Dissertation Book:

Objective(s) of the work done	15 Marks
Methodology adopted	20 Marks
Results and Discussions	20 Marks
Conclusions and Outcomes	20 Marks
Total	<u>75 Marks</u>
Evaluation of Presentation: Presentation of work	25 Marks



Communication skills
Question and answer skills

20 Marks
30 Marks

Total

75 Marks

Explanation: The 75 marks assigned to the dissertation book shall be same for all the students in a group. However, the 75 marks assigned for presentation shall be awarded based on the performance of individual students in the given criteria.

22. Industrial training (Desirable)

Every candidate shall be required to work for at least 150 hours spread over four weeks in a Pharmaceutical Industry/Hospital. It includes Production unit, Quality Control department, Quality Assurance department, Analytical laboratory, Chemical manufacturing unit, Pharmaceutical R&D, Hospital (Clinical Pharmacy), Clinical Research Organization, Community Pharmacy, etc. After the Semester – VI and before the commencement of Semester – VII, and shall submit satisfactory report of such work and certificate duly signed by the authority of training organization to the head of the institute.

23. Practice School

In the VII semester, every candidate shall undergo practice school for a period of 150 hours evenly distributed throughout the semester. The student shall opt any one of the domains for practice school declared by the program committee from time to time.

At the end of the practice school, every student shall submit a printed report (in triplicate) on the practice school he/she attended (not more than 25 pages). Along with the exams of semester VII, the report submitted by the student, knowledge and skills acquired by the student through practice school shall be evaluated by the subject experts at college level and grade point shall be awarded.

24. Award of Ranks

Ranks and Medals shall be awarded on the basis of final CGPA. However, candidates who fail in one or more courses during the B.Pharm program shall not be eligible for award of ranks. Moreover, the candidates should have completed the B. Pharm program in minimum prescribed number of years, (four years) for the award of Ranks.

25. Award of degree

Candidates who fulfill the requirements mentioned above shall be eligible for award of degree during the ensuing convocation.

26. Duration for completion of the program of study

The duration for the completion of the program shall be fixed as double the actual duration of the program and the students have to pass within the said period, otherwise they have to get fresh Registration.

27. Re-admission after break of study

Candidate who seeks re-admission to the program after break of study has to get the approval from the university by paying a condonation fee.

No condonation is allowed for the candidate who has more than 2 years of break up period and he/she has to rejoin the program by paying the required fees.

28. Condonation of Deficiency in Marks

28.1 With a view to moderate hard line cases in the examination, the following rules shall be observed:





28.1.1 Deficiency up to 5 marks be condoned to the best advantage of the candidate for passing the examination, provided the candidate fails in maximum of two theory or one theory and one practical or two practicals.

28.1.2. While declaring result of the candidate no marks shall be added to or subtracted from the aggregate for the deficiency condoned as above. However, he/she will pass the subjects cleared through clause 16. After condoning the deficiency the candidate's result shall be declared in the class, which the aggregate entitled him/her.

28.1.3. One grace mark will be given to the candidate who is failing/missing distinction/missing first division by one mark, on behalf of the Vice-Chancellor in the B.Pharm. Examination. The benefit will not, however, be available to a candidate getting advantage under Clause 28.1.1.

29. If a candidate has passed a semester examination in full he/she shall not be permitted to reappear in that examination for improvement of division/marks or any other purpose,

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Aruni, S, Rajeev, [crossed out signature], [signature]



भारत का राजपत्र The Gazette of India

असाधारण
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PART III—Section 4
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भारतीय भेषजी परिषद् अधिसूचना

नई दिल्ली, 10 दिसम्बर, 2014

भेषजी स्नातकोत्तर (एम.फार्म) पाठ्यक्रम विनियम, 2014

सं. 14-136/2014-भा.भे.परि.-भेषजी अधिनियम, 1948 (1948 का 8) की धारा 10 और 18 द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए भारतीय भेषजी परिषद्, केन्द्रीय सरकार के अनुमोदन से निम्नलिखित विनियम बनाती है, अर्थात्

भेषजी स्नातकोत्तर (एम.फार्म.) पाठ्यक्रम विनियम, 2014

अध्याय-I

1. संक्षिप्त नाम और प्रारंभ :

1. इन विनियमों का नाम भेषजी स्नातकोत्तर (एम.फार्म.) पाठ्यक्रम विनियम, 2014 है।
2. ये सरकारी राजपत्र में प्रकाशन की तारीख से प्रवृत्त होंगे।
3. भेषजी स्नातकोत्तर (एम.फार्म.) में भेषजी अधिनियम, 1948 के अधीन वृत्ति का व्यवसाय करने के लिए भेषजज्ञ के रूप में पंजीकरण/अर्हता अभिवृद्धि के प्रयोजनार्थ इन विनियमों में यथा विहित पाठ्यक्रम और परीक्षा उत्तीर्ण करने पर एक प्रमाण-पत्र दिया जाएगा।

2. पाठ्यक्रम की अवधि :

- (क) स्नातकोत्तर पाठ्यक्रम की अवधि दो पूर्णकालिक शैक्षणिक वर्ष होगी और प्रत्येक शैक्षणिक वर्ष कम से कम दो सौ कार्य दिवस का होगा।
- (ख) एम.फार्म. का अध्ययन वार्षिक पद्धति का होगा जिसके अंतर्गत शैक्षणिक अवधि के प्रारंभ से 12 मास तक विस्तारित एम.फार्म (भाग-1) और अगले 12 मास की अवधि का एम.फार्म (भाग-2) होगा।
- (ग) एम.फार्म. (भाग-1) के अंत में एम.फार्म (भाग-1) की विश्वविद्यालय परीक्षा होगी। एम.फार्म. (भाग-2) के अंत में अभ्यर्थी विश्वविद्यालय द्वारा अनुमोदित विषय पर एक शोध निबंध (डिजरटेशन) प्रस्तुत करेगा।

4899 GI/2014

(1)

अधिसूचना

नई दिल्ली, 10 दिसम्बर, 2014

भेषजी स्नातक (बी.फार्म) पाठ्यक्रम विनियम, 2014

संख्या 14-154/2010-भा.भे.परि.-भेषजी अधिनियम, 1948 (1948 का 8) की धारा 10 और 18 द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए भारतीय भेषजी परिषद्, केन्द्रीय सरकार के अनुमोदन से निम्नलिखित विनियम बनाती है, अर्थात्

अध्याय - I

1. संक्षिप्त नाम और प्रारंभ -

- (1) इन विनियमों का नाम भेषजी स्नातक (बी.फार्म) पाठ्यक्रम विनियम, 2014 है।
- (2) ये राजपत्र में प्रकाशन की तारीख से प्रवृत्त होंगे।

2. भेषजी स्नातक के लिए भेषजी अधिनियम, 1948 के अधीन भेषजी वृत्ति का व्यवसाय करने के लिए भेषजज्ञ के रूप में पंजीकरण के प्रयोजन के लिए इन विनियमों में यथा विहित पाठ्यक्रम का अध्ययन और परीक्षा उत्तीर्ण करने पर एक प्रमाणपत्र जारी किया जाएगा।

अध्याय - II

3. पाठ्यक्रम की अवधि -

भेषजी स्नातक : पाठ्यक्रम की अवधि पूर्णकालिक चार शैक्षणिक वर्ष (वार्षिक/सेमेस्टर) होगी। प्रत्येक शैक्षणिक वर्ष वार्षिक पद्धति के लिए कम से कम दो सौ कार्य दिवस और प्रत्येक सेमेस्टर के लिए एक सौ कार्य दिवस की अवधि का होगा।

4. प्रवेश के लिए न्यूनतम अर्हता -

क. प्रथम वर्ष भेषजी स्नातक - निम्नलिखित परीक्षाओं में से किसी में उत्तीर्ण -

- i) अभ्यर्थी ने भारतीय विश्वविद्यालय संघ द्वारा 10+2 परीक्षा के समकक्ष मान्यता प्राप्त संबंधित राज्य/केन्द्रीय सरकार के प्राधिकरणों द्वारा संचालित 10+2 परीक्षा उत्तीर्ण की हो जिसमें एक विषय अंग्रेजी हो तथा भौतिकी, रसायन विज्ञान, गणित/जीव विज्ञान पृथक-पृथक वैकल्पिक विषय हो। तथापि, जिन छात्रों के पास अनौपचारिक और गैर कक्षा आधारित विद्यालयी संस्था जैसे, राष्ट्रीय मुक्त विद्यालयी परीक्षा शिक्षण संस्थान, राज्यों की मुक्त विद्यालय पद्धति आदि की 10+2 अर्हता है, वे भेषजी स्नातक पाठ्यक्रम में प्रवेश के लिए पात्र नहीं होंगे।

- ii) भारतीय भेषजी परिषद् द्वारा उपर्युक्त परीक्षाओं में से किसी के समकक्ष अनुमोदित कोई अन्य अर्हता।

तथापि, पाठ्यक्रम में प्रवेश के वर्ष के 31 दिसम्बर या उससे पूर्व छात्र की आयु 17 वर्ष होनी चाहिए।

तथापि, यह कि अनुसूचित जातियों, अनुसूचित जन-जातियों और अन्य पिछड़े वर्गों के छात्रों के लिए सीटों का आरक्षण केन्द्रीय सरकार/राज्य सरकार/संघ क्षेत्र प्रशासन, जो भी हो, द्वारा समय-समय पर जारी किए गए अनुदेशों के अनुसार होगा।

- ख. भेषजी स्नातक में बाद में प्रवेश (दूसरे वर्ष/तीसरे सेमेस्टर में)
भेषजी अधिनियम की धारा 12 के अधीन भारतीय भेषजी परिषद् द्वारा अनुमोदित संस्थान से डी.फार्म. पाठ्यक्रम में उत्तीर्ण ।
5. भेषजी स्नातक पाठ्यक्रम में प्रवेश संख्या उतनी होगी जो भारतीय भेषजी परिषद् द्वारा समय-समय पर निर्धारित की जाएगी।
6. अध्ययन पाठ्यक्रम - भेषजी स्नातक के अध्ययन पाठ्यक्रम के विषय तथा सिद्धांत पक्ष, व्यवहार पक्ष और अनुशिक्षणीय पक्ष में शिक्षण के प्रत्येक विषय के लिए एक सप्ताह में उतने घण्टे होंगे जितने भारतीय भेषजी द्वारा समय-समय पर निर्धारित किए जाएंगे।
7. व्यावहारिक प्रशिक्षण : छात्र से अपेक्षित है कि वह 150 घण्टों का व्यावहारिक प्रशिक्षण प्राप्त करे
(क) भेषजी व्यवहार (अस्पताल/सामुदायिक भेषजी) अथवा
(ख) भेषजीय और सम्बद्ध उद्योगों में जो दूसरे वर्ष के पश्चात् अध्ययन क्रम के दौरान कम से कम एक मास की अवधि का हो।
8. पाठ्य विवरण - अध्ययन के हर विषय के लिए पाठ्य विवरण वह होगा जो भारतीय भेषजी परिषद् द्वारा समय-समय पर निर्धारित करेगी।
9. अध्ययन पाठ्यक्रम संचालित करने वाले प्राधिकरण का अनुमोदन -
1) कोई व्यक्ति, संस्थान, सोसायटी, न्यास या विश्वविद्यालय भारतीय भेषजी परिषद् के पूर्व अनुमोदन के बिना भेषजी स्नातक कार्यक्रम प्रारंभ और संचालित नहीं करेगा।
2) भेषजी अधिनियम की धारा 12 की उपधारा (1) के अधीन अनुमोदन प्राप्त करने के प्रयोजन हेतु कोई व्यक्ति या भेषजी महाविद्यालय ऐसी स्कीम प्रस्तुत करेगा जो भारतीय भेषजी परिषद् द्वारा निर्धारित की गई हो।
3) ऊपर उपविनियम (2) में उल्लेखित स्कीम ऐसे प्रारूप में होगी और उसमें ऐसा विवरण होगा तथा ऐसी रीति से प्रस्तुत की जाएगा तथा उसके साथ ऐसी फीस संलग्न होगी जो निर्धारित की गई हो :
तथापि, भारतीय भेषजी परिषद् इन विनियमों के अधीन किसी संस्थान को तब तक अनुमोदित नहीं करेगी जब तक कि उसने इन विनियमों के परिशिष्ट 'क' में यथा निर्दिष्ट भवन, वास-सुविधा, प्रयोगशाला, उपकरण, शिक्षण कर्मचारीवृंद, गैर-शिक्षण कर्मचारीवृंद आदि के संबंध में अध्यापन के पर्याप्त इंतजाम न कर लिए हों।
10. परीक्षा -
1. भेषजी स्नातक के प्रत्येक शैक्षणिक वर्ष/सेमेस्टर के अंत में परीक्षा होगी।
2. प्रत्येक परीक्षा हर वर्ष दो बार अर्थात् नियमित और अनुपूरक परीक्षा आयोजित की जाएगी।
3. परीक्षा लिखित और व्यावहारिक (मौखिक परीक्षा समेत) होगी, प्रत्येक भाग के लिए अधिकतम अंक होंगे जो भारतीय भेषजी परिषद् द्वारा समय-समय पर निर्धारित किए जाएंगे
11. परीक्षा में बैठने की पात्रता : परीक्षा में बैठने के लिए केवल वही छात्र पात्र होंगे जो उस संस्थान के प्रमुख का प्रमाण-पत्र प्रस्तुत करेंगे जिसमें उन्होंने हर विषय में सिद्धांत पक्ष और व्यवहार पक्ष दोनों में अलग-अलग आयोजित कम से कम 80 प्रतिशत कक्षाओं में हाजिर होकर अध्ययन पाठ्यक्रम पूरा किया हो।
12. परीक्षा का ढंग :
(1) सैद्धांतिक परीक्षा तीन घण्टे तथा व्यावहारिक परीक्षा चार घण्टे की होगी।
(2) जो छात्र किसी विषय की सैद्धांतिक या व्यावहारिक परीक्षा में उत्तीर्ण नहीं होगा वह यथास्थिति सैद्धांतिक या व्यावहारिक परीक्षा में दोबारा बैठेगा।
(3) व्यावहारिक परीक्षा में मौखिक परीक्षा भी शामिल होगी।

13. सत्र परीक्षा में अंक देना तथा अभिलेख का रख रखाव -

- (1) भेषजी स्नातक पाठ्यक्रम का प्रशिक्षण देने वाले संस्थान में सैद्धांतिक और व्यावहारिक कक्षा कार्य और परीक्षाओं का नियमित अभिलेख हर छात्र के लिए रखा जाएगा तथा हर सैद्धांतिक विषय के लिए 25 अंक और हर व्यावहारिक विषय के लिए 25 अंक सत्रीय अंक के रूप में रखे जाएंगे।
- (2) प्रत्येक शैक्षणिक वर्ष के दौरान कम से कम तीन आवधिक सत्र परीक्षाएं होंगी तथा सत्रीय अंकों की गणना किन्हीं दो प्रदर्शनों के सर्वोच्च औसत पर आधारित होगी।
- (3) व्यावहारिक विषयों में सत्रीय अंक निम्नलिखित आधार पर दिए जाएंगे :-
 - (i) सत्र परीक्षा में वास्तविक प्रदर्शन (15 अंक),
 - (ii) व्यावहारिक कक्षा कार्य, तत्परता, मौखिक परीक्षा, अभिलेख रखने आदि का दैनिक मूल्यांकन (10 अंक)

14. परीक्षा उत्तीर्ण करने के लिए न्यूनतम अंक - कोई छात्र तब तक परीक्षा में उत्तीर्ण घोषित नहीं किया जाएगा जब तक कि उसने सत्र अंकों समेत सैद्धांतिक या व्यावहारिक परीक्षाओं में हर विषय में पृथक-पृथक कम से कम 50% अंक प्राप्त न किए हों। भेषजी स्नातक में एक ही प्रयास में सब विषयों में कुल 60% या इससे अधिक अंक प्राप्त करने वाले छात्रों को प्रथम श्रेणी में उत्तीर्ण घोषित किया जाएगा। किसी विषय या किन्हीं विषयों में 75% या इससे अधिक अंक प्राप्त करने वाले छात्रों की उस विषय या उन विषयों में विशेष योग्यता के साथ उत्तीर्ण घोषित किया जायेगा बशर्ते कि सब विषय एक ही प्रयास में उत्तीर्ण किए हों।

14(क). अगले वर्ष में प्रौन्नति के लिए पात्रता - वे सभी छात्र, जो सभी विषयों में बैठे हैं और प्रथम वर्ष की वार्षिक परीक्षा में उत्तीर्ण हुए हैं, दूसरे वर्ष में प्रौन्नति के लिए पात्र हैं आदि आदि। फिर भी दो से अधिक विषयों में असफल छात्र अगले वर्ष की कक्षा में प्रौन्नति से वंचित हो जाएंगे।

15. परीक्षाओं का अनुमोदन - विनियम 10 से 12 और 14 में वर्णित परीक्षाएं उस परीक्षा प्राधिकरण द्वारा आयोजित की जाएंगी जो भेषजी अधिनियम 1948 की धारा 12 की उपधारा (2) के अधीन भारतीय भेषजी परिषद् द्वारा अनुमोदित हो। ऐसा अनुमोदन तभी दिया जाएगा जब संबंधित परीक्षा प्राधिकरण इन विनियमों के परिशिष्ट (ख) में विनिर्दिष्ट शर्तों को पूरा करता हो।

16. परीक्षा उत्तीर्ण करने का प्रमाण-पत्र - हर छात्र जो भेषजी स्नातक की परीक्षाएं उत्तीर्ण कर लेगा उसे परीक्षा प्राधिकरण द्वारा प्रमाण-पत्र दिया जाएगा।

परिशिष्ट (क)

(विनियम 9 देखिए)

शैक्षणिक प्रशिक्षण संस्था द्वारा पूरी की जाने वाली शर्तें

1. भेषजी अधिनियम 1948 की धारा 12 की उपधारा (1) के अधीन भेषजी स्नातक के लिए अध्ययन पाठ्यक्रम के अनुमोदन के लिए भारतीय भेषजी परिषद् में आवेदन करने वाला कोई प्राधिकरण या संस्था भारतीय भेषजी परिषद् द्वारा समय-समय पर निर्धारित अवसररचनात्मक सुविधाओं का अनुपालन करेगा।
2. भेषजी स्नातक कार्यक्रम केवल उन्हीं संस्थाओं द्वारा संचालित किए जाएंगे जो भेषजी अधिनियम 1948 की धारा 12 के उपबन्धों के अनुसार भेषजी स्नातक के लिए भारतीय भेषजी परिषद् द्वारा अनुमोदित है।
3. शिक्षण कर्मचारी वृन्द
 - (i) कर्मचारी प्रतिरूप (पैटर्न) : सभी शिक्षक पूर्णकालिक होंगे
 - (ii) निदेशक/प्रधानाचार्य/संस्था प्रमुख - 1

(iii) विभाग/प्रभाग वार शिक्षण कर्मचारीवृंद

विभाग/प्रभाग	पदनाम	संख्या (60 दाखिलों के लिए)	संख्या (100 दाखिलों के लिए)
फार्मास्यूटिक्स विभाग	प्रोफेसर/सह प्रोफेसर	1	1
	सहायक प्रोफेसर	1	2
	प्राध्यापक	2	3
फार्मास्यूटिकल कैमिस्ट्री विभाग (फार्मास्यूटिकल एनालेसिस सहित)	प्रोफेसर/सह प्रोफेसर	1	1
	सहायक प्रोफेसर	1	2
	प्राध्यापक	3	3
फार्माकोलॉजी विभाग	प्रोफेसर/सह प्रोफेसर	1	1
	सहायक प्रोफेसर	1	1
	प्राध्यापक	2	3
फार्माकोग्नोसी विभाग	प्रोफेसर/सह प्रोफेसर	1	1
	सहायक प्रोफेसर	1	1
	प्राध्यापक	1	1
फार्मसी प्रैक्टिस तथा संबंधित विषय विभाग	प्रोफेसर/सह प्रोफेसर	-	1
	सहायक प्रोफेसर	1	1
	प्राध्यापक	1	1

(iv) निदेशक/प्रधानाचार्य/संस्था प्रमुख/विभागाध्यक्ष सहित शिक्षकों की अर्हताएं और अनुभव "भेषजी संस्थानों में शिक्षकों की न्यूनतम योग्यता विनियम, 2014" में निहित न्यूनतम अर्हता के अनुरूप होंगे।

(v) शिक्षकों का कार्यभार :-

प्रोफेसर/सह प्रोफेसर	-	8 घण्टे प्रति सप्ताह
सहायक प्रोफेसर	-	12 घण्टे प्रति सप्ताह
प्राध्यापक	-	16 घण्टे प्रति सप्ताह

4. गैर - शिक्षण कर्मचारी

क्रमांक	पदनाम	अपेक्षित संख्या (न्यूनतम)	अपेक्षित अर्हता
1	प्रयोगशाला तकनीशियन	प्रत्येक विभाग के लिए एक	डी.फार्म.
2	प्रयोगशाला सहायक या प्रयोगशाला परिचर	प्रत्येक प्रयोगशाला के लिए एक (कम से कम)	एस.एस.एल.सी.
3	कार्यालय अधीक्षक	1	डिग्री
4	लेखापाल	1	डिग्री
5	भंडारी	1	किसी विश्वविद्यालय या संस्था द्वारा मान्यता प्राप्त डी.फार्म. या स्नातक डिग्री
6	कंप्यूटर डाटा आपरेटर	1	बी.सी.ए. अथवा कंप्यूटर पाठ्यक्रम में स्नातक
7	कार्यालय कर्मचारी I	1	डिग्री
8	कार्यालय कर्मचारी II	2	डिग्री
9	चपरासी	2	एस.एस.एल.सी.
10	सफाई कार्मिक	यथोचित	-
11	माली	यथोचित	-

5. आवास

प्रधानाचार्य अथवा विभागाध्यक्ष के कक्षों, कार्यालय, कक्षाओं, पुस्तकालय, कर्मचारीवृंद, स्टाफ कामन कक्ष, छात्र कामन कक्ष, संग्रहालय, प्रयोगशालाओं, भंडारों आदि के लिए पर्याप्त संवातन, प्रकाश और अन्य स्वास्थ्यकर अवस्थाओं से युक्त उपयुक्त और पर्याप्त आवास की व्यवस्था होनी चाहिए।

निम्नांकित के लिए आठ प्रयोगशालाओं के साथ-साथ कम से कम दो व्याख्यान कक्ष होने चाहिए -

1. फार्मास्यूटिक्स एण्ड फार्माकोकिनेटिक्स प्रयोगशाला	-	2
2. लाइफ साइंस (फार्माकोलॉजी, फिजियोलॉजी, पैथोफिजियोलॉजी)	-	2

3. फार्मास्यूटिकल कैमिस्ट्री	-	2
4. फार्माकोग्नोसी	-	1
5. फार्मास्यूटिकल एनालेसिस	-	1
	योग	8

प्रयोगशालाओं के अलावा, तुला कक्ष, सेप्टिकरोधी कक्ष या केबिनेट, पशुशाला और मशीन कक्ष की भी व्यवस्था होनी चाहिए।

प्रयोगशाला का फर्श क्षेत्रफल किसी भी समय प्रयोगशाला में कार्य करने के लिए प्रतिछात्र कम से कम 30 वर्ग फुट होना चाहिए जो तैयारी कक्ष सहित कम से कम 900 वर्ग फुट अवश्य हो।

प्रयोगशालाओं की फिटिंग और उसका निर्माण ऐसी रीति से किया गया हो कि उन्हें ठीक से स्वच्छ रखा जा सके। जहां आवश्यक हो वहां गैस और पानी की फिटिंग, शैल्फ, फ्यूमिंग अलमारियों की व्यवस्था होनी चाहिए।

6. उपस्कर और उपकरण

विभिन्न विभागों के लिए अपेक्षित उपस्कर और उपकरण वह होंगे जो भारतीय भेषजी परिषद् द्वारा समय-समय पर निर्धारित किए जाएंगे।

परिशिष्ट (ख)

(विनियम 15 देखिए)

परीक्षा प्राधिकरण द्वारा पूरी की जाने वाली शर्तें

1. परीक्षा प्राधिकरण केन्द्रीय सरकार/राज्य सरकार/संघ-क्षेत्र प्रशासन द्वारा गठित विश्वविद्यालय अथवा डीम्ड यूनिवर्सिटी होगी जिसके द्वारा यह सुनिश्चित किया जाए कि परीक्षा केन्द्रों पर परीक्षाओं में अनुशासन और शालीनता का कड़ाई से पालन हो।
2. वह भारतीय भेषजी परिषद् के निरीक्षक या निरीक्षकों को परीक्षाओं में जाने और उनका निरीक्षण करने देगा।
3. वह निम्नलिखित व्यवस्थाएं भी करेगा -
 - (क) लिखित परीक्षाएं आयोजित करने के लिए आवश्यक फर्नीचर युक्त पर्याप्त कक्ष ;
 - (ख) प्रायोगिक परीक्षा लेने के लिए साधन संपन्न प्रयोगशालाएं ;
 - (ग) परीक्षा संचालित करने और अन्वीक्षण करने के लिए पर्याप्त योग्य और जिम्मेदार परीक्षक ; तथा
 - (घ) ऐसी अन्य सुविधाएं जो परीक्षाओं के दक्षतापूर्ण तथा उचित संचालन के लिए आवश्यक हों।
4. यदि किसी अभ्यर्थी द्वारा ऐसा अपेक्षित हो तो वह परीक्षा प्राधिकरण को विहित शुल्क, यदि कोई है, लेने के बाद परीक्षा में अभ्यर्थी द्वारा प्राप्त अंकों का विवरण देगा।
5. वह ऐसे परीक्षकों की नियुक्ति करेगा जिनकी अर्हताएं संबंधित विषयों के शिक्षकों की अर्हताओं के समकक्ष हों जो भेषजी संस्थाओं में शिक्षकों की न्यूनतम योग्यता विनियम 2014 में निहित है।
6. भेषजी अधिनियम 1948 की धारा 12 की उपधारा (3) के अनुसरण में परीक्षा प्राधिकरण भारतीय भेषजी परिषद् के सचिव को परीक्षाओं के लिए नियत तारीखें ऐसी परीक्षाओं की समय-सारणी, परीक्षा से कम से कम 6 सप्ताह पहले संसूचित करेगा जिससे कि परिषद् ऐसी परीक्षाओं में उपस्थित रहने के लिए निरीक्षण दल का इंतजाम कर सके।
7. परीक्षा प्राधिकरण यह सुनिश्चित करेगा कि भेषजी स्नातक कार्यक्रम के लिए परीक्षा आयोजित करने के लिए परीक्षक ऐसे व्यक्ति हों जिनके पास भेषजी अर्हता हो और जो किसी अनुमोदित संस्था में भेषजी स्नातक कार्यक्रम के शिक्षण में भाग लेते हों।

अर्चना मुद्गल, निबंधक-एवं-सचिव

[विज्ञापन III/4/असा./101/14]

NOTIFICATION

New Delhi, the 10th December, 2014

The Bachelor of Pharmacy (B.Pharm.) Course Regulations, 2014

No. 14-154/ 2010- PCI.—In exercise of the powers conferred by Section 10 and 18 of the Pharmacy Act, 1948 (8 of 1948), the Pharmacy Council of India, with the approval of the Central Government hereby makes the following regulations; namely—

CHAPTER-I1. **Short title and commencement –**

- (1) These regulations may be called the Bachelor of Pharmacy (B.Pharm) Course Regulations, 2014.
 - (2) They shall come into force from the date of their publication in the official Gazette.
2. B. Pharm shall consist of a certificate, having passed the course of study and examination as prescribed in these regulations, for the purpose of registration as a pharmacist to practice the profession under the Pharmacy Act, 1948.

CHAPTER-II3. **Duration of the course. –**

B. Pharm: The duration of the course shall be four academic years (annual/semester) full time with each academic year spread over a period of not less than two hundred working days for annual pattern and hundred working days for each semester.

4. **Minimum qualification for admission to –**A. **First year B. Pharm – A pass in any of the following examinations -**

- i. Candidate shall have passed 10+2 examination conducted by the respective state/central government authorities recognized as equivalent to 10+2 examination by the Association of Indian Universities (AIU) with English as one of the subjects and Physics, Chemistry, Mathematics/Biology as optional subjects individually. "However, the students possessing 10+2 qualification from non-formal and non-class rooms based schooling such as National Institute of Open Schooling, open school systems of States etc. shall not be eligible for admission to B.Pharm Course."
- ii. Any other qualification approved by the Pharmacy Council of India as equivalent to any of the above examinations.

Provided that a student should complete the age of 17 years on or before 31st December of the year of admission to the course.

Provided that there shall be reservation of seats for the students belonging to the Scheduled Castes, Scheduled Tribes and other Backward Classes in accordance with the instructions issued by the Central Government/State Government/Union Territory Administration as the case may be from time to time.

B. **B. Pharm lateral entry (to second year/third semester) -**

A pass in D. Pharm course from an institution approved by the Pharmacy Council of India under section 12 of the Pharmacy Act.

5. Number of admissions in B. Pharm course shall be as prescribed by the Pharmacy Council of India from time to time.
6. Course of study. – The course of study for B. Pharm shall include the subjects, number of hours in a week devoted to each subject for its teaching in theory, practical and tutorial as may be prescribed by the Pharmacy Council of India from time to time.
7. Practical Training: The student is required to undergo practical training of 150 hrs either in (A) Pharmacy Practice (Hospital/Community pharmacy) or (B) Pharmaceutical and allied Industries spread over a period of not less than one month during the course of study after second year.
8. Syllabus. – The syllabus for each subject of study shall be as prescribed by the Pharmacy Council of India from time to time.
9. Approval of the authority conducting the course of study. –
 1. No person, institution, society, trust or university shall start and conduct B. Pharm programme without the prior approval of the Pharmacy Council of India.

2. Any person or pharmacy college for the purpose of obtaining permission under sub-section (1) of section 12 of the Pharmacy Act, shall submit a scheme as may be prescribed by the Pharmacy Council of India.
3. The scheme referred to in sub-regulation (2) above, shall be in such form and contain such particulars and be preferred in such manner and be accompanied with such fee as may be prescribed:

Provided that the Pharmacy Council of India shall not approve any institution under these regulations unless it provides adequate arrangements for teaching in regard to building, accommodation, labs., equipments, teaching staff, non-teaching staff, etc., as specified in Appendix-A to these regulations.

10. Examination. –

1. There shall be an examination at the end of each academic year/semester of B.Pharm.
2. Each examination may be held twice every year namely regular and supplementary examination.
3. The examinations shall be of written and practical (including oral nature) carrying maximum marks for each part as may be prescribed by the Pharmacy Council of India from time to time.

11. Eligibility for appearing Examination.— Only such students who produce certificate from the Head of the Institution in which he or she has undergone the course of study by attending not less than 80% of the classes held both in theory and practicals separately in each subject shall be eligible for appearing at examination.

12. Mode of examinations.—

- (1) Theory examination shall be of three hours and practical examination shall be of four hours duration.
- (2) A candidate who fails in theory or practical examination of a subject shall re-appear in theory or practical as the case may be.
- (3) Practical examination shall also consist of a viva –voce (Oral) examination.

13. Award of sessional marks and maintenance of records—

- (1) A regular record of both theory and practical class work and examinations conducted in an institution imparting training for B. Pharm course, shall be maintained for each student in the institution and 25 marks for each theory and 25 marks for each practical subject shall be allotted as sessional marks.
- (2) There shall be at least three periodic sessional examinations during each academic year and the highest aggregate of any two performances shall form the basis of calculating sessional marks.
- (3) The sessional marks in practicals shall be allotted on the following basis:-
 - (i) Actual performance in the sessional examination (15 marks);
 - (ii) Day to day assessment in the practical class work, promptness, viva-voce, record maintenance, etc. (10 marks).

14. Minimum marks for passing examination.— A student shall not be declared to have passed examination unless he or she secures at least 50% marks in each of the subjects separately in the theory and practical examinations, including sessional marks. **The students securing 60% marks or above in aggregate in all subjects in a single attempt at B. Pharm shall be declared to have passed in the First Class. Students securing 75% marks or above in any subject or subjects shall be declared to have passed with distinction in the subject or those subjects provided he / she passes in all the subjects in a single attempt.**

14 (a). **Eligibility for the promotion to the next year. – All the students who have appeared for all the subjects and passed the First year Annual Examination are Eligible for promotion to the second year and so on. However, failure in more than two subjects shall debar him /her from promotion to the next year classes.**

15. Approval of examinations.— Examinations mentioned in regulations 10 to 12 and 14 shall be held by the examining authority which shall be approved by the Pharmacy Council of India under sub-section (2) of section 12 of the Pharmacy Act, 1948. Such approval shall be granted only if the examining authority concerned fulfills the conditions as specified in Appendix-(B) to these regulations.

16. Certificate of passing examination.— Every student who has passed the examinations for the B. Pharm shall be granted a certificate by the examining authority.

APPENDIX- (A)

(See regulation 9)

CONDITIONS TO BE FULFILLED BY THE ACADEMIC TRAINING INSTITUTION

- 1) Any authority or institution in India applying to the Pharmacy Council of India for approval of courses of study for B. Pharm. under sub-section (1) of section 12 of the Pharmacy Act, 1948 shall comply with the infrastructural facilities as prescribed by the Pharmacy Council of India from time to time.
- 2) B. Pharm. programmes shall be conducted only in those institutions which are approved by the Pharmacy Council of India for B.Pharm course as provided under section 12 of the Pharmacy Act, 1948;
- 3) **TEACHING STAFF REQUIREMENT**
 - (i) Staff Pattern: All faculty shall be full time.
 - (ii) Director/Principal/HOI - 1
 - (iii) Department/Division-Wise Teaching Staff:

Department/Division	Name of the post	No.(for 60 admissions)	No.(for 100 admissions)
Department of Pharmaceutics	Professor/Associate Professor	1	1
	Asst. Professor	1	2
	Lecturer	2	3
Department of Pharmaceutical Chemistry (Including Pharmaceutical Analysis)	Professor/Associate Professor	1	1
	Asst. Professor	1	2
	Lecturer	3	3
Department of Pharmacology	Professor/Associate Professor	1	1
	Asst. Professor	1	1
	Lecturer	2	3
Department of Pharmacognosy	Professor/Associate Professor	1	1
	Asst. Professor	1	1
	Lecturer	1	1
Department of Pharmacy Practice & related subjects	Professor/Associate Professor	-	1
	Asst. Professor	1	1
	Lecturer	1	1

- iii) Qualification and experience for teaching faculty including Director/Principal/ Head of Instt./Head of Deptt. shall be as per the Minimum Qualification for Teachers in Pharmacy Institutions Regulations, 2014.
- iv) Workload of Faculty :
 - Professor/Associate Professor – 8 hrs. per week
 - Assistant Professor – 12 hrs. per week
 - Lecturers – 16 hrs. per week

4) NON-TEACHING STAFF :

Sl.No.	Designation	Required (Minimum)	Required Qualification
1	Laboratory Technician	1 for each Dept	D. Pharm
2	Laboratory Assistants or Laboratory Attenders	1 for each Lab (minimum)	SSLC
3	Office Superintendent	1	Degree
4	Accountant	1	Degree
5	Store keeper	1	D.Pharm or a Bachelor degree recognized by a University or institution.
6	Computer Data Operator	1	BCA or Graduate with Computer Course
7	Office Staff I	1	Degree
8	Office Staff II	2	Degree
9	Peon	2	SSLC
10	Cleaning personnel	Adequate	---
11	Gardener	Adequate	---

5) ACCOMMODATION :

Suitable and sufficient accommodation with adequate ventilation, lighting and other hygienic conditions should be provided to the rooms for Principal or the Head of the department, office, class rooms, library, staff, staff common room, students' common room, museum, laboratories, stores, etc.

At least two lecture halls along with eight laboratories as specified below should be provided for: —

1. Pharmaceutics and Pharmacokinetics Lab	- 2
2. Life Science (Pharmacology, Physiology, Pathophysiology)	- 2
3. Pharmaceutical Chemistry	- 2
4. Pharmacognosy	- 1
5. Pharmaceutical Analysis	- 1

	Total = 8

In addition to the laboratories, balance room, aseptic room or cabinet, animal house and a machine room shall also be provided.

Floor area of the laboratory should not be less than 30 square feet per student required to work in the laboratory at any given time subject to a minimum of 900 square feet including Preparation Room.

Laboratories should be fitted and constructed in a manner that these can be kept reasonably clean. Gas and water fittings, shelves, fuming cupboards be provided wherever necessary.

6. EQUIPMENT AND APPARATUS :

The details of equipments and apparatus required for various departments shall be as prescribed by the Pharmacy Council of India from time to time.

APPENDIX - B

(See regulation 15)

**CONDITIONS TO BE FULFILLED BY
THE EXAMINING AUTHORITY**

1. The Examining Authority shall be a Indian University constituted by the Central Government/State Government/Union Territory Administration or a Deemed to be University. It shall ensure that discipline and decorum of the examinations are strictly observed at the examination centers.
2. It shall permit the Inspector or Inspectors of the Pharmacy Council of India to visit and inspect the examinations.
3. It shall provide:-
 - (a) adequate rooms with necessary furniture for holding written examinations;
 - (b) well-equipped laboratories for holding practical examinations;
 - (c) an adequate number of qualified and responsible examiners and staff to conduct and invigilate the examinations; and
 - (d) such other facilities as may be necessary for efficient and proper conduct of examinations.
4. It shall, if so required by a candidate, furnish the statement of marks secured by a candidate in the examinations after payment of prescribed fee, if any, to the Examining Authority.
5. It shall appoint examiners whose qualifications should be similar to those of the teachers in the respective subjects as prescribed in the Minimum Qualification for Teachers in Pharmacy Institutions Regulations, 2014.
6. In pursuance of sub-section (3) of section 12 of the Pharmacy Act, 1948, the Examining Authority shall communicate to the Secretary, Pharmacy Council of India, not less than six weeks in advance the dates fixed for examinations, the time-table for such examinations, so as to enable the Council to arrange for inspection teams to attend at such examinations.
7. The Examining Authority shall ensure that examiners for conducting examination for B. Pharm. programme shall be persons possessing pharmacy qualification and are actually involved in the teaching of the B. Pharm. programme in an approved institution.

ARCHNA MUDGAL, Registrar-cum-Secy.

[ADVT. III/4/Exty./101/14]

Pt. Ravishankar Shukla University,
Raipur (C.G.) 492 010

Master of Pharmacy
(Pharmaceutics)
(A Two Year Post-Graduate Degree Program)
(w.e.f. Academic Session 2019-2020)

**Ordinance
&
Syllabus**

(W. E. F. Academic Session 2019-2020)

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Approved in meeting of Board of Studies in Faculty of Technology, Sub: Pharmacy Dt. May15, 2019

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CHAPTER – I: REGULATIONS

1. Short Title and Commencement

These regulations shall be called as "The Revised Regulations for the Master of Pharmacy (M. Pharm.) Degree Program - Credit Based Semester System (CBSS) of the Pharmacy Council of India, New Delhi". They shall come into effect from the Academic Year 2019-20. The regulations framed are subject to modifications from time to time by the authorities of the university.

2. Minimum qualification for admission

A Pass in the following examinations

a) B. Pharm Degree examination of an Indian university established by law in India from an institution approved by Pharmacy Council of India and has scored not less than 55 % of the maximum marks (aggregate of 4 years of B.Pharm.)

b) Every student, selected for admission to post graduate pharmacy program in any PCI approved institution should have obtained registration with the State Pharmacy Council or should obtain the same within one month from the date of his/her admission, failing which the admission of the candidate shall be cancelled.

Note: It is mandatory to submit a migration certificate obtained from the respective university where the candidate had passed his/her qualifying degree (B.Pharm.)

3. Duration of the program

The program of study for M.Pharm. shall extend over a period of four semesters (two academic years). The curricula and syllabi for the program shall be prescribed from time to time by Pharmacy Council of India, New Delhi.

4. Medium of instruction and examinations

Medium of instruction and examination shall be in English.

5. Working days in each semester

Each semester shall consist of not less than 100 working days. The odd semesters shall be conducted from the month of June/July to November/December and the even semesters shall be conducted from the month of December/January to May/June in every calendar year.

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6. Attendance and progress

A candidate is required to put in at least 80% attendance in individual courses considering theory and practical separately. The candidate shall complete the prescribed course satisfactorily to be eligible to appear for the respective examinations.

7. Program/Course credit structure

As per the philosophy of Credit Based Semester System, certain quantum of academic work viz. theory classes, practical classes, seminars, assignments, etc. are measured in terms of credits. On satisfactory completion of the courses, a candidate earns credits. The amount of credit associated with a course is dependent upon the number of hours of instruction per week in that course. Similarly the credit associated with any of the other academic, co/extra-curricular activities is dependent upon the quantum of work expected to be put in for each of these activities per week/per activity.

7.1. Credit assignment

7.1.1. Theory and Laboratory courses

Courses are broadly classified as Theory and Practical. Theory courses consist of lecture (L) and Practical (P) courses consist of hours spent in the laboratory. Credits (C) for a course is dependent on the number of hours of instruction per week in that course, and is obtained by using a multiplier of one (1) for lecture and a multiplier of half (1/2) for practical (laboratory) hours. Thus, for example, a theory course having four lectures per week throughout the semester carries a credit of 4. Similarly, a practical having four laboratory hours per week throughout semester carries a credit of 2.

The contact hours of seminars, assignments and research work shall be treated as that of practical courses for the purpose of calculating credits. i.e., the contact hours shall be multiplied by 1/2. Similarly, the contact hours of journal club, research work presentations and discussions with the supervisor shall be considered as theory course and multiplied by 1.

7.2. Minimum credit requirements

The minimum credit points required for the award of M. Pharm. degree is 95. However based on the credit points earned by the students under the head of co-curricular activities, a student shall earn a maximum of 100 credit points. These credits are divided into Theory courses, Practical, Seminars, Assignments, Research work, Discussions with the supervisor, Journal club and Co-Curricular activities over the duration of four semesters. The credits are distributed semester-wise as shown in Table 1. Courses generally

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progress in sequence, building competencies and their positioning indicates certain academic maturity on the part of the learners. Learners are expected to follow the semester-wise schedule of courses given in the syllabus.

8. Academic work

A regular record of attendance both in Theory, Practical, Seminar, Assignment, Journal club, Discussion with the supervisor, Research work presentation and Dissertation shall be maintained by the department / teaching staff of respective courses.

9. Course of study

The specializations in M.Pharm program is Pharmaceutics.

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Table – 1: Course of study for M. Pharm. (Pharmaceutics)

Course Code	Course	Credit Hours	Credit Points	Hrs./week	Marks
Semester I					
MPH101T	Modern Pharmaceutical Analytical Techniques	4	4	4	100
MPH102T	Drug Delivery System	4	4	4	100
MPH103T	Modern Pharmaceutics	4	4	4	100
MPH104T	Regulatory Affair	4	4	4	100
MPH105P	Pharmaceutics Practical I	12	6	12	150
-	Seminar/Assignment	7	4	7	100
Total		35	26	35	650
Semester II					
MPH201T	Molecular Pharmaceutics (Nano Tech and Targeted DDS)	4	4	4	100
MPH202T	Advanced Biopharmaceutics & Pharmacokinetics	4	4	4	100
MPH203T	Computer Aided Drug Delivery System	4	4	4	100
MPH204T	Cosmetic and Cosmeceuticals	4	4	4	100
MPH205P	Pharmaceutics Practical II	12	6	12	150
-	Seminar/Assignment	7	4	7	100
Total		35	26	35	650

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Table – 2: Course of study for M. Pharm. III Semester

Course Code	Course	Credit Hours	Credit Points
MRM 301T	Research Methodology and Biostatistics*	4	4
-	Journal club	1	1
-	Discussion / Presentation (Proposal Presentation)	2	2
-	Research Work	28	14
Total		35	21

* Non University Exam

Table – 3: Course of study for M. Pharm. IV Semester

Course Code	Course	Credit Hours	Credit Points
-	Journal Club	1	1
-	Research Work	31	16
-	Discussion/Final Presentation	3	3
Total		35	20

Table –4: Semester wise credits distribution

Semester	Credit Points
I	26
II	26
III	21
IV	20
Co-curricular Activities (Attending Conference, Scientific Presentations and Other Scholarly Activities)	Minimum=02 Maximum=07*
Total Credit Points	Minimum=95 Maximum=100*

*Credit Points for Co-curricular Activities

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Table – 5: Guidelines for Awarding Credit Points for Co-curricular Activities

Name of the Activity	Maximum Credit Points Eligible / Activity
Participation in National Level Seminar/Conference/Workshop/Symposium/ Training Programs (related to the specialization of the student)	01
Participation in international Level Seminar/Conference/Workshop/Symposium/ Training Programs (related to the specialization of the student)	02
Academic Award/Research Award from State Level/National Agencies	01
Academic Award/Research Award from International Agencies	02
Research / Review Publication in National Journals (Indexed in Scopus / Web of Science)	01
Research / Review Publication in International Journals (Indexed in Scopus / Web of Science)	02

Note: International Conference: Held Outside India

International Journal: The Editorial Board Outside India

*The credit points assigned for extracurricular and or co-curricular activities shall be given by the Principals of the colleges and the same shall be submitted to the University. The criteria to acquire this credit point shall be defined by the colleges from time to time.

10. Program Committee

1. The M. Pharm. programme shall have a Programme Committee constituted by the Head of the institution in consultation with all the Heads of the departments.
2. The composition of the Programme Committee shall be as follows:
A teacher at the cadre of Professor shall be the Chairperson; One Teacher from each M.Pharm specialization and four student representatives (two from each academic year), nominated by the Head of the institution.
3. Duties of the Programme Committee:
 - i. Periodically reviewing the progress of the classes.
 - ii. Discussing the problems concerning curriculum, syllabus and the conduct of classes.
 - iii. Discussing with the course teachers on the nature and scope of assessment for the course and the same shall be announced to the students at the beginning of respective semesters.

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- iv. Communicating its recommendation to the Head of the institution on academic matters.
- v. The Programme Committee shall meet at least twice in a semester preferably at the end of each sessionalexam and before the end semester exam.

11. Examinations/Assessments

The schemes for internal assessment and end semester examinations are given in Table – 6.

11.1. End semester examinations

The End Semester Examinations for each theory and practical coursethrough semesters I to IVshall beconducted by the respective university except for the subject with asterix symbol (*) in table I and II for which examinations shall be conducted by the subject experts at college level and the marks/grades shall be submitted to the university.

Tables – 6: Schemes for internal assessments and end semester examinations
(Pharmaceutics- MPH)

Course Code	Course	Internal Assessment				End Semester Exams		Total Marks
		Continu- ous Mode	Sessional Exams		Total	Marks	Duration	
			Marks	Duration				
SEMESTER I								
MPH 101T	Modern Pharmaceutical Analytical Techniques	10	15	1 Hr	25	75	3 Hrs	100
MPH 102T	Drug Delivery System	10	15	1 Hr	25	75	3 Hrs	100
MPH 103T	Modern Pharmaceutics	10	15	1 Hr	25	75	3 Hrs	100
MPH 104T	Regulatory Affair	10	15	1 Hr	25	75	3 Hrs	100
MPH 105P	Pharmaceutics Practical I	20	30	6 Hrs	50	100	6 Hrs	150
-	Seminar /Assignment	-	-	-	-	-	-	100
Total								650
SEMESTER II								
MPH 201T	Molecular Pharmaceutics(Nano Tech and Targeted DDS)	10	15	1 Hr	25	75	3 Hrs	100
MPH 202T	Advanced Biopharmaceutics & Pharmacokinetics	10	15	1 Hr	25	75	3 Hrs	100
MPH 203T	Computer Aided Drug Delivery System	10	15	1 Hr	25	75	3 Hrs	100
MPH	Cosmetic	10	15	1 Hr	25	75	3 Hrs	100

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204T	and Cosmeceutic als							
MPH 205P	Pharmaceuti cs Practical I	20	30	6 Hrs	50	100	6 Hrs	150
	Seminar /Assignment	-	-	-	-	-	-	100
Total								650

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Tables – 7: Schemes for internal assessments and end semester examinations
(Semester III& IV)

Course Code	Course	Internal Assessment				End Semester Exams		Total Marks
		Continuou s Mode	Sessional Exams		Total	Mark s	Durati on	
			Mark s	Durati on				
SEMESTER III								
MRM30 1T	Research Methodology and Biostatistics*	10	15	1 Hr	25	75	3 Hrs	100
-	Journal club	-	-	-	25	-	-	25
-	Discussion / Presentation (Proposal Presentation)	-	-	-	50	-	-	50
-	Research work*	-	-	-	-	350	1 Hr	350
Total								525
SEMESTER IV								
-	Journal club	-	-	-	25	-	-	25
-	Discussion / Presentation (Proposal Presentation)	-	-	-	75	-	-	75
-	Research work and Colloquium	-	-	-	-	400	1 Hr	400
Total								500

*Non University Examination

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11.2. Internal assessment: Continuous mode

The marks allocated for Continuous mode of Internal Assessment shall be awarded as per the scheme given below.

Table – 8: Scheme for awarding internal assessment: Continuous mode

Theory	
Criteria	Maximum Marks
Attendance (Refer Table – 28)	8
Student – Teacher interaction	2
Total	10
Practical	
Attendance (Refer Table – 28)	10
Based on Practical Records, Regular viva voce, etc.	10
Total	20

Table – 9: Guidelines for the allotment of marks for attendance

Percentage of Attendance	Theory	Practical
95 – 100	8	10
90 – 94	6	7.5
85 – 89	4	5
80 – 84	2	2.5
Less than 80	0	0

11.2.1. Sessional Exams

Two sessional exams shall be conducted for each theory / practical course as per the schedule fixed by the college(s). The scheme of question paper for theory and practical sessional examinations is given in the table. The average marks of two sessional exams shall be computed for internal assessment as per the requirements given in tables.

12. Promotion and award of grades

A student shall be declared PASS and eligible for getting grade in a course of M.Pharm.programme if he/she secures at least 50% marks in that particular course including internal assessment.

13. Carry forward of marks

In case a student fails to secure the minimum 50% in any Theory or Practical course as specified in 12, then he/she shall reappear for the end semester examination of that course. However his/her marks of the Internal Assessment shall be carried over and he/she shall be entitled for grade obtained by him/her on passing.

14. Improvement of internal assessment

A student shall have the opportunity to improve his/her performance only once in the sessional exam component of the internal assessment. The re-conduct of the sessional exam shall be completed before the commencement of next end semester theory examinations.

15. Reexamination of end semester examinations

Reexamination of end semester examination shall be conducted as per the schedule given in table 10. The exact dates of examinations shall be notified from time to time.

Table – 10: Tentative schedule of end semester examinations

Semester	For Regular Candidates	For Failed Candidates
I and III	November / December	May / June
II and IV	May / June	November / December

16. Allowed to keep terms (ATKT):

No student shall be admitted to any examination unless he/she fulfills the norms given in 6. ATKT rules are applicable as follows:

A student shall be eligible to carry forward all the courses of I and II semesters till the III semester examinations. However, he/she shall not be eligible to attend the courses of IV semester until all the courses of I, II and III semesters are successfully completed.

A student shall be eligible to get his/her CGPA upon successful completion of the courses of I to IV semesters within the stipulated time period as per the norms.

Note: Grade AB should be considered as failed and treated as one head for deciding ATKT. Such rules are also applicable for those students who fail to register for examination(s) of any course in any semester.

17. Grading of performances

17.1. Letter grades and grade points allocations:

Based on the performances, each student shall be awarded a final letter grade at the end of the semester for each course. The letter grades and their corresponding grade points are given in Table – 11



Table – 11: Letter grades and grade points equivalent to Percentage of marks and performances

Percentage of Marks Obtained	Letter Grade	Grade Point	Performance
90.00 – 100	O	10	Outstanding
80.00 – 89.99	A	9	Excellent
70.00 – 79.99	B	8	Good
60.00 – 69.99	C	7	Fair
50.00 – 59.99	D	6	Average
Less than 50	F	0	Fail
Absent	AB	0	Fail

A learner who remains absent for any end semester examination shall be assigned a letter grade of AB and a corresponding grade point of zero. He/she should reappear for the said evaluation/examination in due course.

18. The Semester grade point average (SGPA)

The performance of a student in a semester is indicated by a number called 'Semester Grade Point Average' (SGPA). The SGPA is the weighted average of the grade points obtained in all the courses by the student during the semester. For example, if a student takes five courses (Theory/Practical) in a semester with credits C1, C2, C3 and C4 and the student's grade points in these courses are G1, G2, G3 and G4, respectively, and then students' SGPA is equal to:

$$SGPA = \frac{C_1G_1 + C_2G_2 + C_3G_3 + C_4G_4}{C_1 + C_2 + C_3 + C_4}$$

The SGPA is calculated to two decimal points. It should be noted that, the SGPA for any semester shall take into consideration the F and ABS grade awarded in that semester. For example if a learner has a F or ABS grade in course 4, the SGPA shall then be computed as:

$$SGPA = \frac{C_1G_1 + C_2G_2 + C_3G_3 + C_4 * ZERO}{C_1 + C_2 + C_3 + C_4}$$

19. Cumulative Grade Point Average (CGPA)

The CGPA is calculated with the SGPA of all the IV semesters to two decimal points and is indicated in final grade report card/final transcript showing the grades of all IV semesters and their courses. The CGPA shall reflect the failed status in case of F grade(s), till the course(s) is/are passed. When the course(s) is/are passed by obtaining a pass grade on subsequent examination(s) the CGPA

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shall only reflect the new grade and not the fail grades earned earlier. The CGPA is calculated as:

$$\text{CGPA} = \frac{C_1S_1 + C_2S_2 + C_3S_3 + C_4S_4}{C_1 + C_2 + C_3 + C_4}$$

where C_1, C_2, C_3, \dots is the total number of credits for semester I, II, III, and S_1, S_2, S_3, \dots is the SGPA of semester I, II, III,

20. Declaration of class

The class shall be awarded on the basis of CGPA as follows:

- First Class with Distinction = CGPA of 7.50 and above
- First Class = CGPA of 6.00 to 7.49
- Second Class = CGPA of 5.00 to 5.99

21. Project work

All the students shall undertake a project under the supervision of a teacher in Semester III to IV and submit a report. 4 copies of the project report shall be submitted (typed & bound copy not less than 75 pages).

The internal and external examiner appointed by the University shall evaluate the project at the time of the Practical examinations of other semester(s). The projects shall be evaluated as per the criteria given below.

Evaluation of Dissertation Book:

Objective(s) of the work done	50 Marks
Methodology adopted	150 Marks
Results and Discussions	250 Marks
Conclusions and Outcomes	50 Marks
Total	500 Marks

Evaluation of Presentation:

Presentation of work	100 Marks
Communication skills	50 Marks
Question and answer skills	100 Marks
Total	250 Marks

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22. Award of Ranks

Ranks and Medals shall be awarded on the basis of final CGPA. However, candidates who fail in one or more courses during the M.Pharm program shall not be eligible for award of ranks. Moreover, the candidates should have completed the M. Pharm program in minimum prescribed number of years, (two years) for the award of Ranks.

23. Award of degree

Candidates who fulfill the requirements mentioned above shall be eligible for award of degree during the ensuing convocation.

24. Duration for completion of the program of study

The duration for the completion of the program shall be fixed as double the actual duration of the program and the students have to pass within the said period, otherwise they have to get fresh Registration.

25. Revaluation / Retotaling of answer papers

There is no provision for revaluation of the answer papers in any examination. However, the candidates can apply for retotaling by paying prescribed fee.

26. Re-admission after break of study

Candidate who seeks re-admission to the program after break of study has to get the approval from the university by paying a condonation fee.

PHARMACEUTICS (MPH)

**MODERN PHARMACEUTICAL ANALYTICAL TECHNIQUES
(MPH 101T)**

Scope

This subject deals with various advanced analytical instrumental techniques for identification, characterization and quantification of drugs. Instruments dealt are NMR, Mass spectrometer, IR, HPLC, GC etc.

Objectives

After completion of course student is able to know,

- Chemicals and Excipients
- The analysis of various drugs in single and combination dosage forms
- Theoretical and practical skills of the instruments

THEORY

60 HOURS

1. a. **UV-Visible spectroscopy:** Introduction, Theory, Laws, 11 Hrs
Instrumentation associated with UV-Visible spectroscopy, Choice of solvents and solvent effect and Applications of UV-Visible spectroscopy.
- b. **IR spectroscopy:** Theory, Modes of Molecular vibrations, Sample handling, Instrumentation of Dispersive and Fourier - Transform IR Spectrometer, Factors affecting vibrational frequencies and Applications of IR spectroscopy
- c. **Spectrofluorimetry:** Theory of Fluorescence, Factors affecting fluorescence, Quenchers, Instrumentation and Applications of fluorescence spectrophotometer.
- d. **Flame emission spectroscopy and Atomic absorption spectroscopy:** Principle, Instrumentation, Interferences and Applications.
2. **NMR spectroscopy:** Quantum numbers and their role in NMR, 11 Hrs
Principle, Instrumentation, Solvent requirement in NMR, Relaxation process, NMR signals in various compounds, Chemical shift, Factors influencing chemical shift, Spin-Spin coupling, Coupling constant, Nuclear magnetic double resonance, Brief outline of principles of FT-NMR and ¹³C NMR. Applications of NMR spectroscopy.

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- 3 **Mass Spectroscopy:** Principle, Theory, Instrumentation of Mass Spectroscopy, Different types of ionization like electron impact, chemical, field, FAB and MALDI, APCI, ESI, APPI Analyzers of Quadrupole and Time of Flight, Mass fragmentation and its rules, Meta stable ions, Isotopic peaks and Applications of Mass spectroscopy 11 Hrs
- 4 **Chromatography:** Principle, apparatus, instrumentation, chromatographic parameters, factors affecting resolution and applications of the following: 11 Hrs
 a) Paper chromatography b) Thin Layer chromatography
 c) Ion exchange chromatography d) Column chromatography
 e) Gas chromatography f) High Performance Liquid chromatography
 g) Affinity chromatography
- 5 a. **Electrophoresis:** Principle, Instrumentation, Working conditions, factors affecting separation and applications of the following: 11 Hrs
 a) Paper electrophoresis b) Gel electrophoresis c) Capillary electrophoresis d) Zone electrophoresis e) Moving boundary electrophoresis f) Iso electric focusing
 b. **X ray Crystallography:** Production of X rays, Different X ray diffraction methods, Bragg's law, Rotating crystal technique, X ray powder technique, Types of crystals and applications of X-ray diffraction.
- 6 **Immunological assays :** RIA (Radio immuno assay), ELISA, Bioluminescence assays. 5 Hrs

REFERENCES

1. Spectrometric Identification of Organic compounds - Robert M Silverstein, Sixth edition, John Wiley & Sons, 2004.
2. Principles of Instrumental Analysis - Douglas A Skoog, F. James Holler, Timothy A. Nieman, 5th edition, Eastern press, Bangalore, 1998.
3. Instrumental methods of analysis – Willards, 7th edition, CBS publishers.
4. Practical Pharmaceutical Chemistry – Beckett and Stenlake, Vol II, 4th edition, CBS Publishers, New Delhi, 1997.
5. Organic Spectroscopy - William Kemp, 3rd edition, ELBS, 1991.
6. Quantitative Analysis of Drugs in Pharmaceutical formulation - P D Sethi, 3rd Edition, CBS Publishers, New Delhi, 1997.
7. Pharmaceutical Analysis- Modern methods – Part B - J W Munson, Volume 11, Marcel Dekker Series

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DRUG DELIVERY SYSTEMS (MPH 102T)

SCOPE

This course is designed to impart knowledge on the area of advances in novel drug delivery systems.

OBJECTIVES

Upon completion of the course, student shall be able to understand

- The various approaches for development of novel drug delivery systems.
- The criteria for selection of drugs and polymers for the development of delivering system
- The formulation and evaluation of Novel drug delivery systems..

THEORY

60 Hrs

- | | |
|---|-----------|
| 1. Sustained Release(SR) and Controlled Release (CR) formulations: Introduction & basic concepts, advantages/ disadvantages, factors influencing, Physicochemical & biological approaches for SR/CR formulation, Mechanism of Drug Delivery from SR/CR formulation. Polymers: introduction, definition, classification, properties and application Dosage Forms for Personalized Medicine: Introduction, Definition, Pharmacogenetics, Categories of Patients for Personalized Medicines: Customized drug delivery systems, Bioelectronic Medicines, 3D printing of pharmaceuticals, Telepharmacy. | 10
Hrs |
| 2. Rate Controlled Drug Delivery Systems: Principles & Fundamentals, Types, Activation; Modulated Drug Delivery Systems; Mechanically activated, pH activated, Enzyme activated, and Osmotic activated Drug Delivery Systems Feedback regulated Drug Delivery Systems; Principles & Fundamentals. | 10
Hrs |
| 3. Gastro-Retentive Drug Delivery Systems: Principle, concepts advantages and disadvantages, Modulation of GI transit time approaches to extend GI transit. Buccal Drug Delivery Systems: Principle of muco adhesion, advantages and disadvantages, Mechanism of drug permeation, Methods of formulation and its evaluations. | 10
Hrs |
| 4. Ocular Drug Delivery Systems: Barriers of drug permeation, Methods to overcome barriers. | 06
Hrs |

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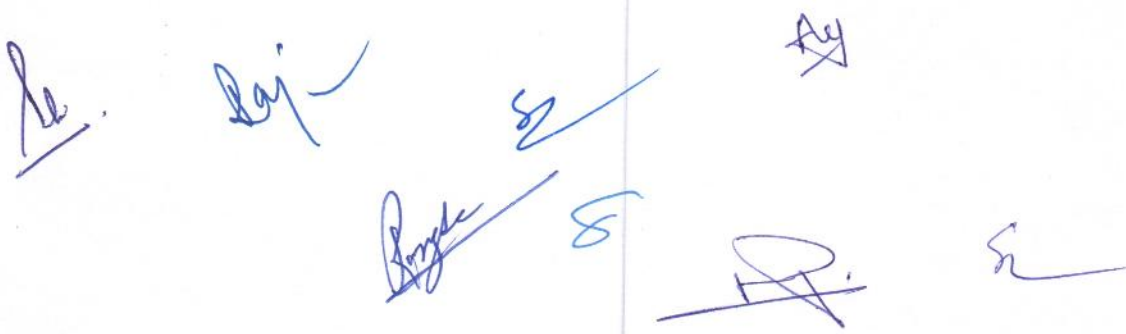
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| 5 | Transdermal Drug Delivery Systems: Structure of skin and barriers, Penetration enhancers, Transdermal Drug Delivery Systems, Formulation and evaluation. | 10
Hrs |
| 6 | Protein and Peptide Delivery: Barriers for protein delivery. Formulation and Evaluation of delivery systems of proteins and other macromolecules. | 08
Hrs |
| 7 | Vaccine delivery systems: Vaccines, uptake of antigens, single shot vaccines, mucosal and transdermal delivery of vaccines. | 06
Hrs |

REFERENCES

1. Y W. Chien, Novel Drug Delivery Systems, 2nd edition, revised and expanded, Marcel Dekker, Inc., New York, 1992.
2. Robinson, J. R., Lee V. H. L, Controlled Drug Delivery Systems, Marcel Dekker, Inc., New York, 1992.
3. Encyclopedia of controlled delivery, Editor- Edith Mathiowitz, Published by WileyInterscience Publication, John Wiley and Sons, Inc, New York! Chichester/Weinheim
4. N.K. Jain, Controlled and Novel Drug Delivery, CBS Publishers & Distributors, New Delhi, First edition 1997 (reprint in 2001).
5. S.P.Vyas and R.K.Khar, Controlled Drug Delivery - concepts and advances, Vallabh Prakashan, New Delhi, First edition 2002

JOURNALS

1. Indian Journal of Pharmaceutical Sciences (IPA)
2. Indian drugs (IDMA)
3. Journal of controlled release (Elsevier Sciences) desirable
4. Drug Development and Industrial Pharmacy (Marcel & Decker) desirable



**MODERN PHARMACEUTICS
(MPH 103T)**

Scope

Course designed to impart advanced knowledge and skills required to learn various aspects and concepts at pharmaceutical industries

Objectives

Upon completion of the course, student shall be able to understand

- The elements of preformulation studies.
- The Active Pharmaceutical Ingredients and Generic drug Product development
- Industrial Management and GMP Considerations.
- Optimization Techniques & Pilot Plant Scale Up Techniques
- Stability Testing, sterilization process & packaging of dosage forms.

THEORY

60 HRS

1. a. **Preformation Concepts** – Drug Excipient interactions - 10 Hrs
different methods, kinetics of stability, Stability testing. Theories of dispersion and pharmaceutical Dispersion (Emulsion and Suspension, SMEDDS) preparation and stability Large and small volume parental – physiological and formulation consideration, Manufacturing and evaluation.
- b. **Optimization techniques in Pharmaceutical Formulation:** 10 Hrs
Concept and parameters of optimization, Optimization techniques in pharmaceutical formulation and processing. Statistical design, Response surface method, Contour designs, Factorial designs and application in formulation
2. **Validation** : Introduction to Pharmaceutical Validation, Scope & merits of Validation, Validation and calibration of Master plan, ICH & WHO guidelines for calibration and validation of equipments, Validation of specific dosage form, Types of validation. Government regulation, Manufacturing Process Model, URS, DQ, IQ, OQ & P.Q. of facilities. 10 Hrs
3. **cGMP & Industrial Management:** Objectives and policies of current good manufacturing practices, layout of buildings, services, equipments and their maintenance Production management: Production organization, , materials management, handling and transportation, inventory management and control, production and planning control, Sales forecasting, budget and cost control, industrial and personal relationship. Concept of Total Quality Management. 10 Hrs

- 4 **Compression and compaction:** Physics of tablet compression, 10
compression, consolidation, effect of friction, distribution of Hrs
forces, compaction profiles. Solubility.
- 5 **Study of consolidation parameters;** Diffusion parameters, 10
Dissolution parameters and Pharmacokinetic parameters, Heckel Hrs
plots, Similarity factors – f2 and f1, Higuchi and Peppas plot,
Linearity Concept of significance, Standard deviation , Chi square
test, students T-test , ANOVA test.

REFERENCES

1. Theory and Practice of Industrial Pharmacy By Lachmann and Libermann
2. Pharmaceutical dosage forms: Tablets Vol. 1-3 by Leon Lachmann.
3. Pharmaceutical Dosage forms: Disperse systems, Vol, 1-2; By Leon Lachmann.
4. Pharmaceutical Dosage forms: Parenteral medications Vol. 1-2; By Leon Lachmann.
5. Modern Pharmaceutics; By Gillbert and S. Banker.
6. Remington's Pharmaceutical Sciences.
7. Advances in Pharmaceutical Sciences Vol. 1-5; By H.S. Bean & A.H. Beckett.
8. Physical Pharmacy; By Alfred martin
9. Bentley's Textbook of Pharmaceutics – by Rawlins.
10. Good manufacturing practices for Pharmaceuticals: A plan for total quality control, Second edition; By Sidney H. Willig.
11. Quality Assurance Guide; By Organization of Pharmaceutical producers of India.
12. Drug formulation manual; By D.P.S. Kohli and D.H. Shah. Eastern publishers, New Delhi.
13. How to practice GMPs; By P.P. Sharma. Vandhana Publications, Agra.
14. Pharmaceutical Process Validation; By Fra. R. Berry and Robert A. Nash.
15. Pharmaceutical Preformulations; By J.J. Wells.
16. Applied production and operations management; By Evans, Anderson, Sweeney and Williams.
17. Encyclopaedia of Pharmaceutical technology, Vol I – III.















**REGULATORY AFFAIRS
(MPH 104T)**

Scope

Course designed to impart advanced knowledge and skills required to learn the concept of generic drug and their development, various regulatory filings in different countries, different phases of clinical trials and submitting regulatory documents : filing process of IND, NDA and ANDA

- To know the approval process of
- To know the chemistry, manufacturing controls and their regulatory importance
- To learn the documentation requirements for
- To learn the importance and

Objectives:

Upon completion of the course, it is expected that the students will be able to understand

- The Concepts of innovator and generic drugs, drug development process
- The Regulatory guidance's and guidelines for filing and approval process
- Preparation of Dossiers and their submission to regulatory agencies in different countries
- Post approval regulatory requirements for actives and drug products
- Submission of global documents in CTD/ eCTD formats
- Clinical trials requirements for approvals for conducting clinical trials
- Pharmacovigilance and process of monitoring in clinical trials.

THEORY

60 Hrs

1. a. **Documentation in Pharmaceutical industry:** Master formula record, DMF (Drug Master File), distribution records. Generic drugs product development Introduction , Hatch-Waxman act and amendments, CFR (CODE OF FEDERAL REGULATION) ,drug product performance, in-vitro, ANDA regulatory approval process, NDA approval process, BE and drug product assessment, in -vivo, scale up process approval changes, post marketing surveillance, outsourcing BA and BE to CRO. 12 Hrs
- b. **Regulatory requirement for product approval:** API, biologics, novel, therapies obtaining NDA, ANDA for generic drugs ways and means of US registration for foreign drugs

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|---|--|-----------|
| 2 | CMC, post approval regulatory affairs. Regulation for combination products and medical devices. CTD and ECTD format, industry and FDA liaison. ICH - Guidelines of ICH-Q, S E, M. Regulatory requirements of EU, MHRA, TGA and ROW countries. | 12
Hrs |
| 3 | Non clinical drug development: Global submission of IND, NDA, ANDA. Investigation of medicinal products dossier, dossier (IMPD) and investigator brochure (IB). | 12
Hrs |
| 4 | Clinical trials: Developing clinical trial protocols. Institutional review board/ independent ethics committee Formulation and working procedures informed Consent process and procedures. HIPAA- new, requirement to clinical study process, pharmacovigilance safety monitoring in clinical trials. | 12
Hrs |

REFERENCES

1. Generic Drug Product Development, Solid Oral Dosage forms, Leon Shargel and IsaderKaufer, Marcel Dekker series, Vol.143
2. The Pharmaceutical Regulatory Process, Second Edition Edited by Ira R. Berry and Robert P. Martin, Drugs and the Pharmaceutical Sciences, Vol.185, Informa Health care Publishers.
3. New Drug Approval Process: Accelerating Global Registrations By Richard A Guarino, MD, 5th edition, Drugs and the Pharmaceutical Sciences, Vol.190.
4. Guidebook for drug regulatory submissions / Sandy Weinberg. By John Wiley & Sons. Inc.
5. FDA regulatory affairs: a guide for prescription drugs, medical devices, and biologics/edited By Douglas J. Pisano, David Mantus.
6. Clinical Trials and Human Research: A Practical Guide to Regulatory Compliance By Fay A. Rozovsky and Rodney K. Adams
7. www.ich.org/
8. www.fda.gov/
9. europa.eu/index_en.htm
10. <https://www.tga.gov.au/tga-basics>

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PHARMACEUTICS PRACTICALS - I
(MPH 105P)

1. Analysis of pharmacopoeial compounds and their formulations by UV Vis spectrophotometer
2. Simultaneous estimation of multi component containing formulations by UV spectrophotometry
3. Experiments based on HPLC
4. Experiments based on Gas Chromatography
5. Estimation of riboflavin/quinine sulphate by fluorimetry
6. Estimation of sodium/potassium by flame photometry
7. To perform *In-vitro* dissolution profile of CR/ SR marketed formulation
8. Formulation and evaluation of sustained release matrix tablets
9. Formulation and evaluation osmotically controlled DDS
10. Preparation and evaluation of Floating DDS- hydro dynamically balanced DDS
11. Formulation and evaluation of Muco adhesive tablets.
12. Formulation and evaluation of trans dermal patches.
13. To carry out preformulation studies of tablets.
14. To study the effect of compressional force on tablets disintegration time.
15. To study Micromeritic properties of powders and granulation.
16. To study the effect of particle size on dissolution of a tablet.
17. To study the effect of binders on dissolution of a tablet.
18. To plot Heckal plot, Higuchi and peppas plot and determine similarity factors.



**MOLECULAR PHARMACEUTICS (NANO TECHNOLOGY &
TARGETED DDS) (NTDS)
(MPH 201T)**

Scope

This course is designed to impart knowledge on the area of advances in novel drug delivery systems.

Objectives

Upon completion of the course student shall be able to understand

- The various approaches for development of novel drug delivery systems.
- The criteria for selection of drugs and polymers for the development of NTDS
- The formulation and evaluation of novel drug delivery systems.

THEORY

60 Hrs

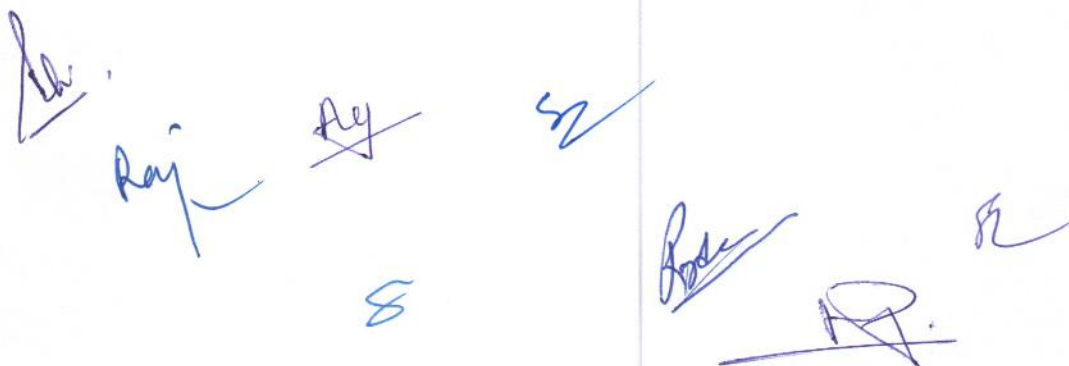
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|--|-----------|
| 1. Targeted Drug Delivery Systems: Concepts, Events and biological process involved in drug targeting. Tumor targeting and Brain specific delivery. | 12
Hrs |
| 2. Targeting Methods: introduction preparation and evaluation. Nano Particles & Liposomes: Types, preparation and evaluation. | 12
Hrs |
| 3. Micro Capsules / Micro Spheres: Types, preparation and evaluation , Monoclonal Antibodies ; preparation and application, preparation and application of Niosomes, Aquasomes, Phytosomes, Electrosomes. | 12
Hrs |
| 4. Pulmonary Drug Delivery Systems : Aerosols, propellents, ContainersTypes, preparation and evaluation, Intra Nasal Route Delivery systems; Types, preparation and evaluation. | 12
Hrs |
| 5. Nucleic acid based therapeutic delivery system : Gene therapy, introduction (ex-vivo & in-vivo gene therapy). Potential target diseases for gene therapy (inherited disorder and cancer). Gene expression systems (viral and nonviral gene transfer). Liposomal gene delivery systems.
Biodistribution and Pharmacokinetics. knowledge of therapeutic antisense molecules and aptamers as drugs of future. | 12
Hrs |

REFERENCES

1. Y W. Chien, Novel Drug Delivery Systems, 2nd edition, revised and expanded, Marcel Dekker, Inc., New York, 1992.
2. S.P.Vyas and R.K.Khar, Controlled Drug Delivery - concepts and advances, VallabhPrakashan, New Delhi, First edition 2002.
3. N.K. Jain, Controlled and Novel Drug Delivery, CBS Publishers & Distributors, NewDelhi, First edition 1997 (reprint in 2001).

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Approved in meeting of Board of Studies in Faculty of Technology, Sub: Pharmacy Dt. May15, 2019



**ADVANCED BIOPHARMACEUTICS & PHARMACOKINETICS
(MPH 202T)**

Scope

This course is designed to impart knowledge and skills necessary for dose calculations, dose adjustments and to apply biopharmaceutics theories in practical problem solving. Basic theoretical discussions of the principles of biopharmaceutics and pharmacokinetics are provided to help the students' to clarify the concepts.

Objectives

Upon completion of this course it is expected that students will be able understand,

- The basic concepts in biopharmaceutics and pharmacokinetics.
- The use raw data and derive the pharmacokinetic models and parameters the best describe the process of drug absorption, distribution, metabolism and elimination.
- The critical evaluation of biopharmaceutic studies involving drug product equivalency.
- The design and evaluation of dosage regimens of the drugs using pharmacokinetic and biopharmaceutic parameters.
- The potential clinical pharmacokinetic problems and application of basics of pharmacokinetic

THEORY

60 Hrs

1. **Drug Absorption from the Gastrointestinal Tract:** 12 Hrs
Gastrointestinal tract, Mechanism of drug absorption, Factors affecting drug absorption, pH-partition theory of drug absorption. Formulation and physicochemical factors: Dissolution rate, Dissolution process, Noyes-Whitney equation and drug dissolution, Factors affecting the dissolution rate. Gastrointestinal absorption: role of the dosage form: Solution (elixir, syrup and solution) as a dosage form ,Suspension as a dosage form, Capsule as a dosage form, Tablet as a dosage form ,Dissolution methods ,Formulation and processing factors, Correlation of in vivo data with in vitro dissolution data.Transport model: Permeability-Solubility-Charge State and the pH Partition Hypothesis, Properties of the Gastrointestinal Tract (GIT), pH Microclimate Intracellular pH Environment, Tight-Junction Complex.



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|---|--|-----------|
| 2 | Biopharmaceutic considerations in drug product design and In Vitro Drug Product Performance: Introduction, biopharmaceutic factors affecting drug bioavailability, rate-limiting steps in drug absorption, physicochemical nature of the drug formulation factors affecting drug product performance, <i>in vitro</i> : dissolution and drug release testing, compendial methods of dissolution, alternative methods of dissolution testing, meeting dissolution requirements, problems of variable control in dissolution testing performance of drug products. <i>In vitro-in vivo</i> correlation, dissolution profile comparisons, drug product stability, considerations in the design of a drug product. | 12
Hrs |
| 3 | Pharmacokinetics: Basic considerations, pharmacokinetic models, compartment modeling: one compartment model- IV bolus, IV infusion, extra-vascular. Multi compartment model: two compartment - model in brief, non-linear pharmacokinetics: cause of non-linearity, Michaelis – Menten equation, estimation of k_{max} and v_{max} . Drug interactions: introduction, the effect of protein-binding interactions, the effect of tissue-binding interactions, cytochrome p450-based drug interactions, drug interactions linked to transporters. | 12
Hrs |
| 4 | Drug Product Performance, In Vivo: Bioavailability and Bioequivalence: drug product performance, purpose of bioavailability studies, relative and absolute availability. methods for assessing bioavailability, bioequivalence studies, design and evaluation of bioequivalence studies, study designs, crossover study designs, evaluation of the data, bioequivalence example, study submission and drug review process. biopharmaceutics classification system, methods. Permeability: In-vitro, in-situ and In-vivo methods. generic biologics (biosimilar drug products), clinical significance of bioequivalence studies, special concerns in bioavailability and bioequivalence studies, generic substitution. | 12
Hrs |
| 5 | Application of Pharmacokinetics: Modified-Release Drug Products, Targeted Drug Delivery Systems and Biotechnological Products. Introduction to Pharmacokinetics and pharmacodynamic, drug interactions. Pharmacokinetics and pharmacodynamics of biotechnology drugs. Introduction, Proteins and peptides, Monoclonal antibodies, Oligonucleotides, Vaccines (immunotherapy), Gene therapies. | 12
Hrs |

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REFERENCES

1. Biopharmaceutics and Clinical Pharmacokinetics by Milo Gibaldi, 4th edition, Philadelphia, Lea and Febiger, 1991
2. Biopharmaceutics and Pharmacokinetics, A. Treatise, D .M. Brahmarkar and Sunil B. Jaiswal., VallabPrakashan, Pitampura, Delhi
3. Applied Biopharmaceutics and Pharmacokinetics by Shargel. Land YuABC, 2nd edition, Connecticut Appleton Century Crofts, 1985
4. Textbook of Biopharmaceutics and Pharmacokinetics, Dr. Shobha Rani R. Hiremath, Prism Book
5. Pharmacokinetics by Milo Gibaldi and D. Perrier, 2nd edition, Marcel Dekker Inc., New York, 1982
6. Current Concepts in Pharmaceutical Sciences: Biopharmaceutics, Swarbrick. J, Lea and Febiger, Philadelphia, 1970
7. Clinical Pharmacokinetics, Concepts and Applications 3rd edition by Malcolm Rowland and Thom~ N. Tozer, Lea and Febiger, Philadelphia, 1995
8. Dissolution, Bioavailability and Bioequivalence, Abdou. H.M, Mack Publishing Company, Pennsylvania 1989
9. Biopharmaceutics and Clinical Pharmacokinetics, An Introduction, 4th edition, revised and expanded by Robert. E. Notari, Marcel Dekker Inc, New York and Basel, 1987.
10. Biopharmaceutics and Relevant Pharmacokinetics by John. G Wagner and M. Pamarowski, 1st edition, Drug Intelligence Publications, Hamilton, Illinois, 1971.
11. Encyclopedia of Pharmaceutical Technology, Vol 13, James Swarbrick, James. G. Boylan, Marcel Dekker Inc, New York, 1996.
12. Basic Pharmacokinetics, 1st edition, Sunil S Jambhekar and Philip J Breen, pharmaceutical press, RPS Publishing, 2009.
13. Absorption and Drug Development- Solubility, Permeability, and Charge State, Alex Avdeef, John Wiley & Sons, Inc, 2003.

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**COMPUTER AIDED DRUG DEVELOPMENT
(MPH 203T)**

Scope

This course is designed to impart knowledge and skills necessary for computer Applications in pharmaceutical research and development who want to understand the application of computers across the entire drug research and development process. Basic theoretical discussions of the principles of more integrated and coherent use of computerized information (informatics) in the drug development process are provided to help the students to clarify the concepts.

Objectives

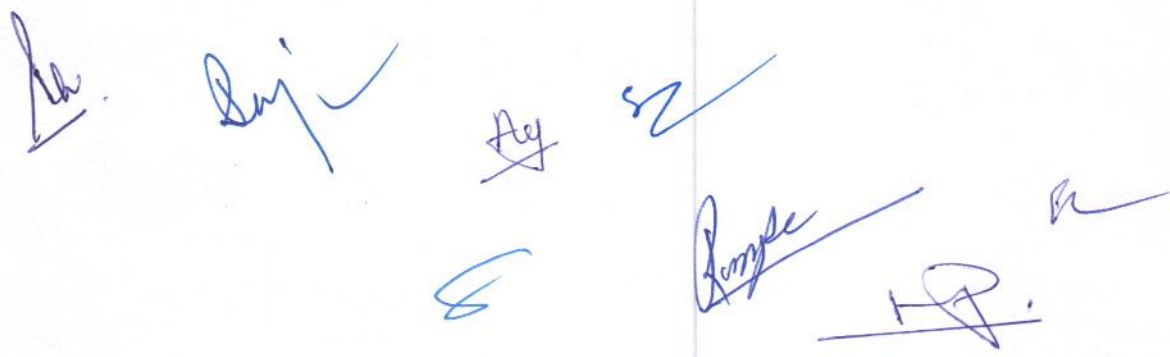
Upon completion of this course it is expected that students will be able to understand,

- History of Computers in Pharmaceutical Research and Development
- Computational Modeling of Drug Disposition
- Computers in Preclinical Development
- Optimization Techniques in Pharmaceutical Formulation
- Computers in Market Analysis
- Computers in Clinical Development
- Artificial Intelligence (AI) and Robotics
- Computational fluid dynamics(CFD)

THEORY

60 Hrs

1. a. **Computers in Pharmaceutical Research and Development:** A General Overview: History of Computers in Pharmaceutical Research and Development. Statistical modeling in Pharmaceutical research and development: Descriptive versus Mechanistic Modeling, Statistical Parameters, Estimation, Confidence Regions, Nonlinearity at the Optimum, Sensitivity Analysis, Optimal Design, Population Modeling
12 Hrs
- b. **Quality-by-Design In Pharmaceutical Development:** Introduction, ICH Q8 guideline, Regulatory and industry views on QbD, Scientifically based QbD - examples of application.
2. **Computational Modeling Of Drug Disposition:** Introduction ,Modeling Techniques: Drug Absorption, Solubility, Intestinal Permeation, Drug Distribution ,Drug Excretion, Active Transport; P-gp, BCRP, Nucleoside Transporters, hPEPT1, ASBT, OCT, OATP, BBB-Choline Transporter.
12 Hrs



- 3 **Computer-aided formulation development:** Concept of optimization, Optimization parameters, Factorial design, Optimization technology & Screening design. Computers in Pharmaceutical Formulation: Development of pharmaceutical emulsions, microemulsion drug carriers Legal Protection of Innovative Uses of Computers in R&D, The Ethics of Computing in Pharmaceutical Research, Computers in Market analysis 12 Hrs
- 4 a. **Computer-aided biopharmaceutical characterization:** Gastrointestinal absorption simulation. Introduction, Theoretical background, Model construction, Parameter sensitivity analysis, Virtual trial, Fed vs. fasted state, In vitro dissolution and *in vitro-in vivo* correlation, Biowaiver considerations 12 Hrs
- b. **Computer Simulations in Pharmacokinetics and Pharmacodynamics:** Introduction, Computer Simulation: Whole Organism, Isolated Tissues, Organs, Cell, Proteins and Genes.
- c. **Computers in Clinical Development:** Clinical Data Collection and Management, Regulation of Computer Systems
- 5 **Artificial Intelligence (AI), Robotics and Computational fluid dynamics:** General overview, Pharmaceutical Automation, Pharmaceutical applications, Advantages and Disadvantages. Current Challenges and Future Directions. 12 Hrs

REFERENCES

1. Computer Applications in Pharmaceutical Research and Development, Sean Ekins, 2006, John Wiley & Sons.
2. Computer-Aided Applications in Pharmaceutical Technology, 1st Edition, Jelena Djuris, Woodhead Publishing
3. Encyclopedia of Pharmaceutical Technology, Vol 13, James Swarbrick, James. G.Boylan, Marcel Dekker Inc, New York, 1996.

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COSMETICS AND COSMECEUTICALS
(MPH 204T)

Scope

This course is designed to impart knowledge and skills necessary for the fundamental need for cosmetic and cosmeceutical products.

Objectives

Upon completion of the course, the students shall be able to understand

- Key ingredients used in cosmetics and cosmeceuticals.
- Key building blocks for various formulations.
- Current technologies in the market
- Various key ingredients and basic science to develop cosmetics and cosmeceuticals
- Scientific knowledge to develop cosmetics and cosmeceuticals with desired Safety, stability, and efficacy.

THEORY

60 Hrs

1. **Cosmetics – Regulatory** : Definition of cosmetic products as per Indian regulation. Indian regulatory requirements for labeling of cosmetics. Regulatory provisions relating to import of cosmetics., Misbranded and spurious cosmetics. Regulatory provisions relating to manufacture of cosmetics – Conditions for obtaining license, prohibition of manufacture and sale of certain cosmetics, loan license, offences and penalties. 12 Hrs
2. **Cosmetics - Biological aspects** : Structure of skin relating to problems like dry skin, acne, pigmentation, prickly heat, wrinkles and body odor. Structure of hair and hair growth cycle. Common problems associated with oral cavity. Cleansing and care needs for face, eye lids, lips, hands, feet, nail, scalp, neck, body and under-arm. 12 Hrs
3. **Formulation Building blocks**: Building blocks for different product formulations of cosmetics/cosmeceuticals. Surfactants – Classification and application. Emollients, rheological additives: classification and application. Antimicrobial used as preservatives, their merits and demerits. Factors affecting microbial preservative efficacy. Building blocks for formulation of a moisturizing cream, vanishing cream, cold cream, shampoo and toothpaste. Soaps and syndetbars. 12 Hrs
Perfumes; Classification of perfumes. Perfume ingredients listed as allergens in EU regulation.
Controversial ingredients: Parabens, formaldehyde liberators,

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dioxane.

- 4 **Design of cosmeceutical products:** Sun protection, sunscreens 12
classification and regulatory aspects. Addressing dry skin, acne, Hrs
sun-protection, pigmentation, prickly heat, wrinkles, body odor.,
dandruff, dental cavities, bleeding gums, mouth odor and
sensitive teeth through cosmeceutical formulations.
- 5 **Herbal Cosmetics :** Herbal ingredients used in Hair care, skin 12
care and oral care. Review of guidelines for herbal cosmetics by Hrs
private bodies like cosmos with respect to preservatives,
emollients, foaming agents, emulsifiers and rheology modifiers.
Challenges in formulating herbal cosmetics.

REFERENCES

1. Harry's Cosmeticology. 8th edition.
2. Poucher's perfume cosmetics and Soaps, 10th edition.
3. Cosmetics - Formulation, Manufacture and quality control, PP.Sharma, 4th
edition
4. Handbook of cosmetic science and Technology A.O.Barel, M.Paye and
H.I. Maibach. 3rd edition
5. Cosmetic and Toiletries recent suppliers catalogue.
6. CTFA directory.

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PHARMACEUTICS PRACTICALS - II

(MPH 205P)

1. To study the effect of temperature change, non solvent addition, incompatible polymer addition in microcapsules preparation
2. Preparation and evaluation of Alginate beads
3. Formulation and evaluation of gelatin /albumin microspheres
4. Formulation and evaluation of liposomes/niosomes
5. Formulation and evaluation of spherules
6. Improvement of dissolution characteristics of slightly soluble drug by Solid dispersion technique.
7. Comparison of dissolution of two different marketed products /brands
8. Protein binding studies of a highly protein bound drug & poorly protein bound drug
9. Bioavailability studies of Paracetamol in animals.
10. Pharmacokinetic and IVIVC data analysis by Winnoline[®] software
11. *In vitro* cell studies for permeability and metabolism
12. DoE Using Design Expert[®] Software
13. Formulation data analysis Using Design Expert[®] Software
14. Quality-by-Design in Pharmaceutical Development
15. Computer Simulations in Pharmacokinetics and Pharmacodynamics
16. Computational Modeling Of Drug Disposition
17. To develop Clinical Data Collection manual
18. To carry out Sensitivity Analysis, and Population Modeling.
19. Development and evaluation of Creams
20. Development and evaluation of Shampoo and Toothpaste base
21. To incorporate herbal and chemical actives to develop products
22. To address Dry skin, acne, blemish, Wrinkles, bleeding gums and dandruff

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Semester III
MRM 301T - Research Methodology & Biostatistics

UNIT – I

General Research Methodology: Research, objective, requirements, practical difficulties, review of literature, study design, types of studies, strategies to eliminate errors/bias, controls, randomization, crossover design, placebo, blinding techniques.

UNIT – II

Biostatistics: Definition, application, sample size, importance of sample size, factors influencing sample size, dropouts, statistical tests of significance, type of significance tests, parametric tests (students "t" test, ANOVA, Correlation coefficient, regression), non-parametric tests (wilcoxon rank tests, analysis of variance, correlation, chi square test), null hypothesis, P values, degree of freedom, interpretation of P values.

UNIT – III

Medical Research: History, values in medical ethics, autonomy, beneficence, non-maleficence, double effect, conflicts between autonomy and beneficence/non-maleficence, euthanasia, informed consent, confidentiality, criticisms of orthodox medical ethics, importance of communication, control resolution, guidelines, ethics committees, cultural concerns, truth telling, online business practices, conflicts of interest, referral, vendor relationships, treatment of family members, sexual relationships, fatality.

UNIT – IV

CPCSEA guidelines for laboratory animal facility: Goals, veterinary care, quarantine, surveillance, diagnosis, treatment and control of disease, personal hygiene, location of animal facilities to laboratories, anesthesia, euthanasia, physical facilities, environment, animal husbandry, record keeping, SOPs, personnel and training, transport of lab animals.

UNIT – V

Declaration of Helsinki: History, introduction, basic principles for all medical research, and additional principles for medical research combined with medical care.

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Ph.D. Course Work Syllabus in Pharmaceutical Sciences (2016-17) One Semester

Paper I Advanced Research Methodology
Paper II Review of Literature, Advanced Research Tools & Seminar

Paper I: Advanced Research Methodology			
1	RESEARCH		
	Definition of research, Applications of research and types, Research process and steps.	6L	10
	Literature review: Importance of literature review, methods and sources of literature review, Review the literature selected, Development of a theoretical and conceptual framework, writing up the review.		
2	RESEARCH DESIGN	12L	20
	Design of Experiments: Objectives, strategies, Experimental design, Simple Comparative Experiments-Basic statistical concepts, sample mean and variance, random variable, correlation and regression, standard normal distribution, statistical hypothesis, degrees of freedom, Two sample <i>t</i> -test, <i>F</i> -test, <i>Chi-square</i> test, <i>P</i> -value, Confidence Intervals, Paired <i>t</i> -test.		
	Single Factor Experiment: Analysis of Variance (ANOVA) for fixed effect model; ANOVA for Randomized complete block design to control effects of nuisance factors.		
	Two Factor Factorial Design: Basic definitions and principles, main effect and interaction, response surface and contour plots, General arrangement for a two-factor factorial design; Models-Effects, means and regression.		
3	RESEARCH PROPOSAL	12L	20
	An Introduction: Preamble, problem, objectives, hypothesis to be tested, design of study, measurement procedures, analysis of data, organization of report, Displaying data tables, graphs and charts		
	Writing a research report: General consideration, Prewriting considerations, Thesis writing, Formats of report writing, Formats of publications in Research journals		
4	DRUG REGULATORY AFFAIRS	12L	20
	Indian Patent Act 1970, its amendments, concepts of IPR, criteria for granting patents and filing a Indian patent, Introduction to Patent Search.		
	. ICH guidelines, GMP, GLP, USFDA, CTD, ISO 9000, TQM, OECD guidelines		
	WHO guidelines for standardization of raw material and finished products including herbal products.		
5	PHARMACEUTICAL ANALYSIS	12L	20
	Principles and applications of the following: Absorption spectroscopy (UV, visible and IR), Principles of NMR, ESR, Mass spectroscopy, X-ray diffraction analysis, malditof and different chromatographic techniques and methods, Thermal Techniques. Microscopy Techniques.		
6	COMPUTATIONAL ANALYSIS	6L	10
	Introduction to the creation and advancement of databases, algorithms, computational and statistical techniques for data analysis.		
	Applications of Microsoft excel for quantitative and statistical data analysis, Power point, Introduction to Internet database surfing.		
	Advanced Research Tools- Exposure to SPSS, Design expert, Systat, SigmaPlot, WinNonlin, Kinetica and Pk analyst software.		

Note: Lecture - 1 Hour (preferably through ICT)

Approved in meeting of Board of Studies in Faculty of Technology, Sub: Pharmacy Dt. June 07, 2016

S. Sand
7/6/2016

H. H.
7/6/16

S. S.

S. S.
7/6/16

V. V.

Paper II Review of Literature, Advanced Research Tools & Seminar			
1.	Review of Literature – Writing review of literature in the area of the proposed Ph.D. program	24 L.	40
2.	Advanced Research Tools- Exposure to design expert, Systat, Sigma Plot and Kinetica	12 L	20
3.	Seminar – Based on the review of literature;	24 L	40

Note: The candidate must obtain 50% or more marks to qualify in the course work.







Approved in meeting of Board of Studies in Faculty of Technology, Sub: Pharmacy Dt. June 07, 2016

CURRICULUM FRAMEWORK: TWO-YEAR B.P.ED. PROGRAMME

Preamble: Bachelor of Physical Education (B. P. Ed.) two years (Four Semesters Choice Based Credit System) programme is a professional programme meant for preparing teachers of physical education in classes VI to X and for conducting physical education and sports activities in classes XI and XII.

B. P. Ed. programme shall be designed to integrate the study of childhood, social context of Physical Education, subject knowledge, pedagogical knowledge, aim of Physical Education and communication skills. The programme comprises of compulsory and optional theory as well as practical courses and compulsory school internship.

R. B.P.Ed. 3. The CBCS System:

All Programmes shall run on Choice Based Credit System (CBCS). It is an instructional package developed to suit the needs of students, to keep pace with the developments in higher

education and the quality assurance expected of it in the light of liberalization and globalization in higher education.

R. B.P.Ed 4. Course:

The term course usually referred to, as ‘papers’ is a component of a programme. All courses need not carry the same weight. The courses should define learning objectives and learning outcomes. A course may be designed to comprise Lectures/ tutorials/laboratory work/ field work/ outreach activities/ project work/ vocational training/viva/ seminars/ term papers/assignments/ presentations/ self-study etc. or a combination of some of these.

R. B.P.Ed. 5. Courses of Programme:

The B.P.Ed. Programme consists of a number of courses, the term ‘Course’ applied to indicate a logical part of subject matter of the programme and is invariably equivalent to the subject matter of a “paper” in the conventional sense. The following are the various categories of courses suggested for the B.P.Ed. Programme.

Theory:

Core Course:

Elective Course:

Practicum:

Teaching Practices:

R. B.P.Ed.6. Semesters:

An academic year is divided into two semesters. Each semester will consist of 17-20 weeks of academic work equivalent to 100 actual teaching days. The odd semester may be scheduled from May/June to November/December and even semester from November / December to May/June. The institution shall work for a minimum of 36 working hours in a week (five or six days a week).

R. B.P.Ed.7. Working days:

There shall be at least 200 working days per year exclusive of admission and examination processes etc.

R. B.P.Ed 8. Credits:

The term 'Credit' refers to a unit by which the programme is measured. It determines the number of hours of instructions required per week. One credit is equivalent to one hour of teaching (lecture or tutorial) or one and half / two hours of practical work/field work per week. The term 'Credit' refers to the weight given to a course, usually in relation to the instructional hours assigned to it. The total minimum credits, required for completing a B.P.Ed. Programme is 90 credits and for each semester 20 credits.

Semester - I

PartA:TheoreticalCourse						
Course Code	Title of the Papers	Total Hours	Credit	Internal Marks	External Marks	Total Marks
CoreCourse						
CC-101	History, Principles and foundation of Physical Education	4	4	30	70	100
CC-102	Anatomy and Physiology	4	4	30	70	100
CC-103	Health Education and Environmental Studies	4	4	30	70	100
Elective Course (Anyone)						
EC-101	Olympic Movement	4	4	30	70	100
EC-102	Officiating and Coaching					
Part-B PracticalCourse						
PC-101	Track and Field (Running Events)	6	4	30	70	100
PC-102	Swimming/Gymnastics/ Shooting	6	4	30	70	100
PC-103	Indigenous Sports: Kabaddi / Malkhambh/ lezim / March past	6	4	30	70	100
PC - 104	Mass Demonstration Activities: Kho-Kho / dumbbells / tipri / wands / hoop /umbrella	6	4	30	70	100
Total		40	32	240	560	800

Note: Total Number of hours required to earn 4 credits for each Theory Course are 68-80 hours per semester whereas 102-120 hours for each Practicum Course.

Semester - II

PartA:TheoreticalCourse						
Course Code	TitleofthePapers	Total Hours	Credit	Internal Marks	External Marks	Total Marks
CoreCourse						
CC-201	Yoga Education	4	4	30	70	100
CC-202	Educational Technology and Methods of Teaching in Physical Education	4	4	30	70	100
CC-203	Organization and Administration	4	4	30	70	100
Elective Course (Anyone)						
EC-201	Contemporary issues in physical education, fitness and wellness	4	4	30	70	100
EC-202	Sports Nutrition and Weight Management					
Part-B PracticalCourse						
PC-201	Track and Field (Jumping Events)	6	4	30	70	100
PC-202	Yoga/Aerobics/ Gymnastics/ Swimming	6	4	30	70	100
PC-203	Racket Sports: Badminton/ Table Tennis/ Squash/ Tennis	6	4	30	70	100
Part – C Teaching Practices						
TP - 201	Teaching Practices (05lessons in class room teaching and 05 lessons in outdoor activities)	6	4	30	70	100
Total		40	32	240	560	800

Note: Total Number of hours required to earn 4 credits for each Theory Course are 68-80 hours per semester whereas 102-120 hours for each Practicum Course.

Semester - III

PartA:Theoretical Course						
Course Code	TitleofthePapers	Total Hours	Credit	Internal Marks	External Marks	Total Marks
CoreCourse						
CC-301	Sports Training	4	4	30	70	100
CC-302	Computer Applications in Physical Education	4	4	30	70	100
CC-303	Sports Psychology and Sociology	4	4	30	70	100
Elective Course (Anyone)						
EC-301	Sports Medicine, Physiotherapy and Rehabilitation	4	4	30	70	100
EC-302	Curriculum Design					
Part-B Practical Course						
PC-301	Track and Field (Throwing Events)	6	4	30	70	100
PC-302	Combative Sports: Martial Art/ Karate/ Judo/ Fencing/ Boxing/ Taekwondo/ Wrestling (Any two out of these)	6	4	30	70	100
PC-303	Team Games: Baseball/ Cricket/ Football/ Hockey/ Softball/ Volleyball/ Handball/ Basketball/ Netball (Any two of these)	6	4	30	70	100
Part – C Teaching Practices						
TP - 301	Teaching Practice: (Teaching Lesson Plans for Racket Sport/ Team Games/Indigenous Sports) (out of 10 lessons 5 internal and 5 external at practicing school)	6	4	30	70	100
Total		40	32	240	560	800

Note: Total Number of hours required to earn 4 credits for each Theory Course are 68-80 hours per semester whereas 102-120 hours for each Practicum Course.

Semester - IV

PartA:TheoreticalCourse						
Course Code	TitleofthePapers	Total Hours	Credit	Internal Marks	External Marks	Total Marks
Core Course						
CC-401	Measurement and Evaluation in Physical Education	4	4	30	70	100
CC-402	Kinesiology and Biomechanics	4	4	30	70	100
CC-403	Research and Statistics in Physical Education	4	4	30	70	100
Elective Course (Anyone)						
EC-401	Theory of sports and game	4	4	30	70	100
EC-402	Sports Management					
Part–B Practical Course						
PC-401	Track and Field / Swimming / Gymnastics (Any one out of three)	6	4	30	70	100
PC-402	Kabaddi/ Kho-Kho/ Baseball/ Cricket/ Football/Hockey/Softball/ Volleyball/ Handball/ Basketball/ Netball/ Badminton/ Table Tennis/ Squash/ Tennis (Any Two of these)	6	4	30	70	100
Part – C Teaching Practices						
TP-401	Sports specialization: Coaching lessons Plans (One for Sports 5 lessons)	6	4	30	70	100
TP-402	Games specialization: Coaching lessons Plans (One for Games 5 lessons)	6	4	30	70	100
Total		40	32	240	560	800
		160	128	960	2240	3200

Note: Total Number of hours required to earn 4 credits for each Theory Course are 68-80 hours per semester whereas 102-120 hours for each Practicum Course.

SCHEME OF EXAMINATION
SEMESTER - I

Paper	Subject	Internal	External	Total Marks
	<u>THEORY (400)</u>			
CC-101	History, Principles and foundation of Physical Education	30	70	100
CC-102	Anatomy and Physiology	30	70	100
CC-103	Health Education and Environmental Studies	30	70	100
EC-101/102	Olympic Movement/Officiating and Coaching (Elective)	30	70	100
	<u>PRACTICAL (400)</u>			
PC-101	Track and Field (Running Events)	30	70	100
PC-102	Swimming/Gymnastics/Shooting	30	70	100
PC-103	Indigenous Sports: Kabaddi/ Malkhambh/ lezim / March past (Any of one out of these)	30	70	100
PC-104	Mass Demonstration Activities: Kho-Kho / dumbbells / tipri / wands / hoop /umbrella (Any one out of these)	30	70	100
	Total	240	560	800

SEMESTER -II

Paper	Subject	Internal	External	Total Marks
	<u>THEORY (400)</u>			
CC-201	Yoga Education	30	70	100
CC-202	Educational Technology and Methods of Teaching in Physical Education	30	70	100
CC-203	Organization and Administration	30	70	100
EC-201/202	Contemporary issues in physical education, fitness and wellness/ Sports Nutrition and Weight Management (Elective)	30	70	100
	<u>PRACTICAL (300)</u>			
PC-201	Track and Field (Jumping Events)	30	70	100
PC-202	Yoga/Aerobics / Swimming / Gymnastics (Any of the two out of these)	30	70	100
PC-203	Racket Sports: Badminton/ Table Tennis/ Squash/ Tennis (Any of the two out of these)	30	70	100
	<u>TEACHING PRACTICE (100)</u>			
TP-201	Teaching Practice (Classroom and outdoor)	30	70	100
	Total	240	560	800

SEMESTER –III

Paper	Subject	Internal	External	Total Marks
	<u>THEORY (400)</u>			
CC-301	Sports Training	30	70	100
CC-302	Computer Applications in Physical Education	30	70	100
CC-303	Sports Psychology and Sociology	30	70	100
EC-301/302	Sports Medicine, Physiotherapy and Rehabilitation/Curriculum Design (Elective)	30	70	100
	<u>PRACTICAL (300)</u>			
PC-301	Track and Field (Throwing Events)	30	70	100
PC-302	Combative Sports : Martial Art, Karate, Judo, Fencing, Boxing, Taekwondo, Wrestling (Any two out of these)	30	70	100
PC-303	Team Games: Baseball, Cricket, Football, Hockey, Softball, Volleyball, Handball, Basketball, Netball (Any two of these)	30	70	100
	<u>TEACHING PRACTICE (100)</u>			
TP-301	Teaching Practice (Teaching Lesson Plans for Racket Sport/ Team Games/Indigenous Sports)	30	70	100
	Total	240	560	800

SEMESTER -IV

Paper	Subject	Internal	External	Total Marks
	<u>THEORY (400)</u>			
CC-401	Measurement and Evaluation in Physical Education	30	70	100
CC-402	Kinesiology and Biomechanics	30	70	100
CC-403	Research and Statistics in Physical Education	30	70	100
EC-401/402	Theory of sports and games(Specifically sports and games specialization)/Sports Management (Elective)	30	70	100
	<u>PRACTICAL (200)</u>			
PC-401	Track and Field/Swimming /Gymnastics (Any of one out of these)	30	70	100
PC-402	Kabaddi/ Kho-Kho/ Baseball/ Cricket/ Football/Hockey/Softball/ Volleyball/ Handball/ Basketball/ Netball/ Badminton/ Table Tennis/ Squash/ Tennis (Any of one out of these)	30	70	100
	<u>TEACHING PRACTICE (200)</u>			
TP-401	Sports Specialization: Coaching lessons Plans Track and Field/Swimming /Gymnastics (Any of one out of these)	30	70	100
TP-402	Game specialization Coaching lessons: Kabaddi/ Kho-Kho/ Baseball/ Cricket/Football/Hockey /Softball/ Volleyball/ Handball/ Basketball/ Netball/ Badminton/ Table Tennis/ Squash/ Tennis (Any of one out of these)	30	70	100
	Total	240	560	800

B. P. Ed. – Outline of Syllabus

Semester – I

Theory Courses

CC-101 HISTORY, PRINCIPLES AND FOUNDATION OF PHYSICAL EDUCATION

STUDENT LEARNING OUTCOMES :

1. Become familiar with the history and development of physical education in India.
2. Discuss the philosophical foundation of Physical Education .
3. To understand principles of physical education.
4. To develop understanding of developing physical education program on the basis of principles and foundation of physical education.

Unit – 1: Introduction

- Meaning, Definition and Scope of Physical Education
- Aims and Objective of Physical Education
- Importance of Physical Education in present era.
- Misconceptions about Physical Education.
- Relationship of Physical Education with General Education.
- Physical Education as an Art and Science.

Unit- 2 – Historical Development of Physical Education in India

- Indus Valley Civilization Period. (3250 BC – 2500 BC)
- Vedic Period (2500 BC – 600 BC)
- Early Hindu Period (600 BC – 320 AD) and Later Hindu Period (320 AD – 1000 AD)
- Medieval Period (1000 AD – 1757 AD)
- British Period (Before 1947)
- Physical Education in India (After 1947)
- Contribution of Akhadas and Vyayamshals
- Y.M.C.A. and its contributions.

Unit- 3- Foundation of Physical Education

- Philosophical foundation:
- Idealism, Pragmatism, Naturalism, Realism, Humanism, Existentialism and Indian Philosophy and Culture.
- Fitness and wellness movement in the contemporary perspectives
- Sports for all and its role in the maintenance and promotion of fitness.

Unit-4- Principles of Physical Education

- Biological
 - Growth and development
 - Age and gender characteristics
 - Body Types
 - Anthropometric differences
- Psychological
 - Learning types, learning curve
 - Laws and principles of learning
 - Attitude, interest, cognition, emotions and sentiments

- Sociological
 - Society and culture
 - Social acceptance and recognition
 - Leadership
 - Social integration and cohesiveness

References:

- Bucher, C. A. (n.d.) *Foundation of physical education*. St. Louis: The C.V. Mosby Co.
- Deshpande, S. H. (2014). *Physical Education in Ancient India*. Amravati: Degree college of Physical education.
- Mohan, V. M. (1969). *Principles of physical education*. Delhi: Metropolitan Book Dep.
- Nixon, E. E. & Cozen, F.W. (1969). *An introduction to physical education*. Philadelphia: W.B. Saunders Co.
- Obertuffer, (1970). *Delbert physical education*. New York: Harper & Brothers Publisher.
- Sharman, J. R. (1964). *Introduction to physical education*. New York: A.S. Barnes & Co.
- William, J. F. (1964). *The principles of physical education*. Philadelphia: W.B. Saunders Co.

Semester I
Theory Courses
CC-102 ANATOMY AND PHYSIOLOGY

UNIT-I

- Brief Introduction of Anatomy and physiology in the field of Physical Education.
- Introduction of Cell and Tissue.
- The arrangement of the skeleton – Function - of the skeleton – Ribs and Vertebral column and the extremities – joints of the body and their types
- Gender differences in the skeleton.
- Types of muscles.

UNIT-II

- **Blood and circulatory system:** Constituents of blood and their function –Blood groups and blood transfusion, clotting of blood, the structure of the heart-properties of the heart muscle, circulation of blood, cardiac cycle, blood pressure, Lymph and Lymphatic circulation. Cardiac output.
- **The Respiratory system:** The Respiratory passage – the lungs and their structure and exchange of gases in the lungs, mechanism of respiration (internal and external respiration) lung capacity, tidal volume.
- **The Digestive system:** structure and functions of the digestive system, Digestive organs, Metabolism,
- **The Excretory system:** Structure and functions of the kidneys and the skin.
- **The Endocrine glands:** Functions of glands pituitary, Thyroid, Parathyroid. Adrenal, Pancreatic and the sex glands.
- **Nervous systems:** Function of the Autonomic nervous system and Central nervous system. Reflex Action,
- **Sense organs:** A brief account of the structure and functions of the Eye and Ear.

UNIT-III

- Definition of physiology and its importance in the field of physical education and sports.
- Structure, Composition, Properties and functions of skeletal muscles.
- Nerve control of muscular activity:
 - Neuromuscular junction
 - Transmission of nerve impulse across it.
- Fuel for muscular activity
- Role of oxygen- physical training, oxygen debt, second wind, vital capacity.

UNIT-IV

- Effect of exercise and training on cardiovascular system.
- Effect of exercise and training on respiratory system.
- Effect of exercise and training on muscular system

- Physiological concept of physical fitness, warming up, conditioning and fatigue.
- Basic concept of balanced diet – Diet before, during and after competition.

References:

- Gupta, A. P. (2010). *Anatomy and physiology*. Agra: SumitPrakashan.
- Gupta, M. and Gupta, M. C. (1980). *Body and anatomical science*. Delhi: Swaran Printing Press.
- Guyton, A.C. (1996). *Textbook of Medical Physiology*, 9th edition. Philadelphia: W.B. Saunders.
- Karpovich, P. V. (n.d.). *Philosophy of muscular activity*. London: W.B. Saunders Co.
- Lamb, G. S. (1982). *Essentials of exercise physiology*. Delhi: Surjeet Publication.
- Moorthy, A. M. (2014). *Anatomy physiology and health education*. Karaikudi: Madalayam Publications.
- Morehouse, L. E. & Miller, J. (1967). *Physiology of exercise*. St. Louis: The C.V. Mosby Co.
- Pearce, E. C. (1962). *Anatomy and physiology for nurses*. London: Faber & Faber Ltd.
- Sharma, R. D. (1979). *Health and physical education*, Gupta Prakashan.
- Singh, S. (1979). *Anatomy of physiology and health education*. Ropar: Jeet Publications.

Semester I

Theory courses

CC-103 HEALTH EDUCATION AND ENVIRONMENTAL STUDIES

STUDENT LEARNING OUTCOMES :

1. To describe health , its aspects and components of Health Education and to become role model.
2. To learn health problems in India.
3. Key concepts in environmental studies, such as 'sustainable development and impact on development concerns.
4. Understand the complex relationships between mankind and the environment.

Unit – I Health Education

- Concept, Dimensions, Spectrum and Determinants of Health
- Definition of Health, Health Education, Health Instruction, Health Supervision
- Aim, objective and Principles of Health Education
- Health Service and guidance instruction in personal hygiene

Unit – II Health Problems in India

- Communicable and Non Communicable Diseases
- Obesity, Malnutrition, Adulteration in food, Environmental sanitation, Explosive Population,
- Personal and Environmental Hygiene for schools
- Objective of school health service, Role of health education in schools
- Health Services – Care of skin, Nails, Eye health service, Nutritional service, Health appraisal, Health record, Healthful school environment, first- aid and emergency care etc.

Unit – III Environmental Science

- Definition, Scope, Need and Importance of environmental studies.
- Concept of environmental education, Historical background of environmental education,
- Celebration of various days in relation with environment.
- Plastic recycling & probation of plastic bag / cover.
- Role of school in environmental conservation and sustainable development.

Unit – IV Natural Resources and related environmental issues:

- Water resources, food resources and Land resources
- Definition, effects and control measures of:
- Air Pollution, Water Pollution, Soil Pollution, Noise Pollution, Thermal Pollution
- Management of environment and Govt. policies , Role of pollution control board.

References:

- Agrawal, K.C. (2001). *Environmental biology*. Bikaner: Nidhi publishers Ltd.
- Frank, H. & Walter, H., (1976). *Turners school health education*. Saint Louis: The C.V.

Mosby Company.

Nemir, A. (n.d.). *The school health education*. New York:Harber and Brothers.

Odum, E.P. (1971). *Fundamental of ecology*. U.S.A.: W.B. Saunders Co.

Semester – I

Theory courses

EC-101 OLYMPIC MOVEMENT (ELECTIVE)

STUDENT LEARNING OUTCOMES :

1. The students will learn the educational and cultural values associated with Olympic movement.
2. The students knowledge will get enhanced regarding different kinds of Olympic games.
3. The students will gain knowledge regarding functions of International Olympic Committee.
4. The students will get basic structure and functions of National Olympic committee.
5. The students will get to know the laurels of Indian Olympic participants.

Unit – I Origin of Olympic Movement

- Philosophy of Olympic movement
- The early history of the Olympic movement
- The significant stages in the development of the modern Olympic movement
- Educational and cultural values of Olympic movement

Unit – II Modern Olympic Games

- Significance of Olympic Ideals, Olympic Rings, Olympic Flag
- Olympic Protocol for member countries
- Olympic Code of Ethics
- Olympism in action
- Sports for All

Unit – III Different Olympic Games

- Para Olympic Games
- Summer Olympics
- Winter Olympics
- Youth Olympic Games

Unit – IV Committees of Olympic Games

- International Olympic Committee - Structure and Functions
- National Olympic committees and their role in Olympic movement
- Olympic commission and their functions
- Olympic medal winners of India

Reference:

- Osborne, M. P. (2004). *Magictree house fact tracker: ancient greece and the olympics: a nonfiction companion to magic tree house: hour of the Olympics*. New York: Random House Books for Young Readers.
- Burbank, J. M., Andranovich, G. D. & Heying Boulder, C. H. (2001). *Olympic dreams: the impact of mega-events on local politics*: Lynne Rienner

Semester – I

Theory courses

EC-102 OFFICIATING AND COACHING (Elective)

Unit- I: Introduction of Officiating and coaching

- Concept of officiating and coaching
- Importance and principles of officiating
- Relation of official and coach with management, players and spectators
- Measures of improving the standards of officiating and coaching

Unit- II: Coach as a Mentor

- Duties of coach in general, pre, during and post game.
- Philosophy of coaching
- Responsibilities of a coach on and off the field
- Psychology of competition and coaching

Unit- III: Duties of Official

- Duties of official in general, pre, during and post game.
- Philosophy of officiating
- Mechanics of officiating – position, singles and movement etc.
- Ethics of officiating

Unit- IV: Qualities and Qualifications of Coach and Official

- Qualities and qualification of coach and official
- General rules of games and sports
- Eligibility rules of intercollegiate and inter-university tournaments, preparation of TA, DA bills
- Integrity and values of sports

Reference Books:

Bunn, J. W. (1968). *The art of officiating sports*. Englewood cliffs N.J. Prentice Hall.

Bunn, J. W. (1972). *Scientific principles of coaching*. Englewood cliffs N. J. Prentice Hall.

Dyson, G. H. (1963). *The mechanics of athletics*. London: University of London Press Ltd.

Dyson, G. H. (1963). *The mechanics of Athletics*. London: University of London Press Ltd.

Lawther, J.D. (1965). *Psychology of coaching*. New York: Pre. Hall.

Singer, R. N. (1972). *Coaching, athletic & psychology*. New York: M.C. Graw Hill.

Semester – II

Theory Courses

CC-201 YOGA EDUCATION

Unit – I: Introduction

- Meaning and Definition of Yoga
- Aims and Objectives of Yoga
- Yoga in Early Upanisads
- The Yoga Sutra: General Consideration
- Need and Importance of Yoga in Physical Education and Sports

Unit - II: Foundation of Yoga

- The Astanga Yoga: Yama, Niyama, Asana, Pranayama, Pratyahara, Dharana, Dhyana and Samadhi
- Yoga in the Bhagavadgita - Karma Yoga, Raja Yoga, Jnana Yoga and Bhakti Yoga

Unit - III Asanas

- Effect of Asanas and Pranayama on various system of the body
- Classification of asanas with special reference to physical education and sports
- Influences of relaxtive, meditative posture on various system of the body
- Types of Bandhas and mudras
- Type of kriyas

Unit – IV Yoga Education

- Basic, applied and action research in Yoga
- Difference between yogic practices and physical exercises
- Yoga education centers in India and abroad
- Competitions in Yogasanas

References:

- Brown, F. Y.(2000). *How to use yoga*. Delhi:Sports Publication.
- Gharote, M. L. &Ganguly, H. (1988). *Teaching methods for yogic practices*.Lonawala: Kaixydamoe.
- Rajjan, S. M. (1985). *Yoga strenthening ofrelexation for sports man*. New Delhi:Allied Publishers.
- Shankar,G.(1998). *Holistic approach of yoga*. New Delhi:Aditya Publishers.
- Shekar,K. C. (2003). *Yoga for health*. Delhi: Khel Sahitya Kendra.

Semester – II

Theory Courses

CC-202 EDUCATIONAL TECHNOLOGY AND METHODS OF TEACHING N PHYSICAL EDUCATION

STUDENT LEARNING OUTCOMES :

1. To understand the concept of educational technology and methods of teaching.
2. To describe and use various teaching methods according to suitability.
3. To construct the lesson plans for various physical education activities.
4. To classify the types of presentation, techniques and technical preparations required for physical education lessons,
5. To understand the principles of class management and factors affecting class management.
6. To utilize effectively various teaching aids for conduct of physical education program.

Unit – I Introduction

- Education and Education Technology- Meaning and Definitions
- Types of Education- Formal, Informal and Non- Formal education.
- Educative Process
- Importance of Devices and Methods of Teaching.

Unit – II Teaching Technique

- Teaching Technique – Lecture method, Command method, Demonstration method, Imitation method, project method etc.
- Teaching Procedure – Whole method, whole – part – whole method, part – whole method.
- Presentation Technique – Personal and technical preparation
- Command- Meaning, Types and its uses in different situations.

Unit – III Teaching Aids

- Teaching Aids – Meaning, Importance and its criteria for selecting teaching aids.
- Teaching aids – Audio aids, Visual aids, Audio – visual aids, Verbal, Chalk board, Charts, Model, Slide projector, Motion picture etc
- Team Teaching – Meaning, Principles and advantage of team teaching.
- Difference between Teaching Methods and Teaching Aid.

Unit – IV Lesson Planning and Teaching Innovations

- Lesson Planning – Meaning, Type and principles of lesson plan.
- General and specific lesson plan.
- Micro Teaching – Meaning, Types and steps of micro teaching.
- Simulation Teaching - Meaning, Types and steps of simulation teaching.

Reference:

Bhardwaj, A. (2003). *New media of educational planning*. New Delhi: Sarup of Sons.

Bhatia, & Bhatia, (1959). *The principles and methods of teaching*. New Delhi: Doaba House.

Kochar, S.K. (1982). *Methods and techniques of teaching*. New Delhi: Sterling Publishers Pvt. Ltd.

Sampath, K., Pannirselvam, A. & Santhanam, S. (1981). *Introduction to educational technology*. New Delhi: Sterling Publishers Pvt. Ltd.

Walia, J.S. (1999). *Principles and methods of education*. Jullandhar: Paul Publishers.

Semester – II**Theory Courses****CC-203 ORGANIZATION AND ADMINISTRATION IN PHYSICAL EDUCATION****STUDENT LEARNING OUTCOMES :**

1. To understand the concept of organization and administration in physical education and sports.
2. To describe and use various organizational and administrative roles according to suitability.
3. To classify the types of organizational and administrative techniques required for physical education program.
4. To construct the programs of physical education and sports.

To understand the principles of organization and administration

Unit – I: Organization and administration

- Meaning and importance of Organization and Administration in physical education
- Qualification and Responsibilities of Physical Education teacher and pupil leader
- Planning and their basic principles,
- Program planning: Meaning, Importance, Principles of program planning in physical education.
- Functions of Planning, organizing, staffing, directing, communicating, co-ordination, controlling, evaluating and innovating.

Unit- II: Office Management, Record, Register & Budget

- Office Management: Meaning, definition, functions and kinds of office management
- Records and Registers: Maintenance of attendance Register, stock register, cash register, physical efficiency record, Medical examination Record.
- Budget: Meaning, Importance of Budget making,
- Criteria of a good Budget, Sources of Income, Expenditure, Preparation of Budget.

Unit-III: Facilities, & Time-Table Management

- Facilities and equipment management: Types of facilities Infrastructure-indoor, out door.
- Care of school building, Gymnasium, swimming pool, Play fields, Play grounds
- Equipment: Need, importance, purchase, care and maintenance.
- Time Table Management: Meaning, Need, Importance and Factor affecting time table.

Unit-IV: Competition Organization

- Importance of Tournament,
- Types of Tournament and its organization structure - Knock-out Tournaments, League or Round Robin Tournaments, Combination Tournament and challenge Tournament.
- Organization structure of Athletic Meet

- Sports Event Intramurals & Extramural Tournament planning

References:

Broyles, F. J. & Rober, H. D. (1979). *Administration of sports, Athletic programme: A Managerial Approach*. New York: Prentice hall Inc.

Bucher, C. A. (1983). *Administration of Physical Education and Athletic programme*. St. Louis: The C.V. Mosby Co.

Kozman, H.C. Cassidy, R. & Jackson, C. (1960). *Methods in Physical Education*. London: W.B. Saunders Co.

Pandy, L.K. (1977). *Methods in Physical Education*. Delhi: Metropolitan Book Depo.

Sharma, V.M. & Tiwari, R.H.: (1979). *Teaching Methods in Physical Education*. Amaravati: Shakti Publication.

Thomas, J. P.(1967). *Organization & administration of Physical Education*. Madras: Gyanodayal Press.

Tirunarayanan, C. & Hariharan, S. (1969). *Methods in Physical Education*. Karaikudi: South India Press.

Voltmer, E. F. & Esslinger, A. A. (1979). *The organization and administration of Physical Education*. New York: Prentice Hall Inc.

Semester – II

Theory Courses

EC-201 CONTEMPORARY ISSUES IN PHYSICAL EDUCATION, FITNESS AND WELLNESS (ELECTIVE)

Unit – I Concept of Physical Education and Fitness

- Definition, Aims and Objectives of Physical Education, fitness and Wellness
- Importance and Scope of fitness and wellness
- Modern concept of Physical fitness and Wellness
- Physical Education and its Relevance in Inter Disciplinary Context.

Unit – II Fitness, Wellness and Lifestyle

- Fitness – Types of Fitness and Components of Fitness
- Understanding of Wellness
- Modern Lifestyle and Hypo kinetic Diseases – Prevention and Management
- Physical Activity and Health Benefits

Unit – III Principles of Exercise Program

- Means of Fitness development – aerobic and anaerobic exercises
- Exercises and Heart rate Zones for various aerobic exercise intensities
- Concept of free weight Vs Machine, Sets and Repetition etc
- Concept of designing different fitness training program for different age group.

Unit – IV Safety Education and Fitness Promotion

- Health and Safety in Daily Life
- First Aid and Emergency Care
- Common Injuries and their Management
- Modern Life Style and Hypo-kinetic Disease –Prevention and Management

References:

- Difiore, J.(1998). *Complete guide to postnatal fitness*. London: A & C Black,.
- Giam, C.K & The, K.C. (1994). *Sport medicine exercise and fitness*. Singapore: P.G. Medical Book.
- Meglynn, G., (1993). *Dynamics of fitness*. Madison: W.C.B Brown.
- Sharkey, B. J.(1990). *Physiology of fitness*, Human Kinetics Book.

Semester II

Theory courses

EC-202 SPORTS NUTRITION AND WEIGHT MANAGEMENT (ELECTIVE)

STUDENT LEARNING OUTCOMES :

1. To understand specific nutritional requirement of sports person.
2. Describe role of macro and micronutrients
3. Be able to assess body composition
4. Develop insight in to role of exercise and diet in weight management by

Unit – I Introduction to Sports Nutrition

- Meaning and Definition of Sports Nutrition
- Basic Nutrition guidelines
- Role of nutrition in sports
- Factor to consider for developing nutrition plan

Unit – II Nutrients: Ingestion to energy metabolism

- Carbohydrates, Protein, Fat – Meaning, classification and its function
- Role of carbohydrates, Fat and protein during exercise
- Vitamins, Minerals, Water – Meaning, classification and its function
- Role of hydration during exercise, water balance, Nutrition – daily caloric requirement and expenditure.

Unit – III Nutrition and Weight Management

- Meaning of weight management Concept of weight management in modern era Factor affecting weight management and values of weight management
- Concept of BMI (Body mass index), Obesity and its hazard, Myth of Spot reduction, Dieting versus exercise for weight control, Common Myths about Weight Loss
- Obesity – Definition, meaning and types of obesity,
- Health Risks Associated with Obesity, Obesity - Causes and Solutions for Overcoming Obesity.

Unit – IV Steps of planning of Weight Management

- Nutrition – Daily calorie intake and expenditure, Determination of desirable body weight
- Balanced diet for Indian School Children, Maintaining a Healthy Lifestyle
- Weight management program for sporty child, Role of diet and exercise in weight management, Design diet plan and exercise schedule for weight gain and loss

References:

Bessesen, D. H. (2008). Update on obesity. *J Clin Endocrinol Metab.* 93(6), 2027-2034.

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Chu, S.Y. & Kim, L. J. (2007). Maternal obesity and risk of stillbirth: a metaanalysis. *Am J ObstetGynecol*, 197(3), 223-228.

DeMaria, E. J. (2007). Bariatric surgery for morbid obesity. *N Engl J Med*, 356(21), 2176-2183.

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Semester – III
Theory Courses
CC-301 SPORTS TRAINING

STUDENT LEARNING OUTCOMES :

1. The students will gain knowledge of meaning and definition of sports training.
2. Principles of sports training will be learnt by the students.
3. Students will have proficient knowledge about means and methods to develop speed, endurance, coordination and flexibility.
4. The basics of training load will be added to students knowledge base.
5. Students expand their knowledge of training plan and program.

Unit – I Introduction to Sports Training

- Meaning and Definition of Sports Training
- Aim and Objective of Sports Training
- Principles of Sports Training
- System of Sports Training – Basic Performance, Good Performance and High Performance Training

Unit – II Training Components

- Strength – Mean and Methods of Strength Development
- Speed – Mean and Methods of Speed Development
- Endurance - Mean and Methods of Endurance Development
- Coordination – Mean and Methods of coordination Development
- Flexibility – Mean and Methods of Flexibility Development

Unit – III Training Process

- Training Load- Definition and Types of Training Load
- Principles of Intensity and Volume of stimulus
- Technical Training – Meaning and Methods of Technique Training
- Tactical Training – Meaning and Methods of Tactical Training

Unit – IV Training programming and planning

- Periodization – Meaning and types of Periodization
- Aim and Content of Periods – Preparatory, Competition, Transitional etc.
- Planning – Training session
- Talent Identification and Development

Reference:

Dick, W. F. (1980).*Sports training principles*. London: Lepus Books.

- Harre, D.(1982).*Principles of sports training*.Berlin: Sporulated.
- Jensen, R. C.& Fisher, A.G. (1979). *Scientific basis of athletic conditioning*. Philadelphia: Lea and Fibiger, 2ndEdn.
- Matvyew, L.P. (1981).*Fundamental of sports training*. Moscow: Progress Publishers.
- Singh, H. (1984).*Sports training, general theory and methods*.Patials: NSNIS.
- Uppal, A.K., (1999).*Sports Training*.New Delhi: Friends Publication.

Semester III

Theory Courses

CC-302 COMPUTER APPLICATIONS IN PHYSICAL EDUCATION

STUDENT LEARNING OUTCOMES :

1. To understand the need and importance of communication technology (ICT).
2. To gain knowledge of the application of computer in Physical Education.
3. To acquaint the learner with different methods MS Office.
4. To understand Application of software used in Physical education and sports.
5. To correlate the of ICT & Education technology in physical education and sports concepts with the sports and athlete specific situations.

Unit – I: Introduction to Computer

- Meaning, need and importance of information and communication technology (ICT).
Application of Computers in Physical Education
- Components of computer, input and output device
- Application software used in Physical Education and sports

Unit – II: MS Word

- Introduction to MS Word
- Creating, saving and opening a document
- Formatting Editing features Drawing table ,
- page setup, paragraph alignment, spelling and grammar check printing option, inserting page number, graph, footnote and notes

Unit – III: MS Excel

- Introduction to MS Excel
- Creating, saving and opening spreadsheet
- creating formulas
- Format and editing features adjusting columns width and row height understanding charts.

Unit – IV: MS Power Point

- Introduction to MS Power Point
- Creating, saving and opening a ppt. file
- format and editing features slide show , design , inserting slide number
- picture ,graph ,table
- Preparation of Power point presentations

Referances:

- Irtegov, D. (2004). *Operating system fundamentals*. Firewall Media.
- Marilyn, M. & Roberta, B. (n.d.). *Computers in your future*. 2nd edition, India: Prentice Hall.
- Milke, M. (2007). *Absolute beginner's guide to computer basics*. Pearson Education Asia.
- Sinha, P. K. & Sinha, P. (n.d.). *Computer fundamentals*. 4th edition, BPB Publication.

Semester – III**Theory Courses****CC-303 SPORTS PSYCHOLOGY AND SOCIOLOGY****STUDENT LEARNING OUTCOMES :**

1. The students will acquire the knowledge regarding various stages of growth and development.
2. A. Students will come to know about psycho-social aspects of human behaviour in the context of physical education.
3. Students gain knowledge regarding the role of personality in sports performance.
4. The students will learn about various strategies such as focus, relaxation, imagery etc. about mental preparation
5. The student will become familiar with association of physical education with social science.

Unit -I: introduction

- Meaning, Importance and scope of Educational and Sports Psychology
- General characteristics of Various Stages of growth and development
- Types and nature of individual differences; Factors responsible -Heredity And environment
- Psycho-sociological aspects of Human behavior in relation to physical education and sports

Unit-II: Sports Psychology

- Nature of learning, theories of learning, Laws of learning,
- Plateau in Learning; & transfer of training
- Meaning and definition of personality, characteristics of personality,
- Dimension of personality, Personality and Sports performance
- Nature of motivation: Factors influencing motivation; Motivation and techniques and its impact on sports performance.
- Mental Preparation Strategies: Attention focus, Self- talk, Relaxation, Imaginary.
- Aggression and Sports, Meaning and nature of anxiety, Kinds of anxiety
- Meaning and nature of stress; Types of stress, Anxiety, Stress, Arousal and their effects on sports performance

Unit-III: Relation between Social Science and Physical Education.

- Orthodoxy, customs, Tradition and Physical Education.
- Festivals and Physical Education.
- Socialization through Physical Education.
- Social Group life, Social conglomeration and Social group, Primary group and Remote group.

Unit-4 Culture : Meaning and Importance.

- Features of culture,
- Importance of culture.
- Effects of culture on people life style.
- Different methods of studying Observation/ Inspection method, Questionnaire method, Interview method

References:

- Ball, D. W. & Loy, J. W. (1975). *Sport and social order; Contribution to the sociology of sport*. London: Addison Wesley Publishing Co., Inc.
- Blair, J.& Simpson, R.(1962). *Educational psychology*, New York:McMillan Co.
- Cratty, B. J.(1968). *Psychology and physical activity*. Eaglewood Cliffs. Prentice Hall.

- Kamlesh, M.L. (1998). *Psychology in physical education and sport*. New Delhi: Metropolitan Book Co.
- Loy, J. W., Kenyon, G. S. & McPherson, B. D. (1978). *Sport and social system*. London: Addison Wesley Publishing Company Inc.
- Loy, J. W., Kenyon, G. S. & McPherson, B. D. (1981). *Sports culture and society*. Philadelphia: Lea & Febiger.
- Mathur, S.S., (1962). *Educational psychology*. Agra. Vinod Pustak Mandir.
- Skinner, C. E., (1984.). *Education psychology*. New Delhi: Prentice Hall of India.
- William, F. O. & Meyer, F. N. (1979). *A handbook of sociology*. New Delhi: Eurasia Publishing House Pvt Ltd.

Semester – III**Theory Courses****EC-301 SPORTS MEDICINE, PHYSIOTHERAPY AND REHANLITATION
(ELECTIVE)****STUDENT LEARNING OUTCOMES :**

1. The course intends to provide advanced knowledge of the medical field related to physical activity and sports.
2. The course provides knowledge about how to prevent and rehabilitate physical exercise and sports injuries in sports persons.
3. The students learn about the principles of various muscle and skeleton injuries related to physical exercise and sports
4. The students learn about various methods of adequate examination and treatment of muscle and skeleton injuries related to physical exercise and sports.
5. The students learn about the importance of the diet when going in for sports and the importance of recovery in physical training, exercise and sports

Unit-I: - Sports Medicine:

- Sports Medicine: Meaning, Definition, Aims, Objectives, Modern Concepts and Importance.
- Athletes Care and Rehabilitation: Contribution of Physical Education Teachers and Coaches.
- Need and Importance of the study of sports injuries in the field of Physical Education
- Prevention of injuries in sports – Common sports injuries – Diagnosis –
- First Aid - Treatment - Laceration – Blisters – Contusion - Strain – Sprain – Fracture – Dislocation and Cramps – Bandages – Types of Bandages – trapping and supports.

Unit-II: Physiotherapy

- Definition – Guiding principles of physiotherapy, Importance of physiotherapy, Introduction and demonstration of treatments - Electrotherapy – infrared rays – Ultraviolet rays –short wave diathermy – ultrasonic rays.

Unit-III: Hydrotherapy:

- Introduction and demonstration of treatments of Cry therapy, Thermo therapy, Contrast Bath, Whirlpool Bath – Steam Bath – Sauna Bath – Hot Water Fomentation – Massage: History of Massage – Classification of Manipulation (Swedish System) physiological Effect of Massage.

Unit-IV: Therapeutic Exercise:

- Definition and Scope – Principles of Therapeutic Exercise – Classification, Effects and uses of Therapeutic exercise – passive Movements (Relaxed, Forced and passive -

stretching) – active movements (concentric, Eccentric and static) application of the therapeutic exercise: Free Mobility Exercise – Shoulder, Elbow – Wrist and Finger Joints – Hips, Knee, ankle and Foot joints – Trunk. Head and Neck exercises.

References:

- Christine, M. D., (1999). *Physiology of sports and exercise*. USA: Human Kinetics.
- Conley, M. (2000). *Bioenergetics of exercise training*. In T.R. Baechle, & R.W. Earle, (Eds.), *Essentials of Strength Training and Conditioning* (pp. 73-90). Champaign, IL: Human Kinetics.
- David, R. M. (2005). *Drugs in sports*, (4th Ed). Routledge Taylor and Francis Group.
- Hunter, M. D. (1979). *A dictionary for physical educators*. In H. M. Borrow & R. McGee, (Eds.), *A Practical approach to measurement in Physical Education* (pp. 573-74). Philadelphia: Lea &Febiger.

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- Khanna, G.L., (1990). *Exercise physiology & sports medicine*. Delhi:Lucky Enterprises.
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- Williams, J. G. P. (1962). *Sports medicine*. London: Edward Arnold Ltd.

Semester – III

Theory Courses

EC-302 CURRICULUM DESIGN (Elective)

UNIT-I Modern concept of the curriculum

- Need and importance of curriculum, Need and importance of curriculum development, the role of the teacher in curriculum development.
- Factors affecting curriculum - Social factors - Personnel qualifications - Climatic consideration - Equipment and facilities - Time suitability of hours.
- National and Professional policies, Research finding

UNIT-II Basic Guide line for curriculum construction; contest (selection and expansion).

- Focalization
- Socialization
- Individualization
- Sequence and operation
- Steps in curriculum construction.

UNIT-III Curriculum-Old and new concepts, Mechanics of curriculum planning.

- Basic principles of curriculum construction.
- Curriculum Design, Meaning, Importance and factors affecting curriculum design.
- Principles of Curriculum design according to the needs of the students and state and national level policies.
- Role of Teachers

UNIT-IV Under-graduate preparation of professional preparation.

- Areas of Health education, Physical education and Recreation.
- Curriculum design-Experience of Education, Field and Laboratory.
- Teaching practice.
- Professional Competencies to be developed-Facilities and special resources for library, laboratory and other facilities.

Reference:

- Barrow, H. M. (1983). *Man and movement: principles of physical education*. Philadelphia: Lea and Febiger.
- Bucher, C. A. (1986). *Foundation of physical education*: St. Louis: The C. V. Mosby & Company.
- Cassidy, R. (1986). *Curriculum development in physical education*. New York: Harper & Company.

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- Larson, L.A. (n.d.). *Curriculum foundation in physical education*. Englewood Cliffs: N.J. Prentice Hall Inc.
- Underwood, G. L. (1983). *The physical education curriculum in secondary school: planning and implementation*. England: Taylor and Francis Ltd.
- Willgoose, C.E. (1979). *Curriculum in physical education*. 3rd Ed. Englewood Cliffs.: N.J. Prentice Hall, Inc.

Semester – IV**Theory Courses****CC-401 MEASUREMENT AND EVALUATION IN PHYSICAL EDUCATION****STUDENT LEARNING OUTCOMES :**

1. The students will be familiar with the need and importance of measurement and evaluation in physical education.
2. The students will understand the criteria for a good test.
3. The students will be able to understand the various types of tests and its classification.
4. They will have understanding about some important physical fitness tests.
5. The students will grasp the knowledge about some selective sports skill tests.

Unit- I Introduction to Test & Measurement & Evaluation

- Meaning of Test & Measurement & Evaluation in Physical Education
- Need & Importance of Test & Measurement & Evaluation in Physical Education
- Principles of Evaluation

Unit- II Criteria; Classification and Administration of test

- Criteria of good Test
- Criteria of tests, scientific authenticity (reliability, objectivity, validity and availability of norms)
- Type and classification of Test
- Administration of test, advance preparation – Duties during testing – Duties after testing.

Unit- III Physical Fitness Tests

- AAHPER youth fitness test
- National physical Fitness Test
- Indiana Motor Fitness Test
- JCR test
- U.S Army Physical Fitness Test

Unit- IV Sports Skill Tests

- Lockhart and McPherson badminton test
- Johnson basketball test
- McDonald soccer test
- S.A.I volleyball test
- S.A.I Hockey test

References:

Bangsbo, J. (1994). *Fitness training in football: A scientific approach*. Bagsvaerd, Denmark:

Ho+Storm.

Barron, H. M., & Mchee, R. (1997). *A practical approach to measurement in physical education*. Philadelphia: Lea and Febiger.

Barron, H.M. & Mchee, R. (1997). *A Practical approach to measurement in physical education*. Philadelphia: Lea and Febiger.

Kansal, D.K. (1996). *Test and measurement in sports and physical education*. New Delhi: D.V.S. Publications.

Mathews, D.K., (1973). *Measurement in physical education*, Philadelphia: W.B.SoundersCompnay.

Pheasant, S. (1996). *Body space: anthropometry, ergonomics and design of work*. Taylor & Francis, New York.

Phillips, D. A., &Hornak, J. E. (1979). *Measurement and evaluation in physical education*. New York: John Willey and Sons.

Sodhi, H.S., & Sidhu, L.S. (1984). *Physique and selection of sports- a kinanthropometric study*. Patiala: Punjab Publishing House.

Semester – IV
Theory Courses

CC-402 KINESIOLOGY AND BIOMECHANICS

STUDENT LEARNING OUTCOMES :

1. The students will get knowledge regarding basics of kinensiology and biomechanics.
2. The students will learn about some fundamental concepts namely centre of gravity, equilibrium and axes etc.
3. The fundamental concept of anatomy and physiology will be added to students knowledge base.
4. The students will learn about various mechanical concepts namely force, lever etc. of biomechanics.
5. The theory of linear and angular kinematics will be learned by the students.

Unit – I Introduction to Kinesiology and Sports Biomechanics

- Meaning and Definition of Kinesiology and Sports Biomechanics
- Importance of Kinesiology and Sports Biomechanics to Physical Education Teacher, Athletes and Sports Coaches.
- Terminology of Fundamental Movements
- Fundamental concepts of following terms – Axes and Planes, Centre of Gravity, Equilibrium, Line of Gravity

Unit – II Fundamental Concept of Anatomy and Physiology

- Classification of Joints and Muscles
- Types of Muscle Contractions
- Posture – Meaning, Types and Importance of good posture.
- Fundamental concepts of following terms- Angle of Pull, All or None Law, Reciprocal Innovation

Unit – III Mechanical Concepts

- Force - Meaning, definition, types and its application to sports activities
- Lever - Meaning, definition, types and its application to human body.
- Newton’s Laws of Motion – Meaning, definition and its application to sports activities.
- Projectile – Factors influencing projectile trajectory.

Unit – IV Kinematics and Kinetics of Human Movement

- Linear Kinematics – Distance and Displacement, speed and velocity, Acceleration
- Angular kinematics – Angular Distance and Displacement, Angular Speed and velocity, Angular Acceleration.
- Linear Kinetics – Inertia, Mass, Momentum, Friction.

- Angular Kinetics – Moment of inertia ,Couple, Stability.

Reference:

Bunn, J. W. (1972).*Scientific principles of coaching*. Englewood Cliffs, N.J.: Prentice Hall Inc.

Hay, J. G. & Reid, J. G.(1982).*The anatomical and mechanical basis of human motion*. Englewood Cliffs, N.J.: prentice Hall Inc.

Hay, J. G. & Reid, J. G.(1988).*Anatomy, mechanics and human motion*. Englewood Cliffs, N.J.: prentice Hall Inc.

Hay, J. G. (1970).*The biomechanics of sports techniques*. Englewood Cliffs, N.J.: Prentice Hall, Inc.

Simonian, C.(1911).*Fundamentals of sport biomechanics*. Englewood Cliffs, N.J.: Prentice Hall Inc.

Semester – IV
Theory Courses

CC-403 RESEARCH AND STATISTICS IN PHYSICAL EDUCATION

1. To develop understand of the basic framework of research process.
2. To identify appropriate research topics.
3. To identify various sources of information for literature review and data collection.
4. To understand and apply basic research methods including research design, data analysis, and interpretation.
5. To develop testable hypotheses, differentiate research design, evaluate aptness of research conclusions, and generalize them appropriately.
6. To know how to apply the basic aspects of the research process in order to plan and execute a research proposal and research report.

Unit-I Introduction to Research

- Definition of Research
- Need and importance of Research in Physical Education and Sports.
- Scope of Research in Physical Education & Sports.
- Classification of Research
- Research Problem, Meaning of the term, Location and criteria of Selection of Problem, Formulation of a Research Problem, Limitations and Delimitations.

Unit-II Survey of Related Literature

- Need for surveying related literature.
- Literature Sources, Library Reading
- Research Proposal, Meaning and Significance of Research Proposal.
- Preparation of Research proposal / project.
- Research Report: A group project is to be undertaken by a small batch of students under the supervision of a teacher, wherein it is expected to survey school facilities of physical education, health assessment programme evaluation, fitness status of the students, staff and other stakeholders etc. and submit the report to the institution.

Unit-III Basics of Statistical Analysis

- Statistics: Meaning, Definition, Nature and Importance
- Class Intervals: Raw Score, Continuous and Discrete Series, Class Distribution, Construction of Tables
- Graphical Presentation of Class Distribution: Histogram, Frequency Polygon, Frequency Curve. Cumulative Frequency Polygon, Ogive, Pie Diagram

Unit- IV Statistical Models in Physical Education and Sports

- Measures of Central Tendency: Mean, Median and Mode-Meaning, Definition, Importance, Advantages, Disadvantages and Calculation from Group and Ungrouped data
- Measures of Variability: Meaning, importance, computing from group and ungroup data
- Percentiles and Quartiles: Meaning, importance, computing from group and ungroup data

References:

Best, J.W. (1963). *Research in education*. U.S.A.: Prentice Hall.

Bompa, T. O. &Haff, G. G. (2009). *Periodization: theory and methodology of training*, 5th ed.
Champaign, IL: Human Kinetics.

Brown, L. E., &Ferrigno, V. A. (2005). *Training for speed, agility and quickness*, 2nd ed.
Champaign, IL: Human Kinetics.

- Brown, L.E. & Miller, J., (2005). *How the training work*. In: Training Speed, Agility, and Quickness. Brown, L.E. & Ferrigno, V.A & Ferrigno, V.A., eds. Champaign, IL: Human Kinetics.
- Carl, E. K., & Daniel, D. A. (1969). *Modern principles of athletes training*. St. Louis: St. Louis's Mosby Company.
- Clark, H. H., & Clark, D. H. (1975). *Research process in physical education*. Englewood cliffs, New Jersey: Prentice Hall, Inc.
- Garrett, H.E. (1981). *Statistics in psychology and education*. New York: VakilsFeffer and Simon Ltd.
- Oyster, C. K., Hanten, W. P., & Llorens, L. A. (1987). *Introduction to research: A guide for the health science professional*. Landon: J.B. Lippincott Company.
- Thomas, J.R., & Nelson J.K. (2005). *Research method in physical activity*. U.S.A: Champaign, IL: Human Kinetics Books.
- Thomas, J.R., Nelson, J.K. & Silverman, S.J. (2011). *Research method in physical activity*. U.S.A: Champaign, IL: Human Kinetics Books.
- Uppal, A. K. (1990). *Physical fitness: how to develop*. New Delhi: Friends Publication.
- Verma, J. P. (2000). *A text book on sports statistics*. Gwalior: Venus Publications.

Semester – IV
Theory Courses

EC-401 THEORY OF SPORTS AND GAMES (ELECTIVE)

UNIT-I-INTRODUCTION

General Introduction of specialized games and sports–

- Athletics,
- Badminton,
- Basketball,
- Cricket,
- Football,
- Gymnastic,
- Hockey,
- Handball,
- Kabaddi,
- Kho-Kho,
- Tennis,
- Volleyball and
- Yoga.

Each game or sports to be dealt under the following heads

- History and development of the Game and Sports
- Ground preparation, dimensions and marking
- Standard equipment and their specifications
- Ethics of sports and sportsmanship

UNIT-II Scientific Principles of coaching: (particular sports and game specific)

- Motion – Types of motion and Displacement, Speed, Velocity, Acceleration, Distance and Newton's Law of motions.
- Force – Friction, Centripetal and Centrifugal force, Principles of force.
- Equilibrium and its types
- Lever and its types
- Sports Training – Aims, Principles and characteristics.
- Training load – Components, Principles of load, Over Load (causes and symptoms).

UNIT-III Physical fitness components: (particular sports and game specific)

- Speed and its types
- Strength and its types
- Endurance and its types
- Flexibility and its types
- Coordinative ability and its types

- Training methods: - Development of components of physical fitness and motor fitness through following training methods (continuous method, interval method, circuit method, fartlek /speed play and weight training)

UNIT-IV Conditioning exercises and warming up.

- Concept of Conditioning and warming up.
- Role of weight training in games and sports.
- Teaching of fundamental skill & their mastery (technique, tactic and different phases of skill acquisition).
- Recreational and Lead up games
- Strategy – Offence and defense, Principles of offence and defense.

References:

- Bunn, J. W. (1968). *The art of officiating sports*. Englewood cliffs N.J. Prentice Hall.
- Bunn, J. W. (1972). *Scientific principles of coaching*. Englewood cliffs N. J. Prentice Hall.
- Dyson, G. H. (1963). *The mechanics of athletics*. London: University of London Press Ltd.
- Lawther, J.D. (1965). *Psychology of coaching*. New York: Pre. Hall.
- Singer, R. N. (1972). *Coaching, athletic & psychology*. New York: M.C. Graw Hill.

Semester – IV**Theory Courses****EC-402 SPORTS MANAGEMENT****Unit-I**

- Nature and Concept of Sports Management.
- Progressive concept of Sports management.
- The purpose and scope of Sports Management.
- Essential skills of Sports Management.
- Qualities and competencies required for the Sports Manager.
- Event Management in physical education and sports.

Unit-II

- Meaning and Definition of leadership
- Leadership style and method.
- Elements of leadership.
- Forms of Leadership.
 - Autocratic
 - Laissez-faire
 - Democratic
 - Benevolent Dictator
- Qualities of administrative leader.
- Preparation of administrative leader.
- Leadership and Organizational performance.

Unit-III

- Sports Management in Schools, colleges and Universities.
- Factors affecting planning
- Planning a school or college sports programme.
- Directing of school or college sports programme.
- Controlling a school, college and university sports programme.
 - Developing performance standard
 - Establishing a reporting system
 - Evaluation
 - The reward/punishment system

Unit-IV

- Financial management in Physical Education & sports in schools, Colleges and Universities.
- Budget – Importance, Criteria of good budget,
- Steps of Budget making
- Principles of budgeting

REFERENCES:

- Ashton, D. (1968). *Administration of physical education for women*. New York: The Ronal Press Cl.
- Bucher, C.A. *Administration of physical education and athletic programme*. 7th Edition, St. Louis: The C.V. Mosby Co.
- Daughtrey, G. & Woods, J.B. (1976). *Physical education and intramural programmes, organisation and administration*. Philadelphia U.S.A. : W.B. Saunders Cp.
- Earl, F. Z, & Gary, W. B. (1963). *Management competency development in sports and physical education*. Philadelphia: W. Lea and Febiger.

Part – B Practical Courses

PC - 101

Track and Field:

Semester – I

Running Event

- Starting techniques: Standing start, Crouch start and its variations, Proper use of blocks.
- Finishing Techniques: Run, Through, Forward lunging, Shoulder Shrug
- Ground Marking, Rules and Officiating
- Hurdles:
 - Fundamental Skills- Starting, Clearance and Landing Techniques.
 - Types of Hurdles
 - Ground Marking and Officiating.

Relays: Fundamental Skills

- Various patterns of Baton Exchange
- Understanding of Relay Zones
- Ground Marking
- Interpretation of Rules and Officiating.

PC 102

Gymnastics: Floor Exercise

- Forward Roll, Backward Roll, Sideward Roll, different kinds of scales, Leg Split, Bridge, Dancing steps, Head stand, Jumps-leap, scissors leap.
- Vaulting Horse
- Approach Run, Take off from the beat board, Cat Vault, Squat Vault.

PC – 102

Swimming: Fundamental Skills

- Entry into the pool.
- Developing water balance and confidence
- Water fear removing drills.
- Floating-Mushroom and Jelly fish etc.
- Gliding with and without kickboard.
- Introduction of various strokes
- Body Position, Leg, Kick, Arm pull, Breathing and Co ordination.
- Start and turns of the concerned strokes.
- Introduction of Various Strokes.
- Water Treading and Simple Jumping.

- Starts and turns of concerned strokes.
- Rules of Competitive swimming-officials and their duties, pool specifications, seeding heats and finals, Rules of the races.

PC – 102**Shooting Fundamental Skills**

- Basic stance, grip, Holding rifle/ Pistol, aiming target
- Safety issues related to rifle shooting
- Rules and their interpretations and duties of officials

(Any one out of three)**PC – 103 Indigenous sports:****Kabaddi: Fundamental Skills**

- Skills in Raiding-Touching with hand, various kicks, crossing of baulk line, Crossing of Bonus line, luring the opponent to catch, Pursuing.
- Skills of Holding the Raider-Variations formations, Catching from particular position, Different catches, Luring the raider to take particular position so as to facilitate catching, catching formations and techniques.
- Additional skills in raiding-Bringing the antis in to particular position, Escaping from various holds, Techniques of escaping from chain formation, Combined formations in offence and defense.
- Ground Marking, Rules and Officiating

PC – 103**Malkhambh and Light Apparatus:**

- Lathi-Two counts exercises, Four Count exercises, eight count exercises, sixteen count exercises.
- GhatiLezuim-AathAawaaz, Bethakawaaz, AagePaon, Aagekadam, Do pherawaaz, Chau pherawaaz, Kadamtaal, Pavitra, Uchhakpavitra, Kadampavitra.
- Mass P.T. Exercises-Two count, four count and eight count exercises.
- Hindustani Lezuim-Char Awaaz, EkJagah, AantiLagaav, Pavitra, Do Rukh, Chau Rukh, Chau rukhbethak, Momiya.
- Drill and Marching
- Malkhamb-Salaami, Hold, Saadiudi, Bagaludi, Dashrangudi, Bagliudi, Veludi, Soydoro, Phirki, Padmasana, T.Balance, Pataka, Landing.
- Rope Malkhamb-Salaami, PadmasanaChadh, Katibandh1-2, Sadiadhi, Rikebpakkad, Rikebpagniadhi, Kamaradhi, Nakkikasadhi, Kamaradhi, Nakkikasadhi, Urubandhtedhi, Sadibagli, Do hatibagli, Kamarbandhbagli, nakkikasbagli, Dashrang, Hanuman pakad, Gurupakkad, various padmasana, Landing.

PC - 104**Kho Kho:**

- General skills of the game-Running, chasing, Dodging, Faking etc.
- Skills in chasing-Correct Kho, Moving on the lanes, Pursuing the runner, Tapping the inactive runner, Tapping the runner on heels, Tapping on the pole, Diving, Judgement in giving Kho, Rectification of Foul.
- Skills in Running-Zig zag running, Single and double chain, Ring play, Rolling in the sides, Dodging while facing and on the back, fakes on the pole, fake legs, body arm etc, Combination of different skills.
- Ground Marking
- Rules and their interpretations and duties of officials.

PC – 104**Dumbbells/ Wands/ Hoop/ Umbrella/ Tipri:****Fundamentals skills**

- Apparatus/ Light apparatus Grip
- Attention with apparatus/ Light apparatus
- Stand – at – ease with apparatus/ light apparatus
- Exercise with verbal command, drum, whistle and music – Two count, Four count, Eight count and Sixteen count.
- Standing Exercise
- Jumping Exercise
- Moving Exercise
- Combination of above all

STUDENT LEARNING OUTCOMES:

1. Learn skills, technique of the Game/Sport.
2. Learn the layout and marking and rules of the Game/Sport.
3. Be able to develop drills & lead up activities of Game/Sport.
4. Learn officiating of Game/Sport.
5. Develop teaching ability of Game/Sport

Semester – II**PC – 201****Track and Field****Athletics: Jumping Events**

- High Jump (Straddle Roll)

- Approach Run,
- Take off
- Clearance over the bar.
- Landing

PC – 202**Gymnastics:**

- Parallel Bar:
- Mount from one bar
- Straddle walking on parallel bars.
- Single and double step walk
- Perfect swing
- Shoulder stand on one bar and roll forward.
- Roll side
- Shoulder stand
- Front on back vault to the side(dismount)
- Horizontal /Single Bar:
- Grip
- Swings
- Fundamental Elements
- Dismount
- Uneven Parallal Bar:
- Grip
- Swings
- Fundamental Elements
- Dismount

PC – 202**Yoga:**

- Surya Namaskara,
- Pranayams
- Corrective Asanas
- Kriyas
- Asanas
 - Sitting
 - Standing
 - Laying Prone Position,
 - Laying Spine Position

PC – 202**Swimming:****Introduction of water polo game**

- Fundamental skills
- Swimm with the ball
- Passing
- Catching
- Shooting
- Goal keeping
- Rules of the games and responsibility of officials

Introduction of Diving sports.

- Basic Diving Skills from spring boards
- Basic Diving Skills from platform

PC – 202**Aerobics:** Introduction of Aerobics

- Rhythmic Aerobics - dance
- Low impact aerobics
- High impact aerobics
- Aerobics kick boxing
- Postures – Warm up and cool down
- THR Zone – Being successful in exercise and adaptation to aerobic workout.

PC - 203**Badminton:** Fundamental Skills

- Racket parts, Racket grips, Shuttle Grips.
- The basic stances.
- The basic strokes-Serves, Forehand-overhead and underarm, Backhand-overhead and underarm
- Drills and lead up games
- Types of games-Singles, doubles, including mixed doubles.
- Rules and their interpretations and duties of officials.

PC - 203**Table Tennis: Fundamental Skills**

- The Grip-The Tennis Grip, Pen Holder Grip.
- Service-Forehand, Backhand, Side Spin, High Toss.
- Strokes-Push, Chop, Drive, Half Volley, Smash, Drop-shot, Balloon, Flick Shot, Loop Drive.
- Stance and Ready position and foot work.
- Rules and their interpretations and duties of officials.

PC – 203**Squash** Fundamental Skills

- Service- Under hand and Over hand
- Service Reception
- Shot- Down the line, Cross Court
- Drop
- Half Volley
- Tactics – Defensive, attacking in game
- Rules and their interpretations and duties of officials.

PC – 203**Tennis:** Fundamental Skills.

- Grips- Eastern Forehand grip and Backhand grip, Western grip, Continental grip, Chopper grip.
- Stance and Footwork.
- Basic Ground strokes-Forehand drive, Backhand drive.
- Basic service.
- Basic Volley.
- Over-head Volley.
- Chop
- Tactics – Defensive, attacking in game
- Rules and their interpretations and duties of officials.

STUDENT LEARNING OUTCOMES :

1. Learn and master fundamental skills, technique of the Game/Sport.
2. Learn the layout and marking, rules of the Game/Sport.
3. Be able to develop drills & lead up activities of Game/Sport.
4. To learn officiating of Game/Sport.
5. Develop teaching ability of Game/Sport

Semester – III

PC – 301

Track and fields (Throwing Events)

- Discus Throw, Javelin, Hammer throw, shot-put
- Basic Skills and techniques of the Throwing events
- Ground Marking / Sector Marking
- Interpretation of Rules and Officiating.
- Grip
- Stance
- Release
- Reserve/ (Follow through action)
- Rules and their interpretations and duties of officials

PC – 302

Boxing: Fundamental Skills

- Player stance
- Stance - Right hand stance, left hand stance.
- Footwork – Attack, defense.
- Punches – Jab, cross, hook, upper cut, combinations.
- Defense slip – bob and weave, parry/block, cover up, clinch, counter attack
- Tactics – Toe to toe, counter attack, fighting in close, feinting
- Rules and their interpretations and duties of officials.

PC – 302

Martial Arts/Karate: Fundamental Skills

- Player Stances – walking, hand positions, front-leaning, side-fighting.
- Hand Techniques - Punches (form of a punch, straight punch, and reverse punch), Blocks (eight basic).
- Leg Techniques - Snap kicks, stretching straight leg, thrust kicks, sidekicks, round house.
- Forms - The first cause Katas.
- Self Defense - against punches, grabs and strikes, against basic weapons (knife, club sticks).
- Sparring - One step for middle punch, high punch and groin punch. (Defended by appropriate block from eight basic blocks).
- Rules and their interpretations and duties of officials.

PC – 302**Taekwondo Fundamental Skills**

- Player Stances – walking, extending walking, L stance, cat stance.
- Fundamental Skills – Sitting stance punch, single punch, double punch, triple punch.
- Punching Skill from sparring position – front-fist punch, rear fist punch, double punch, and four combination punch.
- Foot Techniques (Balgisul) – standing kick (soseochagi), Front kick (AP chagi), Arc kick (BandalChagi), Side kick, (YeopChagi), Turning kick (DollyoChagi), Back kick (Twit Chagi), Reverse turning kick (BandaedollyoChagi), Jump kick (TwimyoChagi),
- Poomsae (Forms) – Jang, Yi Jang, Sam Jang, Sa Jang, O Jang, Yook Jang, Chil Jang, Pal Jang (Fundamental Movement – eye control, concentration of spirit, speed control, strength control, flexibility, balance, variety in techniques)
- Sparring (Kyorugi) – One Step Sparring (hand techniques, foot techniques, self defense techniques, combination kicks), Free Sparring.
- Board Breaking (Kyokpa) – eye control, balance, power control, speed, point of attack.
- Rules and their interpretations and duties of officials.

PC – 302**Judo: Fundamental skills**

- Rei (Salutation)-Ritsurei(Salutation in standing position), Zarai (Salutation in the sitting position)
- Kumi kata (Methods of holding judo costume)
- Shisei (Posture in Judo)
- Kuzushi (Act of disturbing the opponent posture)
- Tsukuri and kake (Preparatory action for attack)
- Ukemi (Break Fall)-UrhiroUkemi (Rear break Fall), Yoko Ukemi (Side Break Fall), Mae Ukemi (Front Break Fall), Mae mawariUkemi (Front Rolling break fall)
- Shin Tai (Advance or retreat foot movement)-Suri-ashi (Gliding foot), Twugi-ashi (Following footsteps), Ayumi-ashi (Waling steps).
- Tai Sabaki (Management of the body)
- NageWaze (Throwing techniques)-HizaGuruma (Knee wheel), SesaeTwurikomi-ashi (Drawing ankle throw), De ashihari (Advance foot sweep), O Goshi (Major loimn), SeoiNage (Shoulder throw).
- Katamawaze(Grappling techniques)-Kesogatame (Scaff hold), Kata gatame (Shoulder hold), Kami shihogatama (Locking of upper four quarters), Method of escaping from each hold.

PC – 302**Wrestling: Fundamental Skills**

- Take downs, Leg tackles, Arm drag.
- Counters for take downs, Cross face, Whizzer series.
- Escapes from under-sit-out turn in tripped.
- Counters for escapes from under-Basic control back drop, Counters for stand up.
- Pinning combination-Nelson series(Half Nelson, Half Nelson and Bar arm), Leg lift series, Leg cradle series, Reverse double bar arm, chicken wing and half Nelson.
- Escapes from pinning: Wing lock series, Double arm lock roll, Cridge.
- Standing Wrestling-Head under arm series, whizzer series
- Referees positions.

PC – 302**Fencing: Fundamental Skill**

- Basic Stance - on-guard position (feet and legs)
- Footwork – advance, retire, lunge, Step-lunge
- Grip – hold a foil correctly, Etiquette – salute and handshake to coaches and partners
- Hit a target (glove, mask, person) at riposte distance
- Lunge from an on-guard position.
- Attack - simple attacks from sixte – direct, disengage, doublé attack, compound attacks high line – one-two and cut-over disengage, Cut-over attack, Low line attacks
- Semi circular parries – octave and septime
- Understand the layout of a piste.
- Compound or successive parries.
- Lateral parry and direct riposte
- Fence a bout – judges etc. salutes and handshakes
- Rules and their interpretations and duties of officials.

PC 303 Team Games**PC 303****Base Ball Fundamental Skills**

- Player Stances – walking, extending walking, L stance, cat stance.
- Grip – standard grip, choke grip,
- Batting – swing and bunt.
- Pitching –

- Baseball : slider, fast pitch, curve ball, drop ball, rise ball, change up, knuckle ball, screw ball,
- Softball: windmill, sling shot,
- starting position: wind up, set.
- Fielding –
 - Catching: basics to catch fly hits, rolling hits,
 - Throwing: over arm, side arm.
- Base running –
 - Base running: single, double, triple, home run,
 - Sliding: bent leg slide, hook slide, head first slide.
- Rules and their interpretations and duties of officials.

PC 303**Netball: Fundamental Skills**

- Catching: one handed, two handed, with feet grounded, in flight.
- Throwing (different passes and their uses): one handed passes (shoulder, high shoulder, underarm, bounce, lob); two handed passes (push, overhead, bounce).
- Footwork: landing on one foot; landing on two feet; pivot; running pass.
- Shooting: one hand; two hands; forward step shot; backward step shot.
- Techniques of getting free: dodge and sprint; sudden sprint; sprint and stop; sprinting with change of speed.
- Defending: marking the player; marking the ball; blocking; inside the circle; outside the circle (that is, defending the circle edge against the pass in).
- Intercepting: pass; shot.
- The toss-up.
- Role of individual players
- Rules and their interpretations and duties of officials.

PC – 303**Cricket: Fundamental Skills**

- Batting-Forward and backward defensive stroke
- Bowling-Simple bowling techniques
- Fielding-Defensive and offensive fielding
- Catching-High catching and Slip catching
- Stopping and throwing techniques
- Wicket keeping techniques

PC 303**Football: Fundamental Skills**

- Kicks-Inside kick, Instep kick, Outer instep kick, lofted kick
- Trapping-trapping rolling the ball, trapping bouncing ball with sole
- Dribbling-With instep, inside and outer instep of the foot.
- Heading-From standing, running and jumping.
- Throw in
- Feinting-With the lower limb and upper part of the body.
- Tackling-Simple tackling, Slide tackling.
- Goal Keeping-Collection of balls, Ball clearance-kicking, throwing and deflecting.

PC 303**Hockey: Fundamental Skills**

- Player stance & Grip
- Rolling the ball
- Dribbling
- Push
- Stopping
- Hit
- Flick
- Scoop
- Passing – Forward pass, square pass, triangular pass, diagonal pass, return pass,
- Reverse hit
- Dodging
- Goal keeping – Hand defence, foot defence
- Positional play in attack and defense.
- Rules and their interpretations and duties of officials.
- Rules and their interpretations and duties of officials.
- Ground Marking.

PC – 303**Softball Fundamental Skills**

- Catching: one handed, two handed, with feet grounded, in flight.
- Throwing (different passes and their uses): one handed passes (shoulder, high shoulder, underarm, bounce, lob); two handed passes (push, overhead, bounce).
- Footwork: landing on one foot; landing on two feet; pivot; running pass.
- Shooting: one hand; two hands; forward step shot; backward step shot.

- Techniques of getting free: dodge and sprint; sudden sprint; sprint and stop; sprinting with change of speed.
- Defending: marking the player; marking the ball; blocking; inside the circle; outside the circle (that is, defending the circle edge against the pass in).
- Intercepting: pass; shot.
- The toss-up.
- Role of individual players
- Rules and their interpretations and duties of officials.

PC 303**Volleyball: Fundamental Skills**

- Players Stance-Receiving the ball and passing to the team mates,
- The Volley (Over head pass),
- The Dig(Under hand pass).
- Service-Under Arm Service, Side Arm Service, Tennis Service, Round Arm Service.
- Rules and their interpretations and duties of officials.

PC - 303**Hand Ball:**

- Fundamental Skills-Catching, Throwing, Ball Control, Goal Throws-Jump Shot, Centre Shot, Dive Shot, Reverse Shot, Dribbling-High and Low, Attack and Counter Attack, Simple Counter Attack, Counter Attack from two wings and centre, Blocking, Goal keeping, Defense.
- Rules and their interpretations and duties of officials.

PC – 303**Basket ball: Fundamental Skills**

- Player stance and ball handling
- Passing-Two Hand chest pass, Two hand Bounce Pass, One Hand Base ball pass, Side Arm Pass, Over Head pass, Hook Pass.
- Receiving-Two Hand receiving, One hand receiving, Receiving in stationary position, Receiving while jumping, Receiving while running.
- Dribbling-How to start dribble, How to drop dribble, High dribble, Low dribble, Reverse dribble, Rolling dribble.
- Shooting-Layup shot and its variations, one hand set shot, One hand jump shot, Hook shot, Free throw.
- Rebounding-Defensive rebound, Offensive rebound, Knock out, Rebound Organization.
- Individual Defensive-Guarding the man with the ball and without the ball.
- Pivoting.
- Rules and their interpretations and duties of the officials.

STUDENT LEARNING OUTCOMES :

6. Learn and master fundamental skills, technique of the Game/Sport Teaching
7. Learn the layout and marking, rules of the Game/Sport
8. Be able to develop drills & lead up activities of Game/Sport.
9. To learn officiating of Game/Sport
10. Develop teaching ability of Game/Sport

- TP – 201** Teaching practices:
10 teaching practice lessons out of which 5 lessons in class-room situation and 5 lessons for out-door activities within premises on the students of B.P.Ed course.
- TP – 301** Teaching practices:
10 teaching lesson plans for Racket Sport/ Team Games/ Indigeneous Sports out of which 5 lessons internal and 5 lessons external at school.
- TP – 401** **Sports Specialization: Track and field / Gymnastics / Swimming**
(4 internal lesson at prticing school and 1 final external lesson on the students of practicing school as a sports specialization of any discipline mentioned above.)
- TP- 402** **Games Specialization: Kabaddi, Kho-kho, Base ball, cricket, Football, Hockey, Softball Volleyball, Handball, Basketball, Netball, Badminton, Table Tennis, Squash, Tennis**

STUDENT LEARNING OUTCOMES :

1. To develop teaching ability master Advance skills, technique of the Game/Sport Teaching
2. Learn the layout and marking, rules of the Game/Sport
3. Be able to develop drills & lead up activities of Game/Sport
4. To learn officiating of Game/Sport.
5. Develop teaching ability of Game/Sport

(4 internal lesson at prticing school and 1 final external lesson on the students of practicing school as a games specialization of any discipline mentioned above.)

Note: Where ever details of any activities are not mentioned, it is expected to elaborate skills by the competent bodies of local Universities.

Table – 1: Semester wise distribution of hours per week

Semester	Theory	Practicum	Teaching practice	Total
<i>I</i>	16	24	00	40
<i>II</i>	16	18	6	40
<i>III</i>	16	18	6	40
<i>IV</i>	16	12	12	40
<i>Total</i>	64	72	24	160
<i>Minimum of 36 teaching hours per week is required in five or six days in a week</i>				

Table – 2: Number of credits per semester

Semester	Theory	Practicum	Teaching practice	Total
<i>I</i>	16	16	00	32
<i>II</i>	16	12	04	32
<i>III</i>	16	12	04	32
<i>IV</i>	16	08	08	32
<i>Total</i>	64	48	16	128
<i>Minimum of 36 teaching hours per week is required in five or six days in a week</i>				



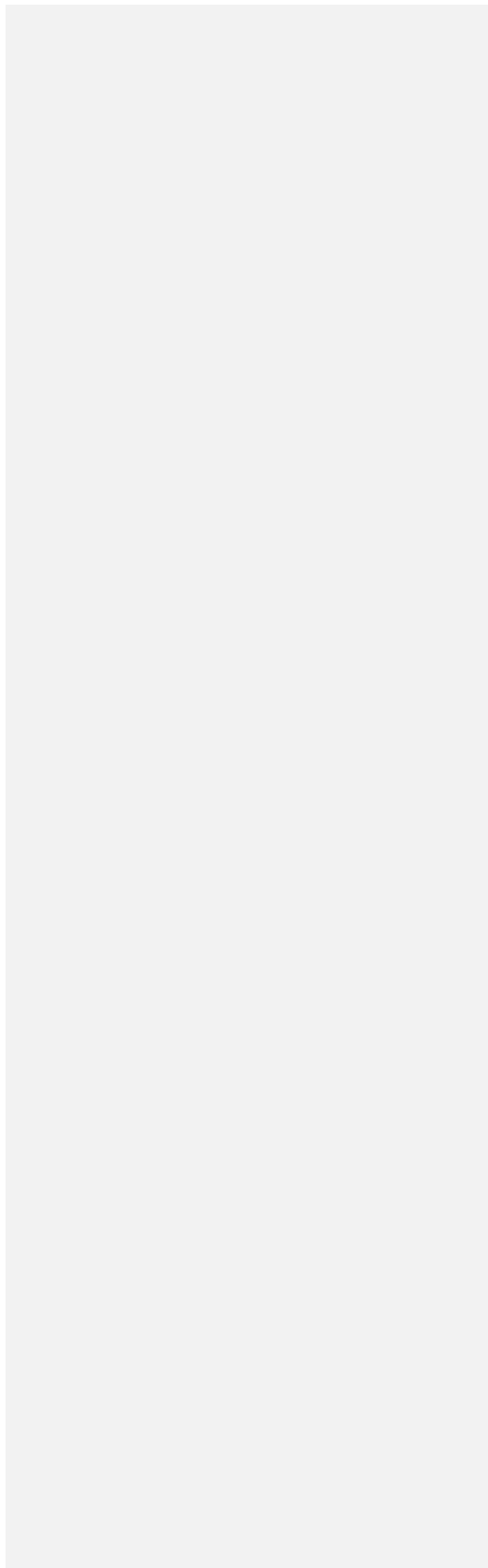
LEARNING OUTCOMES-BASED CURRICULUM
FRAMEWORK (LOCF)

POSTGRADUATE PROGRAMME IN PHYSICAL
EDUCATION



JANUARY 1, 2020

**SCHOOL OF STUDIES IN PHYSICAL
EDUCATION**



**SCHOOL OF STUDIES IN PHYSICAL
EDUCATION**

**Pt. Ravishankar Shukla University
Raipur 492 010, Chhattisgarh**



Syllabus

MASTER OF PHYSICAL EDUCATION

M.P.Ed
(Semester System)

Session

2020-2021

Preamble

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6.1	Credit Distribution for MPEd	
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6.3	Semester-wise Course/Paper and Credit Distribution	
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1. INTRODUCTION

In the contemporary age of technology and science, Physical Education programme occupies an important place in the education system. This high-tech epoch has mechanised the human life and curbed the manual labour to its bare minimum. In context to the vibrant and contextual changes of the world it is essential to assimilate the Physical Education curriculum in the Courses. The increasing rate of physical inactivity in alarming are has an urge to call for such curriculum to decrease the rate and prevalence of disease in the modern era. Moreover, the pace of growth of research and development in each facet of the society has increased the leisure to its greatest extent. In this scenario, all round development including physical, mental, emotional and cultural is inescapable. Hence, Physical Education is given a prime importance in school as well in higher education. To create awareness towards physical fitness and make the students socially active is a prime importance of the Physical Education. Physical Education is focused towards developing healthy lifestyles and physical fitness among the students via emerging their physical competence, knowledge about safety and confidence.

The wide range of activities of physical education fraternity can merge physiological, psychological and sociological environment in totality to nurture a harmonic community It is very much vital to devise a significant programme of Physical Education in the beginning of the session and then accomplish it effectively in an organized way. The physical education program is steadfast to make physically, mentally and socially stable

students who will be proven as the nation builders and allocate their efforts to construct a new and healthy society.

The aim of Physical Education programme is to make healthy, physically fit, socially active and morally stable builders of a new society and true defenders of their nation. The aim of Physical Education programmes is imparting health, comprehensive and harmonious development of human body and their functions.

There is heartfelt necessity of constituting a well-defined curriculum of Physical Education and execute in wider level to promote with specialized human knowledge.

2. LEARNING OUTCOME BASED APPROACH TO CURRICULUM PLANNING IN PHYSICAL EDUCATION.

The learning outcome of Physical Education is tending towards wide range of activities. In addition to developing lifelong physical competence it is supposed to inculcate positive values, generic skills and positive attitude in the students. It should motivate the students to engage in routine physical activities. To enable the students to demonstrate their knowledge about physical fitness and to maintain a health enhancing level of fitness. It is expected that students will understand the basic principles of lifetime wellness and disseminates this to the community and society. Students will learn new curriculum considering new educational trend and comply with technology.

2.1 NATURE AND EXTENT OF M.P.Ed. PROGRAMME IN PHYSICAL EDUCATION

Physical education imparts knowledge through physical mode or in other words, learning in physical context is the basic nature of physical education. To develop physical competence through specific knowledge and skills. It affords a holistic vision of societal, personal and environmental health. The extent of physical education is the following:

- Skills Development including developing skills like agility, IQ, Strength, Speed, endurance, flexibility and complete fitness

- Developing good health through physical and recreational activities
- Sportsmanship -through including yoga, games of teamwork etc.
- Integration of physical, social, mental and spiritual activities.

2.2 AIMS OF MASTER’S DEGREE PROGRAM IN PHYSICAL EDUCATION

Physical Education integrates the education process by principally converging on body or physique without which the education of a child is incomplete. Following are the aims:

1. Master’s degree level Physical education program is determined towards developing consciousness towards health and accountable for developing physical, mental and social domain of an individual.
2. To ensure global competitiveness by developing national and international generic skills through facilitating teaching modes.
3. 2. It strives to make a perfect balance between and curricular and co-curricular activities. It not only develops progressive change within an individual but also instruct team spirit in them.
4. Unceasingly leading individuals towards attaining better life the field of physical education is inspiring young minds to develop better and healthy nation by sustaining the challenges of life.
5. The master’s degree program assimilates physical education with communication skills, media knowledge, research considering new pedagogies and social context to maintain its relevance in current scenario.
6. Overall, it aims to indulge to perfectly blend the amalgamation of recreational activities with academics to enhance the inclusive qualities of young minds and bodies.

3. Post Graduate Attributes in Physical Education

A Postgraduates (physical education) are expected to have the following attributes:

(a) In-depth knowledge

The post graduate program of physical education provides thorough understanding of the subjects along with allied areas related to physical education and sports. It provides important linkage between theory and practice of various issues in physical education and sports. Additional knowledge of the subject matter is also provided with this post graduate program.

(b) Academic literacy

The post graduate attribute of post graduate program encompass advanced professional and skill related knowledge in the field of physical education and sports so that it provides a base to be an expert and imminent member of a particular community.

(c) Impressive communication

It is essential to gather information in such a way that it can be analysed and organised properly. It is also essential for a student to communicate ideas in an effective manner both in written and spoken form. It also includes the ability to communicate own idea to even a general population. The added part is the capacity to use information technology as means of effective communication.

(d) Logical and analytical thinking

A postgraduate program entails student to make aware about relevant problems associated with a particular field and then use logical and analytical thinking to solve it by providing new insight such as training scheduled preparation, program for all age groups.

(e) Research oriented mindset

The program inculcates research oriented mindset, allowing for original ideas and ability to use to well established norms in research and enquiry to propound new theory or ideas for community health and fitness.

(f) Judgment

The program allows student to deal with complex issues with sound judgment without proper background data and then able to put forth conclusions effectively. The students also deal with judgement of capacity and ability of sports performance.

(g) Employability

The program attributes also encompasses employment related issues with transferable skills that are necessary for employment purpose. It enhances employment related options while improvement in professional development. It also includes self governing learning ability for life long professional development. The program can develop ability for self employment.

(f) Independence and creativity

Students are expected to display creativity in work while doing it independently. They are also expected to show adaptability in changing atmosphere and environment.

(h) Ethical consciousness

Students are expected to show sound social responsibility. They apprise philosophical and social issue in the context of physical education and sports. They are expected to show respect in terms of cultural diversity.

(i) Collaboration / Team work :

Students will demonstrate the aptitude to work as as a team and respect other team members views and ideas. They will demonstrate the ethics of group culture and work for the common interest of that particular group. Students also develop team work and collaboration for event management.

(j) Leadership :

Students will demonstrate ability to take challenges of coaching, training of budding sportspersons apart from showing the skills to formulate training plan for sportsperson.

(k) Contribution to society:

Students will demonstrate ability to work with physically / mentally challenged sportsperson. They also demonstrate special ability to work for geriatric population for their physical and mental welfare.

4. Qualification Descriptors for M.P.Ed. Course in Physical Education

1. Demonstrate transferable skills and particular subject related know-how that is conducive for grabbing employment opportunities.
2. Ability to solve real life problems by virtue of subjects knowledge and transferrable skills and search of solution of a problem area.
3. Able to know the own learning requirements in new trends, knowledge base area, research or professional material.
4. Able to select appropriate methodology for quantitative and qualitative research as well as providing scientific evidence of problem with the help of analysis of data from various sources.
5. Able to develop self evaluation while planning and managing classroom teaching in physical education.
6. A thorough knowledge in specialized area with keen interest in gaining information on latest development in specialized field.
7. Demonstrate systematic knowledge and principles of areas under curriculum while able to clearly analyse scientific facts regarding area of study.
8. Demonstrate an understanding of important theories, principles and concepts.
9. Aptitude to apply fundamental concepts and principles outside the background in which they were first studied as well as aptitude to apply fundamental concepts and principles in an employment perspective.
10. Demonstrate skills to carry out SWOT analysis of own performance.

11. Demonstrate capacity to improve own knowledge base in the area of coaching and preparing training plan for sportsperson.
12. Demonstrate capacity to conduct coaching and prepare training plan for physically challenged sportsperson.
13. Demonstrate clear understanding to prepare and execute plan for elderly population.

5. Programme Learning Outcomes for M.P.Ed. Course in Physical Education

1. Demonstrate a clear, methodological and scientific knowledge of the academic field of physical education and knowledge of different allied branches of physical education with its application along with link of these branches with other allied areas.
2. An in-depth knowledge about producing physical education professionals that suits the need of research, government and private sector, education etc.
3. Demonstrate the capacity to apply the knowledge of various theories and principles in identifying problems in physical education, sports organization, sports coaching and then solve these problems with apt use of knowledge.
4. Ability to use qualitative and quantitative data for betterment of society.
5. Ability to solve problems in interdisciplinary research.
6. Demonstrate and practice ethical behaviour by providing correct scientific information while creating safe research environment for participants.
7. Ability to respect intellectual, copyright issues and environmental issues.
8. Demonstrate unbiased attitude towards sportspersons while preparing them for competition.

- 9. Ability to work with physically challenged sportsperson.
- 10. To use their indepth knowledge for welfare of geriatric population.

2020-21

SCHEME OF EXAMINATION FOR SESSION 2020-2022				
SCHOOL OF STUDIES IN PHYSICAL EDUCATION				
PT. RAVISHANKAR SHUKLA UNIVERSITY, RAIPUR				
MPEd (Semester I to IV)				
July 2020-December 2020				
First Semester	Paper	Title of Paper	Marks	
			(External)	(Internal)**
	I		Professional Preparation and curriculum designs	80
II		Test Measurement and evaluation in Physical Education	80	20

	III	Exercise physiology	80	20
	IV	Management of physical education	80	20
	P-1	Practical Officiating in Sports/Games	100	100
		Total	600	
January 2021-June 2021				
Second Semester	Pap er	Title of Paper	(Extern al)	(Intern al)
	I	Training methods	80	20
	II	Biomechanics	80	20
	III	Statistics and Computer	80	20
	IV	Research Process	80	20
	P-I	Practical – Performance Testing	100	100
July 2021-December 2021				
Third Semester	Pap er	Title of Paper	(Extern al)	(Intern al)
	I	Scientific Coaching Methods	80	20
	II	Sports Psychology	80	20
	III	Sports Medicine	80	20
	IV	Specialization theory	80	20
	P-I	Practical Advanced Coaching lesson	100	100
		Total	600	
January 2022-June 2022				
Fourth Semester	Pap er	Title of Paper	(Extern al)	(Intern al)
	I	Health education	80	20

	II	Psychology of coaching and counseling	80	20
	III	Sports physiotherapy	80	20
	IV	Project/Foundation of physical education and current trends	80	20
	P-I	Practical – Physiological and Psychological assessment	80	20
		Total	600	
		Grand total [Semester I + II + III + IV]	2400	

Detailed Syllabus for
Master of Physical Education Course

Semester I: Paper I

Professional Preparation and Curriculum designs

Learning Outcome

- To understand the ever evolving curriculum of physical education
- To develop opportunities to construct & design the curriculum of PE in broader aspects realizing the age group, gender consideration and physiological basis.
- To know about that intramural and extramural tournaments
- To Know about the role of curriculum design for effective teaching and learning in physical education

UNIT-I

Foundation of professional preparation

1. Ideals of Indian Democracy: Contribution of Physical Education.
2. Forces and factor effecting Education Policies and programs – social, religious, economic and political. Education and professional preparation in physical education in India with those in USA, USSR and UK.

UNIT-II

1. Under graduate preparation of professional areas of health education, physical education and recreation. Purpose of under graduate preparation.
Administration, curriculum, laboratory experiences, field experiences, Laboratory Experiences, Field Experiences, Teaching Practice and Professional competences to be developed. Facilities and special resources for Library.
2. Post Graduate preparation of professional personnel: Purposes of post graduate studies, admission requirements, sports, curriculum, area of specialization and concentration on core areas, Research requirement, Methods of instruction.
3. In service education of professional personnel: Nature and scope of in service education; Responsibility for in service training, Role of administration, Physical Education Training Institute, Supervisors, the professional, and in – service training programmes. In service through individual efforts, apprenticeship on the job projects. Survey and reports, critical appraisal of existing types of post graduate programs.

UNIT-III

1. Importance of Curriculum Development Factors affecting curriculum, changing needs of student, national and professional policies
2. The Role of the teacher in curriculum development.
3. Principles of Planning: Understanding the capacity characteristics and needs of the learner. Evaluation and follow up.

4. selecting material for instruction – classification of activities for different age group and sexes. Progress in cariculum. Cultural influences in the choice of activities flexibility of programme material.

UNIT-IV

Selecting methods of teaching

1. Grouping of students for instruction, lecture, projects, activities, demonstration,
2. Block of period, total time allotment do a given activity, teaching aids, conditioning
3. Special gadgets to concentrate on development of particular skills or activity, provision for individual differences.

Development program for different levels of education: Kindergarden, elementary school, Middle School, High School and Higher Secondary School, College and University, Special institution (Technical School & orphan hostel) special days, national days etc.

UNIT V

1. Co-education in physical education – Interrelating the Programs for boys and girls. Activities suitable for co-education, levels at which co-education is desirable, spcial provision for development of girls programme.
2. Evaluation and follow up process in physical education – nature, importance and procedure for evaluation in physical education, follow- up: curriculum followed in colleges of physical education – BPE, MPed, BPEd. In physical Education, M. Phil. Etc. committees recommendation: NCE – CBSE, UGC recommendation on curriculum for schools and colleges.

Semester I: Paper II

M. P. Ed. Semester I: Paper II

Test Measurement and Evaluation in Physical

Education

STUDENT LEARNING OUTCOMES :

1. The students will learn the concept of testing.
2. The clarification regarding measurement and evaluation will be learnt by students.
3. The students will learn the assessment process of basic fitness components.
4. The students will learn about assessment of skill from different games.
5. The students will learn how to assess psycho-social elements of sportsperson.

UNIT-I

1. Meaning of evaluation.
2. Nature and scope of evaluation program.
3. Need and importance of evaluation in the field of physical education.
4. Principles of Evaluation.

UNIT-II

1. Criteria of test selection (reliability, validity, objectivity and norms), Administrative feasibility and educational application,
2. Classification of test, standardized tests (objective and subjective test).
3. Construction of test, Knowledge tests (written and skill tests).
4. Suggestions for administering test - Medical Examination, Testing Personnel, Time of testing, Economy of testing, Test record, Preparation of reports, Construction of tables & graphs and Purpose of reporting.

UNIT-III

Measurements of Organic Function Motor fitness and General Motor Ability.

1. Organic function: Cardiovascular respiratory function.

- a. Cooper's 12 minute continuous run / walk test.
- b. Tuttle's pulse ration test.
- c. Harvard step test and its modification.

2. Motor Fitness –

- a. Oregon motor fitness test
- b. JCR test
- c. Canada fitness test
- d. AAHPER youth fitness test.
- e. Fitness gram

3. General motor ability-

General motor ability test.

UNIT-IV

1. Test for strength:

- a. Strength, Roger's physical fitness index and suggested changes
- b. Kraus-Weber test

2. Test for skills:

- a. Tests Volleyball-Brady test, Russell and Lange test
- b. Basket ball-Johnson test, Knox test
- c. Soccer-Mc Donald test, Johnson test
- d. Field Hockey-Harbans Singh field hockey test
- e. Badminton-Miller test,
- f. Dyer tennis test.

UNIT-V

1. Measures of posture-IOWA posture test
2. Behaviour rating scale
3. Mental health
4. Sociometric
5. Motor educability
6. Personality inventory
7. Somatotype

Semester I: Paper III

Exercise physiology

STUDENT LEARNING OUTCOMES :

1. Understand the bases of movement and physiology and muscular movement.
2. Understand aerobic and anaerobic components of exercise.
3. Learn to plan diet for athlete and understand importance of nutrition and drug for athlete.
4. Should be able to assess and monitor effect of exercise on different systems of body.
5. Able to understand physiological aspect of training to plan training program.

UNIT-I

1. Skeletal Muscle, Structure, function and Characteristics
2. Chemical composition of skeletal muscle
3. Gross structure of Skeletal Muscle ,Muscle fiber type
4. Microscopic structure, structure of the myofibril.
5. Contractile mechanism, Molecular basis of the contraction of skeletal muscle, Heat production and thermo-dynamics of muscle contraction

UNIT-II

Neuro-muscular concepts

1. Neuron and motor unit transmission of nerve impulses, bio-electrical potentials

2. Nerve to nerve synapse, Neuro muscular junction and transmission of nerve impulse across it.
3. Proprioception and kinesthesia. Tone, posture and Equilibrium.
4. Effect of exercise/training on neuro-muscular system

UNIT-III

Bio-energetics

1. Fuel for muscular work. Aerobic and anaerobic metabolism
2. Energy for muscular contraction and biochemical changes during muscular contraction, short duration high intensity exercise, long duration exercise.

UNIT-IV

Physiological changes due to exercise. Effect of exercise and training on:

1. Heart and circulatory systems.
 - a. Blood circulation and functioning of the heart
 - b. Blood supply to heart and skeletal muscle
 - c. Regulation of blood flow during exercise.
2. Respiratory system
 - a. Function of respiratory system
 - b. Oxygen debt & recovery rate, Second wind.
 - c. Effect of exercise on respiratory system.
3. A brief discussion on effect of exercise on other systems.

UNIT-V

1. Other physiological aspects of exercise and sports
2. Concept of physical fitness and physical training, warming up conditioning and fatigue
3. Energy cost of various sports activity.

Semester I: Paper IV
Management of physical education

STUDENT LEARNING OUTCOMES :

1. To describe organization and administration of sports programme.
2. To analyze and interpret sports philosophy, business systems, sports management, public administration and marketing techniques.
3. To develop decision-making, and problem-solving skills required for their role in the profession of physical education and sports.
4. To know about how to organize sports competition
5. To demonstrate the applicability of the concept of Financial Management in sport.
6. To explain the concept of Supervision and its application in sports.

UNIT-I

1. Review of principle and philosophy in of Education, Physical Education, Recreation and Health education.
2. Progressive concept of administration/ management. General administration theories.
3. Personal and material management programming for instruction and activities.
4. Hierarchy of education administration in Central, State local authorities and Individual Institution in India.

UNIT-II

1. Responsibilities of General Administration, technical Experts & Professionals.
2. Selected problems in Management / Administration
3. Professional preparation, professional ethics class discipline, student teaching.

UNIT-III

1. Budget and Finance: Budget heads principles of accounting financial power of different authorities, Sources of income auditing, terms of sanctions and purpose.
2. Staff job analysis, qualifications, requirement, supervision, training, leave, retirement deputation fringe benefits and staff meetings.
3. Office management's gathering data, programming and scheduling (Calendar, Timetable, thing that requires periodical attention) storing data (Filing), General office procedure like correspondence interview.

UNIT-IV

1. Management of sports in school, college & universities, Inter-University, District State & National level.
2. Indian and International Olympic association, SAI.
3. Public relation and promotional activities including-press relations, publications, Public speeches, assemblies, exhibitions demonstration, special events, staff, student welfare.

UNIT-V

SUPERVISION

1. Definition of Supervision
2. Scope of Supervision
3. Guiding Principles of supervision
4. Method of Supervision:
 - a. Visitation
 - b. Conference
 - c. Bulleting
 - d. Demonstration

Functions of Supervisions

1. Administrative duties

2. Duties pertaining to facility & Equipment
3. Duties pertaining to instruction
5. Duties pertaining to supervision
6. Duties pertaining to professional Growth

Practical -Officiating in Sports and Games

Semester II: Paper I

Paper I -Training methods-

STUDENT LEARNING OUTCOMES :

1. The students will become skillful for preparing training schedule.
2. The students will become proficient in designing training plan.
3. The student will learn to frame exercise sequence for development of different fitness component.
4. The assessment of training load and periodization planning will be learnt by the students.
5. The evaluation and the results of sportsperson progress can be presented by students through graphics.

UNIT-I

1. Brief historical sketch of development of Competitive sports in India.
2. Introduction to motor development.
3. Sports training.
4. Its aims, Tasks and characteristics.
5. Principles of sports training.

UNIT-II

1. Training Load: Important features of training load [Intensity, Density, Duration and Frequency].
2. Principles of Training load, Relationship between load and adaptation, conditions of adaptation, principles of over load. Causes and symptoms of over load, tackling of over load.
3. Training plans long term and short term plans,
4. Periodisation (Single double and triple). Cyclic process of training. Training session.

UNIT-III

Training for Important Motor Components

1. **Strength** – Forms of strength, characteristics of strength,, principle of strength, strength training, means and methods, strength training for children and women.
2. **Endurance** – Forms of endurance, characteristics of endurance, endurance training, means and methods.

UNIT-IV

1. **Flexibility** – Form of Flexibility, Methods of development of flexibility.
2. **Coordinative abilities** – Characteristics of coordination abilities, importance of coordinative abilities. Classification of coordinative abilities, Training means and methods.
3. **speed** – form of speed, characteristics of speed, basis of speed, training means and method.

UNIT-V

1. Planning and organization of training, Importance of Planning, Principles of planning, Contents for various periods of training.

2. Evaluation of training, Items to be included in evaluation programme, Forms of diagram and graphical presentation for evaluation and checking progress.

Semester II: Paper II

Biomechanics

STUDENT LEARNING OUTCOMES :

1. The students will learn the fundamentals of biomechanics applied in sports condition.
2. They will also learn the meaning and concept of linear and angular motion.
3. The students will understand the application of biomechanical principles.
4. They will also learn to carry out biomechanical analysis of sportsperson movements.
5. The role of fluid mechanism in sports will also be learnt by the students.

UNIT-I

Introduction

1. Meaning of Bio-mechanics, Bio-mechanics in Physical Education, Sports and Research
2. Fundamental Skills - Basic and Specific
3. Movement Analysis - Kinensiological Analysis, Mechanical Analysis and Bio-mechanical Analysis.

UNIT-II

1. Linear, angular and general motion
2. Distance and Displacement (Linear and Angular)
3. Space and Velocity (Linear and Angular) Acceleration (Linear and Angular Uniform Motion)
4. Units of Relationship of Linear and Angular motion, Centrifugal and Centripetal Forces
5. Newton's Laws of motion as applicable to Linear and Angular Motion.
6. Lever and its application.

UNIT-III

1. Force – Meaning, Units of Force, Effects of Force, Sources of Force, Components and Resultant, Friction Pressure.
2. Work, Power and Energy
3. Movement of Force, Movement of Inertia

UNIT-IV

1. Freely falling bodies, Projectiles, Momentum and Impact
2. Stability (Static and Dynamic), Initiating Rotation in the Air.
3. Spin, Impact and Elasticity.
4. Fluid Mechanics, Air Resistance and Water resistance.

UNIT-V

1. Analysis of fundamental skills – Walking Running, Throwing, Lifting, Pulling, Catching and Climbing
2. Analysis of Sports Skills of games & sports: Athletics, Basket ball, Volley ball, Badminton, Foot ball, Cricket etc.

Semester: II
Statistics and Computers
Paper: III

STUDENT LEARNING OUTCOMES :

1. To explain and evaluate various measures of central tendency.
2. To evaluate and interpret the outcomes of correlation matrix, i.e. correlation coefficient, strength, direction and significance level.
3. To train the students to apply the different statistical tests for hypothesis testing.
4. Students shall be able to use and apply a wide variety of specific statistical methods.
5. To interpret a set of descriptive statistics and understand the limitations of each measure.
6. To Know about the MS Office Applications in physical education

Unit – I:

- Meaning and definition of Statistics
- Need and Importance of Statistics in Physical Education
- Basic Concept of following terminologies:
 - Populations
 - Samples
 - Sample frame
 - Sampling Techniques
- Scales of Measurements (Nominal, Ordinal, Interval and Ratio)
- Types of Variables

Unit – II:

- Frequency Distribution
 - Simple Frequency Distribution
 - Cumulative Frequency
- Different types of Graphs
- Measures of Central Tendency
 - Meaning, characteristics of good measures of central tendency and uses
- The Mean
 - Meaning, characteristics, uses and calculation from ungrouped and grouped data
- The Median

Meaning, characteristics, uses and calculation from ungrouped and grouped data

- The Mode

Meaning, characteristics, uses and calculation from ungrouped and grouped data

Unit – III:

- Measures of Variability

Meaning, characteristics of good measures of variability and uses

- The Range

Meaning, characteristics, uses and calculation from ungrouped and grouped data

Relative and absolute measures

- The Quartiles Deviations

Meaning, characteristics, uses and calculation from ungrouped and grouped data

Relative and absolute measures

- The Mean Deviation

Meaning, characteristics, uses and calculation from ungrouped and grouped data

Relative and absolute measures

- The Standard Deviation

Meaning, characteristics, uses and calculation from ungrouped and grouped data

Relative and absolute measures

- The Normal Curve

Definition, Characteristics, Divergence from normality (Skewness and Kurtosis)

Unit –IV:

Making Inferences

- Basic Concept of following terminologies:

Hypothesis

Types of Hypothesis

Types of Error

Degrees of Freedom

Level of Significance

- Independent Sample t -test

- Related Sample t -test

- One Way Analysis of Variance (One Way ANOVA)

- Pearson Correlation Coefficient

- Spearman Correlation Coefficient

- Scale for construction of Norms

T- Scale

6 σ Scale

7 σ Scale

Unit – V:

- Introduction to computers
- Types of Computers
- Hardware and Software of Computer
- Working with internet and basic software
- Basic introduction of data analysis software

Semester II: Paper IV

Research Process

STUDENT LEARNING OUTCOMES :

1. To understand the research perspective in physical education and sports.
2. Develop ability to understand research process and to frame research problems independently.
3. Students learn to use print and electronic library resources effectively and appropriately, understand and apply data collection tools.
4. Able to prepare research proposal and research report following standard methods.
5. To develop capacity to successful conduct research in physical education and sports and publish scientific articles.

UNIT-I

Meaning of research, Need and importance and its scope in physical education. Type of research, survey of related literature, need for library search, library sources, Preparation of Bibliography and abstract.

UNIT II

Formulation and development of research problem: location of research problem. Criteria in selecting the research problem. Formulation of hypothesis.

UNIT III

- a) Historical research: scope of historical research in Physical Education. Historical evidence, validity of historical data.

b) Philosophical Research: Brief Introduction.

UNIT IV

Survey studies: Place of survey Research in Physical Education. Tools of survey research, questionnaire and interviews, case studies. Definition of case studies, Importance of case studies. Characteristics of case studies, data collection in case studies.

UNIT V

Experimental Research

- a) Meaning, scope, and nature. Control of experimental factors. Experimental designs.
- b) Research Proposal and preparation of research report.

Practical:

Part A

Assessment of:

1. Cardiovascular fitness
2. Motor fitness
3. Motor educability
4. Health related fitness
5. Strength
6. Somatotype
7. body composition
8. body proportion

Part B

Field Work: a candidate has to conduct one test on at least 10 subject and prepare a report.

Seminar:2 Seminar to be presented on field work

Semester III: Paper I
Scientific Coaching Methods

STUDENT LEARNING OUTCOMES :

1. The student will develop to design preparation of technique learning.
2. The students will have more confidence in their knowledge of the subject matter related to tactics development.
3. The students will demonstrate the ability to resolve problems related to long term and short term training plan.
4. The students will learn to develop training session.
5. The students will learn to prepare plan related to psychological training for sportsperson.

UNIT-I

1. Historical development of coaching schemes in India.
2. Philosophy of coaching and qualities of coach.
3. Introduction to motor development, stages of motor development.

UNIT II

1. Technical preparation – Fundamental methods for the development of technique in sports. Stages of technical development, grounding, causes and correction of faults.
2. Tactical preparation – Tactical concepts, methods of tactical training.

UNIT III

Psychological preparation

1. Psychology of a coach and his trainees
2. Individual differences, psychological potentiality
3. Development of will power, stress, anxiety, frustration control
4. Planning for competitions. Main and build up competition. Frequency, preparation for competition.

UNIT IV

1. Preparation for competition. Competition system. Competition frequency.

2. Preparation for competition – Long term and Short term plans.
3. Arrangement of training session. Post competition plan.

UNIT V

1. Diet for sportsmen during training and pre-post competition, time for diet.
2. Use of drugs and their ill effects. Ergogenic aids – its use in competitive sports.
3. Talent identification, steps for talent identification.

Semester III: Paper II

Sports Psychology

STUDENT LEARNING OUTCOMES :

1. The students will acquire the knowledge about applied psychology.
2. A Students will come to know about basic concept of sports psychology.
3. Students will understand the methods of investigation used in sports psychology.
4. The students will gain knowledge about the pre, during and post completion psychological preparation.
5. The students will learn to assess psychological problems of sportsperson through testing.

UNIT-I

1. The meaning, nature and scope of sports psychology.
2. Development of sports psychology.
3. Relationship of sports psychology with other sports sciences.
4. Importance of sports psychology for physical education.

UNIT II

1. Methods of investigation in sports psychology, its importance.
2. Various methods used in sports psychology.
3. Different test to be used in sports psychology.

UNIT III

1. Growth and development, factor affecting growth and development.
2. Individual differences and their influence on physical activity.
3. Psychological aspects of action regulation.
4. Importance of action regulation in physical activities, psychological characteristics of physical activities.

UNIT IV

1. Psychological aspects of competition, psychology of sports competition.

2. Psychological characteristics of pre-competition, competition and post competition.
3. Motivation, meaning of motive, role of motive, attitudes, interest for physical activity, importance of motivation in peak performance.

UNIT V

1. Cognitive process in physical activities, characteristics of cognitive process in sports.
2. The importance of perception in physical activities.
3. The function of thinking and imagination in physical activity.
4. The role of memory in physical activities.
5. The importance of attention in sports and its relationship with cognitive process.

Semester III: Paper III

Sports Medicine

STUDENT LEARNING OUTCOMES :

1. Understand the basic various components of sports medicine and athletic care.
2. Learn to plan diet for athlete and understand importance of nutrition and drug for athlete.
3. Should be able to assess body composition, understand its relation to performance and understand environmental stress on performance.
4. Learn to develop exercise regime for all.
5. Learn extension services of sports medicine for special population.

UNIT-I

1. Definition of sports medicine, it's aims and objectives
2. Brief History, of sports medicine.
3. Physiological, pathological and psychological problems of sportsmen.

UNIT II

1. Nutrition: Athletic nutrition malnutrition, low cost High calorie diet role of vitamins, minerals, salts. Carbohydrate loading. Diet before competition and after competition
2. Doping: Agents, effect, dope test and sanctions. Role of WADA and NADA

UNIT III

1. Work capacity under different environmental conditions. Thermoregulation and sports.
2. Physique and performance. Somatotypes.

UNIT IV

1. Prophylactic health-care. Health related fitness.
2. Aging & sports.
3. Women in sports. Pregnancy and exercises.

UNIT V

1. Common old age problems namely – arthritis, heart diseases and diabetes. Role of exercise in rehabilitation.
2. Obesity and weight control.
3. Adapted physical Education – Physically & Mentally challenged persons.
4. Exercise prescription.

Semester III: Paper IV

Specialization

STUDENT LEARNING OUTCOMES :

1. Learn advance concepts of games and sports.
2. Learn the layout and construction of Game/Sports ground/Courts.
3. Learn the mechanics of the Game/Sports.
4. Learn to develop training methods related to Game/Sports.
5. Develop coaching skill for advance skill/strategies of Game/Sports.

UNIT-I

Skills, Techniques and strategies:

1. Advance skills of games / sports.
2. Techniques, Tactics and strategies of game / sports.

UNIT II

Officiating of games / sports.

1. Rules and their interpretation.
2. Mechanics of officiating.

UNIT III

Play field, Sports bodies and Organization.

1. Construction, layout and maintenance of play field and equipment.

2. Structure and function of Federation and Associations.
3. National and International competition.
4. Organization of competitions and coaching camps.

UNIT IV

1. Skill test, Mechanics of games / sports.
2. Analysis of scientific principles applied to different skills / techniques.

UNIT V

1. Training Method: for improving the performance in games / sports.
2. Training Schedule.

Practical -Advanced Coaching Lesson

Semester IV: Paper I

Health education

STUDENT LEARNING OUTCOMES :

1. Understand the health system of India.
2. Develop understanding of various aspects of school health.
3. Develop understanding on effect of environment on health.
4. To get acquainted with communication Diseases.
5. Learn causes prevention and rehabilitation of non-communication diseases.

UNIT-I

1. Health
 - a. Concept of health
 - b. Various level of health care in India
 - c. Role of heredity and genetics in achieving positive health
2. Health education
 - a. Meaning of health education
 - b. Aim and content of health education
 - c. Approaches of health education
 - d. Latest trend in health education

UNIT-II

1. School health services
 - a. Meaning and objectives of school health services and school health programs aspect of school health services
2. Healthful school environment

UNIT-III

1. Community and environmental sanitation

- a. Housing
- b. Pollution, light, noise and temperature
 - i. Population policy, population dynamic and population explosion
 - ii National family welfare program
- ii. Sex education

UNIT-IV

1. Communicable diseases

- a. Meaning of epidemiological approach of communicable diseases brief description of following communicable diseases and their prevention
 - i. Tuberculosis
 - ii. Chicken pox, measles, mumps
 - iii. Malaria and filarial
 - iv. Rabies
 - v. STD and AIDS
 - vi. Hepatitis (Jaundice)

UNIT-V

1. Non-communicable diseases

- a. Meaning of non communicable diseases
- b. Brief description of following non communicable diseases and their prevention: Heart diseases, Cancer, diabetes.
- c. Stress assessment and management through exercise.

Semester IV: Paper II

Psychology of coaching and counseling

STUDENT LEARNING OUTCOMES :

1. Students will become familiar with the concept of guidance and counseling.
2. Students will be acquainted with the assessment of psychological potential of sports person.
3. The student will be able to understand counseling process.
4. The concept of group counseling will learnt by the students.
5. The student will learn about diagnosis of psychological problems in sportsperson.

UNIT-I

Psychological assessment of the players, capacity of the player psychological preparation for pre, during and post competition. Pep talk, Self confidence. Emotional maturity. Emotional intelligence.

UNIT-II

Counseling process introduction. Preparation for counseling.

- a. Readiness
- b. Pre counseling interview
- c. Case history
- d. Process of counseling
- e. The first interview

- f. Reassurance
- g. Winning confidence
- h. Advising

Counseling relationship – content and process. Physical setting. Privacy value orientation. Acceptance. Understanding. Report. Communication and empathy. Attentiveness. Counseling relationship. Counseling process.

UNIT-III

Psychological testing and diagnosis – introduction. Limitation of the use of psychological tests. Type of psychological tests. Test used in counseling situations. Test interpretation in counseling. Not – test client appraisal techniques. Autobiography. Anecdotal records. Rating Scale. Cumulative records. Pupil data questionnaires. Case studies. Psychodiagnostics, limitation of diagnosis. Common diagnostic classification systems in counseling.

UNIT-IV

Counseling interview – introduction, interviewing its essential aspects association of ideas contained within interview. Shifts in conversation, Opening and closing remark, recurrent reference, Inconsistencies and gaps. Review, Non verbal communication in interview. Counselee. Counselor of relationship. Interviewing techniques in counseling. Structuring the counseling relationship degree of lead, silence. Relationship techniques. Sharing of experience.

UNIT-V

Group counseling – Introduction. Case for group counseling, emerging field of group counseling. Structuring groups, limitation and assumptions of group counseling. Mechanisms of group counseling. Types of groups. Group counseling – its value. The process of group counseling. Individual and group counseling similarities. Differences between individual and group counseling.

Special areas in counseling – Introduction, family group consultation

Counseling families. Counseling with parents, counseling the delinquent, counseling reluctant clients, structuring. Counseling women.

Semester IV: Paper III

Sports physiotherapy

STUDENT LEARNING OUTCOMES :

1. Student will learn about injuries and rehabilitation.
2. Apply therapeutic modalities and exercise therapy.
3. Student will learn and apply preventive and curative aspect of sports injuries.
4. help to learn to...
5. Interpret the concept toward positive lifestyle.

UNIT-I

Introduction

1. Review of anatomy and physiology of various muscles, joints and their function and action, physiological changes due to exercise – cardio-respiratory muscles, nervous systems.
2. Causes of injuries – intrinsic, excentric factors
3. Types of sports injury
4. Load deformation curve, response to stress, inflammation healing.

UNIT-II

Common regional injuries

1. Mechanism of injury clinical feature of injuries
2. Injuries of head, neck and face
3. Injury involving upper limbs
4. injuries involving thorax, abdomen and back
5. injuries involving lower limbs

UNIT-III

Common sports injuries

1. Common injuries found in various sports
2. Mechanism of injuries in various sports activity

3. Basic on field assessment and management, RICE, first aid, moving the injured athlete
4. Bandaging, crape.

UNIT-IV

1. Sports massage
2. Core stability
3. Protective equipment
4. Injury in children, women and elderly

Practical demonstration

1. Uses of crape bandage, banding technical
2. Electrical modulation
3. Use of thera band, exercise ball, Medicine ball
4. Visit to health club / fitness camps
5. Visit to sauna bath / steam bath

Semester IV: Paper IV

Foundation of physical education and current trends

STUDENT LEARNING OUTCOMES :

1. To understand principles and philosophies of physical education and cultivate positive values and attitudes for the development of an active and healthy lifestyle.
2. To acquire good health, physical fitness and bodily coordination through participating regularly in physical activity.
3. To promote desirable moral behaviors, cooperation in communal life, ability to make decisions, and the appreciation of aesthetic movement
4. To Know the importance of sports journalism and mass media for sports.
5. To established the relationship of Yoga and Sports.

UNIT-I

Philosophical foundation of physical education

1. Idealism
2. Pragmatism
3. Naturalism
4. Existentialism and other philosophies

UNIT-II

1. Journalism & Sports journalism
 - a. Meaning, concept, scope
 - b. Basic principles of sports reporting, source of sports news
 - c. News gathering process
2. Reporting for print media and electronic media
3. Editing, writing for various media
4. Layout and design for print media

UNIT-III

Adapted physical education

1. Introduction to adapted physical education – meaning, definition, aims and objectives.
2. Classification of disabilities
3. Development of adapted physical education program
 - a. Guiding principles
 - b. Special adapted physical education program for different categories

UNIT-IV

Communication skills. Types of communication. Methods of communication. Official communication. Reports, minutes and agenda. Circular, notice, office orders, note sheet and memo etc.

Press release, media conferencing and invitation

Verbal and non verbal communication

UNIT-V

Yoga and fitness

1. Introduction to Yoga: The concept, Meaning, definition and tradition of Yoga.
2. Meaning, definition and importance of Yoga and Health in life. Theories of Health, Various exercises benefits of Yoga- asanas and their values vis-à-vis other systems.
3. Life pattern and Yoga, Effects of yoga upon bodily function, Role of yoga asanas in modern living.

4.3.

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Practical: Physiological and Psychological assessment

Part A

Physiological assessment of:

1. Heart Rate
2. Respiratory Rate
3. Peak flow Rate
4. Hemoglobin
5. Blood Pressure
6. Nutritional Assessment

PART B

Psychological assessment:

1. Paper pencil test
2. Psychomotor test

Field Work: a candidate has to conduct one test on at least 10 subject and prepare a report.

Seminar: 2 Seminar to be presented on field work

7.TEACHING -LEARNING PROCESS

It is crucial to decide the style of teaching and match it with the style and need of learners. To set an appropriate balance between physical, social, psychological, and psycho-motor abilities of the learners is a challenge for the teacher. The teacher itself should be competent enough to gain the knowledge and execute at the level of learners' end. The teacher should be capable to foresee the difference in the different types of learners before deciding the process or style of teaching. Moreover, the teacher should elucidate and determine the factors affecting learning.

The purpose of teaching learning method would be fulfilled if the learner would understand what the teacher is teaching or if the teacher would understand what the requirement of learners is.

The following methods of teaching are suggested here-

- a. Question-answer session
- b. Learning through E-Resources
- c. Class tests
- d. Teaching through Models/prototypes
- e. Group Discussion
- f. Project work
- g. Group or team-based activity
- h. Internship
- i. Educational Tours
- j. Industrial visits
- k. Student/Faculty Exchange Program
- l. Self-Study
- m. Online Classes
- n. Online Quiz
- o. Project Work etc.
- p. Presentations
- q. Case Studies

Following are steps proposed for the process of teaching-

1. Interactive Session- students should be encouraged to speak or communicate with their fellows in the class about the pre decided topics related to curriculum.
2. Group Discussion- on a topic of a lesson group discussion can be conducted among selected students within a limited time frame to explore about the topic.

3. Question Answer Session- The Students can be encouraged to ask their doubts in the classroom to boost their morale and to get-rid-of their confusions.
4. Class Tests- Scheduled or Unscheduled Class Tests can be taken in the classroom. Unscheduled tests will analyse how much student prepare himself in the past few days.
5. Presentations- Preparing students for classroom presentations related to the classroom topic will empower them to understand the other students' requirement and develops an empathetic vision towards teacher in the classroom. Presentation will also lift teaching skills in the student and improves confidence in the class.
6. Case Studies- Through Real and Imaginary Cases to be taught in the classroom, the students may develop their decision making and managerial skills.
7. Assignments- After the class, the assignment can be given to the students as a supportive mode of teaching. They will explore some of the tasks from themselves to enhance their learning habits. This may increase the regular habit of learning among the students.
8. Study Material Distribution- The teacher before taking the class may distribute the study materials through mail or other online mode. This will help students to prepare themselves before the class for better understanding.
9. Teaching through Audio-Visual Learning- Using Teaching Aids are always better than lecture method. The audio-visual mode of learning prevents the monotony of lecture method and retains the contents for longer time in the mind of learners.

10. Collecting feedback from learners- collecting feedback about the content, teaching mode, teacher, etc. from the learners will facilitate the teacher to realize the needs of the students. Teachers may improve their performance based on this feedback.

Ph.D Course work Syllabus for Physical Education, Research Process & Statistics

Unit I

1. Meaning, Nature, Need and Scope of Research in Physical Education.
2. Types of Research. Research Method vs. Research methodology,
3. Planning of statistical enquiry.
4. Collection of data – Primary and Secondary

Unit II

1. Population and Sampling, Types of sampling. Different methods of Sampling.
2. Research Design.
3. Control of Experimental Variables/Groups, Control Groups and Factors
Affecting Experimental Outcome – Subjects, Age, Sex, Physiological,
Psychological Variables etc.

Unit III

1. Dispersion and Skewness- Mean deviation, Standard deviation, Coefficient of variation and coefficient of variation.
2. Coefficient of correlation- Carl- Pearson method, Spearman's ranking method.
3. Regression- Simple and Multiple regressions up to three variables.
4. Standard error of estimate.

Unit IV

1. Hypothesis- Meaning of hypothesis, formulation of hypothesis, Characteristics of a good hypothesis, Type I and Type II error
2. Testing of hypothesis
3. Test of significance- Parametric 't' test, 'F' ratio, ANOVA, Post-hoc test, nonparametric Chi square test,.
3. Theoretical frequency Distribution- Normal distribution

Unit V

1. Introduction of computer Organization and architecture Types of Computers, Different parts of computers Input Output Devices. Processors. Memory, Storage Devices.
2. Use of computers in research- Statistical packages and Co state.
3. Working with Microsoft Word [Creating File, Edit, View, Insert, Format, Tools, Table]
4. Working with Microsoft Excel [Creating File, Edit, View, Insert, Format, Tools, Table]
5. Working with Microsoft Power Point Presentation [Creating File, Edit, view, Insert, Tools Slide Show]
6. Working With Internet – its basic concept, creating mail account sending & receiving mail and attachment.
7. Knowledge of SPSS.

**SCHEME OF EXAMINATION
&
SYLLABUS
of
M.Sc. (PHYSICS)
UNDER
FACULTY OF SCIENCE**

**Approved by Board of Studies in Physics
EFFECTIVE FROM JULY 2019**



School of Studies in Physics & Astrophysics
Pt. Ravishankar Shukla University
Raipur (C.G.) 492010
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WEBSITE: -www.prsu.ac.in

Approved by Board of Studies in Physics on 18, January 2019
PT. RAVISHANKAR SHUKLA UNIVERSITY, RAIPUR

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M. Sc. - PHYSICS

M.Sc. in Physics is a full time 2-year (4-semesters course). There will be four theory papers, and two laboratory courses/project in each semester. In each semester, there will be two internal examinations/assessments. Semester-wise course structure along with distribution of marks is given below:

Semester I

Name of the Paper	Marks					Credits
	Theory		Internal		Total	
	Max	Min	Max	Min		
1. Mathematical Physics	80	16	20	04	100	4
2. Classical Mechanics	80	16	20	04	100	4
3. Electrodynamics & Plasma Physics	80	16	20	04	100	4
4. Electronics	80	16	20	04	100	4
A : General & Optics	-		-		100	2
Laboratory Course I-B : Electronics	-		-		100	2
Total Marks	600					20

Total Marks for Semester I = 600 & Credit = 20

Semester II

Name of the Paper	Marks					Credits
	Theory		Internal		Total	
	Max	Min	Max	Min		
1. Quantum Mechanics-I	80	16	20	04	100	4
2. Statistical Mechanics	80	16	20	04	100	4
3. Electronic & Photonic Devices and Optical Modulators	80	16	20	04	100	4
4. Computational Physics & Computer Programming	80	16	20	04	100	4
Laboratory Course II-A : Numerical Analysis & Computer Programming	-		-		100	2
Laboratory Course II-B : Digital Electronics & Microprocessor	-		-		100	2
Total Marks	600					20

Total Marks for Semester II = 600 & Credit = 20

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Semester III

Name of the Paper	Marks					Credits
	Theory		Internal		Total	
	Max	Min	Max	Min		
1. Quantum Mechanics-II	80	16	20	04	100	4
2. Atomic & Molecular Physics	80	16	20	04	100	4
3. Solid State Physics-I	80	16	20	04	100	4
4. (A) Astronomy & Astrophysics-I (B) Electronics (Communication)-I (C) Physics of Nano-material-I (D) Space Physics-I	80	16	20	04	100	4
Laboratory Course III-A Materials Science & General	-	-	-	-	100	2
Laboratory Course III-B : Astronomy & Astrophysics OR : Electronics (Communication) OR : Physics of Nano-material OR : Space Physics	-	-	-	-	100	2
Total Marks	600					20

Total Marks for Semester III = 600 & Credit = 20

Semester IV

Name of the Paper	Marks					Credits
	Theory		Internal		Total	
	Max	Min	Max	Min		
1. Nuclear & Particle Physics	80	16	20	04	100	4
2. Laser Physics and Applications	80	16	20	04	100	4
3. Solid State Physics -II	80	16	20	04	100	4
4. (A) Astronomy & Astrophysics-II (B) Electronics (Communication)-II (C) Physics of Nano-material-II (D) Space Physics-II	80	16	20	04	100	4
Project Work	-	-	-	-	200	4
Total Marks	600					20

Total Marks for Semester IV = 600 & Credit = 20

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In Each Semester

MAXIMUM MARKS TOTAL	PASS PER	
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600	36	36

In semester IV, Project work in Solid State Physics/ Astronomy & Astrophysics/ Electronics/ Physics of Nano-materials/ Space Physics will lead to specialization in the respective area. It will be primarily based on research oriented topics. On completion of the project, student will submit project report in the form of dissertation which will be examined by an external examiner. The examination of project work shall consist of (a) Presentation and (b) comprehensive viva-voce.

Marks-distribution for Laboratory Courses and Project Work:

(a) Laboratory courses (Semesters I-III):

Sessional	: 20 Marks
Viva	: 20 Marks
Experiment	: 60 Marks

(b) Project Work (Semester IV) :

Report – Dissertation	: 60 Marks
Presentation	: 100 Marks
Comprehensive viva-voce	: 20 Marks
Internal assessment	: 20 Marks

Note: Paper IV of both Semesters III and IV is a major elective course. Student has to opt for any one of the courses: (A) or (B) or (C) or (D). The commencement of any one of the major elective paper is subjected to the availability of basic infrastructural facilities viz. expert faculty, laboratory etc.

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Detailed Course Content

Semester - I

PAPER-I: MATHEMATICAL PHYSICS

- Unit-I:** Vector space and Matrices, Linear independence, Bases, dimensionality, Inner product, Linear transformation, matrices, Inverse, Orthogonal and Unitary matrices, Independent element of a matrix, Eigen values and eigen Vectors, Diagonalization, Complete orthonormal sets of functions.
- Unit-II:** Complex Variables: Cauchy- Riemann condition, analytic functions, Cauchy's theorem, Cauchy integral formula, Laurent series, singularities, residue theorem, contour integration, evaluation of definite integrals, problems.
- Unit-III:** Differential equations, first order differential equation, second order differential equation with constant coefficients, second order linear ODEs with variable coefficients, Solution by series expansion, nonhomogenous differential equations and solution by the method of Green's functions.
- Unit-IV:** Special functions, Legendre, Bessel, Hermite and Laguerre functions with their physical applications, generating functions, orthogonality conditions, recursion relations,
- Unit-V:** Integral transforms, Fourier integral and transforms, inversion theorem, Fourier transform of derivatives, convolution theorem, Laplace Transform(LT), LT of Derivatives, Inverse LT, Fourier series; properties and applications, discrete Fourier transform.

TEXT AND REFERENCE BOOKS

1. Mathematical Methods for Physics, by G. Arfken.
2. Matrices and Tensors for Physicist, by A. W. Joshi.
3. Advanced Engineering Mathematics, by E. Kroyazig.
4. Special Functions, by E. B. Rainville.
5. Special Functions, by W.W. Bell.
6. Mathematical Method for Physicist and Engineers, by K. F. Relly, M. P. Hobson and S. J. Bence
7. Mathematics for Physicists, By Marry L. Boas.

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Paper - II: CLASSICAL MECHANICS

- Unit-I** Preliminaries, Newtonian mechanics of one and many particle systems, Conservation laws, Constraints & their classification, Principle of virtual work, Generalized coordinates, D'Alembert's principle and Lagrange's equations, Velocity-dependent potentials and dissipation function, Simple applications of the Lagrangian formulation, Hamilton's principle, Lagrange's equations from Hamilton's principle, Conservation theorems and Symmetry properties, Energy function and the conservation of energy.
- Unit-II** The Hamiltonian formulation of mechanics, Legendre transformations and the Hamilton's equations of motion, Cyclic coordinates and Conservation Theorems, Hamilton's equations from Hamilton's principle, The principle of least action, Simple applications of the Hamiltonian formulation.
- Unit-III** Canonical transformations with examples, The harmonic oscillator, Poisson's brackets, Equations of motion and conservation theorems in the Poisson Bracket formulation. Hamilton-Jacobi (HJ) theory: The HJ equation for Hamilton's principal function, Harmonic oscillator as an example of the HJ method, The HJ equation for Hamilton's characteristic function, The action-angle variables
- Unit -IV** The Central force: Two-body central force problem and its reduction to the equivalent one-body problem, The equations of motion and first integrals, The equivalent one-dimensional problem and classification of orbits, The differential equation of the orbit, Closure and stability of orbits, The Kepler problem, Scattering in a central force field: Rutherford scattering.
- Unit - V** Rigid body dynamics, The Euler angles, Euler's theorem on the motion of a rigid body, Rate of change of a vector, The Coriolis force, Angular momentum and Kinetic energy of motion about a point, The Euler equations of motion of rigid bodies. Formulation of the problem of small oscillations, The eigen-value equation and the principal axis transformation, Frequencies of free vibration and normal coordinates, Free vibration of linear triatomic molecule.

TEXT AND REFERENCE BOOKS

1. Classical Mechanics, By N.C. Rana and P.S. Joag (Tata McGraw-Hill, 1991)
2. Classical Mechanics, by H.Goldstein (Addison Wesley, 1980)
3. Classical Mechanics, by H.Goldstein, C Poole & J Fafko (Pearson Education, Inc, 2002)
4. Mechanics, by A.Sommerfeld, (Academic press, 1952)
5. Introduction to Dynamics by Perceival and D.Richaeds(Cambridge University, press, 1982).

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Paper-III: ELECTRODYNAMICS & PLASMA PHYSICS

- Unit-I** Maxwell's equations, vector and scalar potentials and the wave equation, Gauge transformations, Lorenz gauge, Coulomb gauge, Green function for the wave equation, four-vectors, mathematical properties of the space-time in special relativity, matrix representation of Lorentz transformation, covariance of electrodynamics, transformation of electromagnetic fields.
- Unit-II** Radiation by moving charges, Lienard-Wiechert potential and fields for a point charge, total power radiated by an accelerated charge- Larmor's formula and its relativistic generalization, angular distribution of radiation emitted by an accelerated charge, radiation emitted by a charge in arbitrary extremely relativistic motion, distribution in frequency and angle of energy radiated by accelerated charge.
- Unit -III** Bremsstrahlung: emission from single-speed electrons, thermal Bremsstrahlung emission and absorption, Synchrotron radiation: spectrum of synchrotron radiation, spectral index for power law electron distribution, transition from Cyclotron to Synchrotron emission, Cherenkov radiation
- Unit-IV** Plasma: definition, Debye shielding phenomenon and criteria for plasma, motion of charged particles in electromagnetic field; Uniform E & B fields, Electric field drift, Non-uniform magnetostatic field, Gradient B drift, Parallel acceleration and magnetic mirror effect, Curvature drift, adiabatic invariants.
- Unit-V** Elementary concepts of plasma kinetic theory, the Boltzmann equation, the basic plasma phenomena, plasma oscillations. Fundamental equations of magneto-hydrodynamics (MHD), Hydrodynamics Waves; Magneto sonic and Alfvén waves, Magnetic viscosity and magnetic pressure, plasma confinement schemes.

REFERENCE BOOK:

1. Jackson, classical electrodynamics.
2. Rybicki & Lightman: Radiative Processes in Astrophysics
2. Panofsky and Phillips: Classical electricity and magnetism.
3. Bittencourt, Plasma physics.
4. Chen: Plasma physics.

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Paper - IV: ELECTRONICS

- Unit-I** Operational Amplifier- Basic Op.Ampl. Differential amplifier, the emitter coupled Difference Ampl., Transfer characteristics of a Diff. Ampl., an example of an IC Op.-Amp., off set error voltage and currents, measurement of Op.-Amp. Parameters, frequency response of Op-amp.Linear analog systems: Basic Op.-Amp. Applications, Analog integration and differentiation, Electronic analog computation, Non-linear analog systems: Comparators, Waveform generators.
- Unit-II** Combinational Logic –Basic logic gates: OR, AND and NOT gates, NOR and NAND gates, Boolean algebra, DeMorgan's theorems, exclusive OR gate, characteristics of logic families, saturated logic families: RTL, DCTL, non-saturated logic families: TTL and ECL, Unipolar logic families.
- Unit -III** Sequential Logic, Flip-flops: RS Flip-flop, level clocking, Edge triggered Flip Flops, D Flip flops. JK Flip-flops, J.K.master slave Flip-flops, Registers: buffer, shift and control shift registers, counters: ripple synchronous & ring counters, tri-state registers, Buffer: controlled buffer Register, Bus organized structure, Latch, multiplexer, Demultiplexer, decoder, ALU Memories: RAM, ROM, PROM, EPROM, A/D and D/A converters.
- Unit-IV** Microprocessors – Building concept of microprocessors, developing inside of microprocessor , Instruction codes ,Instruction Register ,Introducing RESET Pin, Introducing on chip oscillator, Interfacing I/O devices, Introducing Interrupt lines :Stack,Push,Pop operation ,delay in servicing interrupts, multiply interrupts, location for interrupts .Introducing slow and fast data transfer, Status of microprocessor, interrupt pins, General purpose Register, flag Register, Increment/decrement register. Features of 8085 microprocessor. Pin diagram of 8085, block diagram of 8085. CPU of a microprocessor, timing and control, system timings and interrupt timings of 8085, registers in 8085, interfacing memory and I/O devices- a preliminary ideas.Number system, Floating Point notation.
- Unit – V** Instructions set of 8085, types of instructions- Data transfer group, Arithmetic logic, branch group, stack I/O machine control group, addressing mode of Intel 8085, examples of Assembly language programs of 8085, summing of two 8-bit numbers to result a 16-bit number, summing two 16-bit number, multiplying two 8-bit number to result a 16-bit product, block transfer of data from one memory block to other, BCD to hexadecimal data, finding the largest number in a series.

Text and reference books

1. Integrated Electronics: J.Millman R.C.C.Halkias.
2. Electronics devices and circuit theory, by Robert Boylested and Louis Nashdaky PHI, New Delhi-110001, 1991.
3. Operational amplifier linear integrated circuits, by Romakanth A. Gayakwad PHI, second edition 1991.
4. Digital computer electronics- An introduction to microcomputers-A.P.Malvino.
5. Digital finances and applications, by A.P. Malvino and Donald P.Leach, Tata

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- McGraw Hill company, New Delhi 1993.
6. Microprocessor architecture, programming applications with 8085/8086 by Ramesh S.Gaonkar, Willey-Eastern limited 1987.
 7. Introduction to microprocessors – A.P.Mathur (Tata McGraw).
 8. Microprocessors-Theory and applications- M.Hafiquizzaman (Prentice hall).
 9. Microprocessors fundamentals- Schanmi Outling Service Author Pocer L.Tokheim.
 10. Integrated circuits : K KBotkar(Khanna publications)
 11. Digital Electronics : R P Jain (Tata McGraw Hill)
 12. Microprocesss : B Ram
 13. 8-bit microprocessor : V.J.Vibhute & P.B. Borole(Tecn-Max Publication, Pune)

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Laboratory Course

Lab I-A: General & Optics (Any ten)

1. Determination of band gap of semiconductor by four prob method.
2. Measurement of Hall Coefficient of given semiconductor: identification of type of semiconductor and estimation of charge carrier concentration.
3. Determination of wavelength of mercury light by constant deviation spectrometer using Hartmann formula.
4. Ultrasonic velocity in a liquid as a function of temperature using ultrasonic interferometer.
5. Experiment on transmission line (A) Determination of characteristics impedance, (B) Study of voltage distribution.
6. Determination of the Curie temperature of ferromagnetic material.
7. Determination of forbidden gap of a diode by plotting reverse saturation current as a function of temperature.
8. Determination of operating voltage and study the characteristics of a GM tube.
9. Determination of operating voltage of a GM tube and determine the linear absorption coefficient.
10. Determination of operating voltage of a GM tube and verify inverse-square law.
11. Determination of short half life of a given source which can be obtained from a mini generator or produced with a neutron source by activation.
12. X-ray diffraction by Telexometer.
13. Determination of ionization potential of Lithium/Mercury.
14. Determination of e/m of electron by Normal Zeeman Effect using Feby -Perot Etalon.
15. Determination of Dissociation energy of iodine (I_2) Molecule by photography, the absorption bands of I_2 in the visible region.
16. Measurement of wavelength of He-Ne Laser light using a ruler and thickness of thin wire by the laser.
17. To study Faraday Effect using He-Ne Laser.

Lab I-B: Electronics (Any ten)

1. Design & Study of Regulated Power supply.
2. Study of Transistor Amplifiers in CE, CB, and CC modes.
3. Study of Transistor Bias Stability.
4. Study of Astable, Monostable and Bistable Multivibrator.
5. Study of Silicon Controlled Rectifier.
6. Experiment of Uni - Junction Transistor and its application.
7. Experiment of FET and MOSFET characterization and application as an amplifier.
8. Study of Differential. Amplifier.
9. Basic Logic gates and verification of their Truth- Tables.
10. Combinational logic gates and verification of De-Morgan's Theorem.
11. Study of Basic Operational Amplifier (741).
12. Study of Opto- Electronics Devices.

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Semester – II

PAPER - I : QUANTUM MECHANICS-I

- Unit - I** Inadequacy of classical mechanics, Plank quantum hypothesis and radiation law, Photoelectric effect, de-broglie's theory. Schrödinger equation, continuity equation, Ehrenfest theorem, admissible wave functions, general formalism of wave mechanics, representation of states and dynamical variables, stationary states, one-dimensional problems; walls and barriers, Schrödinger equation for harmonic oscillator and its solution.
- Unit –II** Superposition principle, uncertainty relations, states with minimum uncertainty product, commutation relationship, completeness and normalization of eigen functions, Dirac-delta function, Bra & Ket notation, matrix representation of an operator, harmonic oscillator and its solution by matrix method, Heisenberg equation of motion.
- Unit -III** Angular momentum in quantum mechanics, commutation relationships, eigen values, Spin angular momentum, Pauli's matrices, addition of angular momentum, Clebsch-Gordon coefficients.
- Unit – IV** Central force problem, spherically symmetric potentials in three dimensions, separation of wave equation, parity, three-dimensional square-well potential and energy levels, the hydrogen atom; solution of the radial equation, energy levels and stationary state wave functions, discussion of bound states, degeneracy.
- Unit –V** Time- independent perturbation theory, non-degenerate case, first order and second perturbations with the example of an oscillator, degenerate cases, removal of degeneracy in second order, Zeeman effect without electron spin, first-order Stark effect in hydrogen, perturbed energy levels, correct eigen function, occurrence of permanent electric dipole moments.

TEXT AND REFERENCE BOOKS:

1. L.I. Schiff: quantum mechanics (McGraw-Hill).
2. S.Gasiorowicz, Quantum Physics (Wiley).
3. Landau and Lifshitz : Non-relativistic quantum mechanics.
4. B.Craseman and Z.D.Powell: quantum mechanics (Addison Wesley)
5. A.P. Messiah: Quantum Mechanics.
6. J.J. Sakurai : Modern Quantum Mechanics.
7. Mathews and Venkatesan : Quantum Mechanics.

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PAPER – II: STATISTICAL MECHANICS

- Unit-I** Foundation of statistical mechanics : macroscopic and microscopic states, contact between statistics and thermodynamics, physical significance of $\Omega(N, V, E)$, the classical gas, entropy of mixing and Gibb's paradox, phase space of classical system, Liouville's theorem and its consequences, quantum states and phase space.
- Unit- II** Elements of ensemble theory – A system in microcanonical, canonical, and grand canonical ensembles, partition functions, physical significance of statistical quantities, example of classical system, energy and energy-density fluctuations and mutual correspondence of various ensembles.
- Unit -III** Formulation of quantum statistics – Quantum mechanical ensemble theory, density matrix, statistics of various quantum mechanical ensembles, system composed of indistinguishable particles.
Theory of simple gases –Ideal gas in various quantum mechanical ensemble, Maxwell-Boltzmann, Bose-Einstein, Fermi-Dirac distributions, statistics of occupation number.
- Unit - IV** Ideal Bose and Fermi gases -Thermodynamic behavior of an ideal Bose gas, Bose-Einstein condensation and, elementary excitations in liquid helium II, Thermodynamic behavior of an ideal Fermi gas, the electron gas, nonrelativistic and relativistic degenerate electron gas, theory of white dwarf stars.
- Unit -V** Statistical Mechanics of interacting systems – the method of cluster expansion for a classical gas, Virial expansion of the equation of state. Theory of phase transition – general remark on the problem of condensation, Fluctuations: thermodynamic fluctuations, Spatial correlation in a fluid Brownian motion: Einstein Smoluchowski theory of Brownian motion.

TEXT & REFERENCE BOOKS –

1. R. K. Pathria, Statistical Mechanics (Pergamon Press).
2. L. D. Landau & E. M. Lifshitz (Butter worth and Heinemann Press).
3. Federick Reif, Fundamental of statistical and thermal physics (McGraw-Hill publishers).
4. Kerson Huang, Statistical Mechanics (Wiley Eastern).

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PAPER –III: ELECTRONIC & PHOTONIC DEVICES AND OPTICAL MODULATORS

- Unit – I:** Special Bipolar devices: Thyristors- the four-layer diodes and their basic characteristics, Shockley diode, three terminal thyristor, Diac & Triac, SCR, UJT, Field controlled Thyristors.
- Unit- II:** Unipolar Devices : JFET, MESFET and MOSFET, basic structure, working and device I-V characteristics, small signal equivalent circuit for Microwave performance Introduction to MIS and MOS diodes, charge coupled devices (CCDs), basic structure and working principle , MOSFET-basic device characteristics, types of MOSFET.
- Unit-III:** Special Microwave Devices: Tunnel diode and backward diode- basic device characteristics, IMPATT diodes and their static and dynamic characteristics, Transfer electron devices- transferred electron effect, Gunn diodes.
- Unit-IV :** Photonic Devices : Radiative transitions, LEDs, Visible and infrared SC lasers; Photo detectors; Photo conductor, & Photodiode, Solar cells, Solar radiation and ideal conversion efficiency, p-n junction solar cells, Hetero junction. Interface thin film solar cells.
- Unit -V:** Optical Modulators and Display Devices :Modulation of light- Birefringence, Optical activity, Electro-optic, Magneto-optic and Acoustic- optic effects, Materials exhibiting these properties, Non-linear optics.Display devices: Luminescence, Photo-luminescence, Electro-luminescence, Liquid crystal displays, Numeric displays.

TEXT & REFERENCE BOOKS-

1. Semiconductor Devices – Physics and Technology, by S M Sze ,Wiley (1985)
2. Introduction to semiconductor device, M.S. Tyasi, John Wiley and sons
3. Measurement, Instrumentation and experimental design in physics and engineering by M.Sayer and A.Mansingh, Prentice Hall India 2000
4. Optical electronics by Ajay Ghatak and K.Thyagarajah, Cam.Univ. Press.
5. Opto electronics – An introduction: J.Wilson and JFB Hawkes (Eastern Economy Edition).
6. Optical Communications: J.H. Franz and V.K. Jain (Narosa).

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PAPER – IV: COMPUTATIONAL METHODS AND PROGRAMMING

- Unit –I** Methods for determination of zeroes of linear and nonlinear algebraic equations and transcendental equations, convergence of solutions. Solution of simultaneous linear equations, Gaussian elimination, pivoting, iterative method, matrix inversion.
- Unit –II** Finite differences, interpolation with equally spaced and unevenly spaced points, curve fitting, polynomial least squares and cubic spline fitting. Numerical differentiation and integration, Newton-Cotes formulae, error estimates, Gauss method.
- Unit –III** Numerical solution of ordinary differential equations, Euler and Runge-Kutta methods, predictor-corrector method, elementary ideas of solutions of partial differential equations.
- Unit-IV** Elementary information about digital computer principles, compilers, interpreters and operating systems(Windows/Linux) Fortran programming, flow charts, integers and floating point arithmetic, expressions, built in functions.
- Unit-V** Executable and non-executable statements, assignments, control and input-output statements, subroutines and functions; The statement functions, main features of functions and subroutines ,subprogram, function subprogram, overall structure of FORTRAN programe, external statement, subroutine subprogram ,common statement, equivalence statement, operations with files-open and close statement, Format statements, field specifications.

TEXT AND REFERENCE BOOKS

1. Sastry: Introductory Methods of Numerical Analysis.
2. Rajaraman: Numerical Analysis.
3. Antia: Numerical methods.
4. Raja Raman: FORTRAN programming.

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Laboratory Course

LabII-A: Numerical Analysis & Computer Programming (Any ten)

1. To solve simultaneous Linear equation by Gauss Elimination method.
2. To calculate the root of a transcendental equation by Newton – Raphsons method.
3. Solving the system of linear simultaneous equation by Gauss Serdel method.
4. Numerical Integration by Simpson's 1/3 Rule.
5. Solving simultaneous Linear equation by Gauss-Jordon method.
6. Solution of Differential equation by Euler's Method.
7. To invert a given matrix by Gauss-Jordon Method.
8. Solution of Differential equation by Runga Kutte Method.
9. To fit the given data in a straight line by linear regression Method.
 - a) WAP to find the Largest of n number of series.
 - b) To calculate the standard deviation of a given set of data.
10. To write a program to compute the complex roots of a given polynomial of N^{th} degree by Graffe's Method.
11. To write a program to compute the Eigen values of a given matrix.
12. To integrate a given function by: (a) Trapezoidal method or by (b) Gauss Quadrature.
13. To find solutions of 1st order, ordinary differential equation by Taylor method

Lab II-B: Digital Electronics & Microprocessor (Any ten)

1. Study of R-S, D/T, J-K Flip-Flops.
2. Study of counters: Ripple, Mode 3, Mode 5 counters.
3. Study of Shift Register.
4. Study of R-2R D/A Converter.
5. Study of Random Access Memory (RAM) Read Only Memory. (ROM)
6. Study of A/D Converter.
7. Experiment with Microprocessor:- I
 - (a) Convert BCD in to HEXADECIMPL
 - (b) To transfer group of date blocks from one location to another location.
8. Experiment with microprocessor: - II
 - (a) To write programs for addition of two 1 byte data giving results of 2 bytes.
 - (b) To write programs for multiplication of two 1 byte data giving results of 2 bytes.
9. (a) To add 2 16-BIT numbers stored in locations from $x \ x \ x \ x$ to $x \ x \ x \ x + 3$ and add them store the results from $x \ x \ x \ x + 4$ to $x \ x \ x \ x + 6$ memory location
 - (b) To find the largest of n numbers of a series.
10. To arrange N numbers in an ascending orders.
11. Experiments with Microprocessor.
 - (a) Convert BCD in to binary and vice-versa.
 - (b) To transfer group of data blocks from one location to another location.
 - (c) To write programs for addition of two 1byte data giving result of 2byte data
 - (d) To write programs for multiplication of two 1 byte data giving result of 2byte data.
12. Logic gate study DTL and RTL.
13. Study of adder/Subtractor.

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Semester – III

PAPER –I: QUANTUM MECHANICS -II

- Unit-I** Variational method, expectation value of energy, application to excited states, ground state of He-atom, Zero point energy of one dimensional harmonic oscillator, Vander-waals interaction, the W.K.B. approximation, approximate solutions, asymptotic nature of the solution, solution near turning point, connection formulae, energy levels of a potential well and quantization rule.
- Unit -II** Theory of scattering: differential and total scattering cross section, wave mechanical picture of scattering & the scattering amplitude, Green's functions and formal expression for scattering amplitude, The Born approximation and its validity, Partial wave analysis, asymptomatic behavior of partial waves and phase shifts, optical theorem, scattering by a square well potential, scattering by a hard sphere, scattering by a Coulomb potential..
- Unit – III** Time-dependent perturbation theory, first order perturbation, Harmonic perturbation, Fermi's Golden rule, Ionization of a H-atom, absorption and induced emission, Selection rules. Identical particles, symmetric and anti symmetric wave functions
- Unit –IV** Relativistic quantum mechanics, formulation of relativistic quantum theory, the Klein-Gordon equation; plane wave solutions, charge and current densities, The Dirac equation for a free particle, matrices alpha and beta, Lorentz covariance of the Dirac equation, free particle solutions and the energy spectrum, charge and current densities.
- Unit-V** The spin of the Dirac particle, Dirac particle in electromagnetic fields and the significance of the negative energy state, Dirac equation for a central field : Spin angular momentum, approximate reduction, spin –orbit energy, separation of equation, the hydrogen atom, classification of energy levels and negative energy states.

TEXT AND REFERENCE BOOKS –

1. L.I. Schiff: Quantum Mechanics (McGraw-Hill).
2. S.Gasiorowicz: Quantum Physics (Wiley).
3. Landau and Lifshitz : Quantum Mechanics.
4. B.Craseman and Z.D.Powell : Quantum Mechanics (Addison Wesley)
5. A.P. Messiah: Quantum Mechanics.
6. J.J. Sakurai: Modern Quantum Mechanics.
7. Mathews and Venkatesan: Quantum Mechanics.
8. Bjorken and Drell : Relativistic Quantum Mechanics.

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PAPER –II: ATOMIC AND MOLECULAR PHYSICS

Unit-I: Quantum states of one electron atoms-atomic orbitals, Hydrogen spectrum, spin-orbit(l-s) interaction energy, fine structure of hydrogen spectrum including l-s interaction and relativistic correction, spectra of alkali elements, fine structure in alkali spectra, penetrating and non-penetrating orbits, intensity rules.

Unit-II: Pauli's principle, equivalent and non-equivalent electrons, ground state(basic level of different elements), two electron systems, interaction energy in L-S. and J-J. Coupling, Hyperfine structure, line broadening mechanisms (general ideas).

Unit-III: Normal and anomalous Zeeman effect, early discoveries and developments, vector models of one electron system in a weak magnetic field, magnetic moment of a bound electron, magnetic interaction energy, selection rules, intensity rules, Paschen-Back (PB) effect – principal series effect, Zeeman and PB effects in hydrogen, Stark effect- discovery, Stark effect in Hydrogen, orbital model, weak and strong effect in Hydrogen.

Unit-IV: Types of molecules: linear diatomic molecules, symmetric top, asymmetric top and spherical top molecules. Rotational spectra of diatomic molecules: rigid rotator model, energy levels, selection rule, spectrum, comparison with observed spectrum and non-rigid rotator model, Intensities of spectral lines, microwave spectrometer, Raman spectrum; classical and quantum theory of Raman Effect, pure rotational Raman spectrum.

Unit-V: Vibrational spectra of diatomic molecules: simple harmonic model, energy levels and spectrum, comparison with observed spectrum and anharmonic model, Vibrating rotators, Interaction of rotations and vibrations, fine structures and P-Q-R branches, IR spectrometer, Vibrational Raman spectrum, Vibrational rotational Raman spectrum.

TEXT AND REFERENCE BOOKS:

1. Introduction to atomic spectra - H.E. White (T).
2. Fundamentals of molecular spectroscopy – C.N. Banwell and E.M McCash (T).
3. Spectroscopy vol. I, II and III – Walker and Straughner.
4. Introduction to Molecular spectroscopy – G.M. Barrow.
5. Spectra of diatomic molecules – Herzberg.
6. Molecular spectroscopy – Jeanne L. Mc-Hale.
7. Molecular spectroscopy – J.M. Brown.
8. Spectra of atoms and molecules – P.F. Berman.
9. Modern spectroscopy, J.M. Hollas.

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PAPER – III: SOLID STATE PHYSICS-I

Unit- I: Electrons in Solids and Electronic Properties

Energy bands: nearly free electron model, origin of energy gap and its magnitude, Bloch function, Kronig-Penny model, Wave equation of electron in periodic potential, restatement of Bloch theorem, crystal moment of an electron, solution of Central equation, Kronig-Penny model in reciprocal space, empty lattice Approximation, approximate solution near zone boundary, Number of orbitals in a band, metals and insulators.

Unit -II: Fermi surfaces and metals

Effect of temperature on F-D distribution, free electron gas in three dimension. Different zone schemes, reduced and periodic zones, construction of Fermi surfaces, nearly free electrons, electron, hole, open orbits, Calculation of energy bands, Tight binding, Wigner-Seitz, cohesive energy, pseudo potential methods. Experimental methods in Fermi surface studies, quantization of orbits in a magnetic field, de Haas van Alphen Effect, External orbits, Fermi surface of copper.

Unit- III: Crystal vibration and thermal properties

Lattice dynamics in monoatomic and diatomic lattice: two atoms per primitive basis, optical and acoustic modes, quantization of elastic waves, phonon momentum, inelastic neutron scattering by phonons, Anharmonic crystal interactions-thermal expansion, thermal conductivity, thermal resistivity of phonon gas, umklapp processes, imperfections.

Unit –IV: Electron-Phonon interaction- superconductivity

Experimental survey: occurrence of superconductivity, Destruction of superconductivity by magnetic field, Meissner effect, heat capacity, energy gap, MW, and IR properties, isotope effect. Theoretical survey : thermodynamics of superconducting transition, London equation, Coherence length, Cooper pairing due to phonons, BCS theory of superconductivity, BCS ground state, flux quantization of superconducting ring, duration of persistent currents, Type II superconductors, Vortex states, estimation of H_{c1} and H_{c2} , single particle and Josephson superconductor tunneling, DC/AC Josephson effect, Macroscopic quantum interference. High temperature superconductors, critical fields and currents, Hall number, fullerenes ring.

Unit – V: Semiconductor crystals

Band gap, equation of motion, physical derivation of equation of motion, holes, effective mass, physical interpretation of effective mass, effective masses of semiconductors Si and Ge, intrinsic carrier concentration, intrinsic mobility, impurity conductivity, donor and acceptor states, thermal ionization of donors and acceptors, thermo-electric effects.

TEXT AND REFERENCE BOOKS

1. C. Kittel: Introduction to Solid State Physics (Wiley and Sons).
2. J.M.Ziman: Principles of theory of solids (Cambridge Univ.Press).
3. Azaroff: X-ray crystallography.
4. Weertman and weertman : Elementary Dislocation Theory.
5. Verma and Srivastava: Crystallography for Solid State Physics.
6. Azeroff and Buerger: The Power Method.
7. Buerger: Crystal Structure Analysis.

8. Thomas: Transmission Electron Microscopy.
9. Omar: Elementary solid state physics.
10. Ashcroft and Mermin: Solid State Physics.
11. Chalkin and Lubensky: Principles of Condensed Matter Physics.
12. Madelung: Introduction to solid state theory.
13. Callaway: Quantum theory of solid state physics.
14. Huang: Theoretical Solid State Physics.
15. Kittel: Quantum theory of solids.

PAPER –IV (A): ASTRONOMY AND ASTROPHYSICS-I

Unit – I Stars-apparent magnitudes, Colour index, Spectral classification, Stellar distances, Absolute magnitude, The H-R diagram of stars.
Stellar interiors: The basic equations of stellar structure, Hydrostatic equilibrium, Thermal equilibrium, Virial Theorem, Energy sources, Energy transport by radiation and convection, Equation of state

Unit – II Formation and evolution of stars: Inter stellar dust and gas, Formation of protostars, Pre-main sequence evolution, Post main sequence evolution and Evolution on the main sequence for low and high mass stars, Late stages of evolution, Fate of massive stars, Supernovae and its characteristics.

Unit – III End states of stars, Electron degeneracy pressure, White dwarfs, and Chandrasekhar limit, Neutron stars and Pulsars, Black holes.
Binary stars and their classification, close binaries, Roche Lobes, Evolution of semidetached systems: Algols, Cataclysmic variables and X-ray binaries.

Unit– IV Solar Physics: Physical Characteristics of sun, Photosphere: Limb darkening, Granulation, Faculae, Solar Chromosphere and Corona, Prominences, Solar Cycle and Sunspots, Solar Magnetic Fields, Theory of Sunspots, Solar flares, solar wind, Helioseismology.

Unit – V Kepler's law and its implication to Binary Stars, Doppler Effect and its use in velocity measurement e.g. rotation of Saturn and its Ring, determination of velocity of galaxies, Hubble's law and Age of the Universe, Star clusters, HR diagram of star clusters, distance and age determination through HR diagram. Variable stars, Cepheid Variables, Period Luminosity relation and Distance measurement. Period, dispersion and distance of the Pulsars. Photometer and photoelectric photometry.

TEXT AND REFERENCE BOOKS:

1. Astrophysics for Physicists, Arnab Rai Choudhuri, Camb. University Press, 2010.
2. Astrophysics : Stars and Galaxies, K.D. Abhayankar, Universities Press (India) Ltd, 2001.
3. An Introduction to Astrophysics, Baidyanath Basu, PHI, 2010.
4. Modern Astrophysics, B.W. Carroll and D.A. Ostlie, Addison-Wealey, 2007.
5. Introductory Astronomy and Astrophysics, M.Zeilik and S.A. Gregory, 4th ed., Saunders College Publishing, 1998.

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6. The Physical Universe: An introduction to astronomy, F.Shu, University Science Books 1982.
7. Textbook of astronomy and astrophysics with elements of cosmology, V.B. Bhatia, Narosa Publishing House, 2000.
8. The new cosmos, A.Unsold and B. Baschek, Newyork, Springer 2002.
9. Theoretical Astrophysics, vol. I: Astrophysical Processes T. Padmanabhan, Cambridge University Press, 2000.
10. Theoretical Astrophysics, vol. – II: Stars and stellar systems, T. Padmanabhan, Cambridge University Press 2001.
11. A Workbook for Astronomy, Jerry Waxman, Cambridge University Press, 1984.

Paper – IV (B) ELECTRONICS (Communication)-I

Unit I Microwave devices

Klystron ,magnetron & traveling wave tubes ,velocity modulation ,basic principal of two cavity klystrons & relex klystrons ,principle of operation of magnetrons ,helix traveling wave tubes .

Unit II Microwave wave guides & components

(Wave modes) rectangular wave guides: solution of wave equation in rectangular coordinates, TE modes in rectangular wave guides ,TM modes in rectangular wave guides ,excitations of modes in rectangular wave guides .
Circular wave guides :solutions of wave equation in Cylindrical coordinates, TE modes in Circular wave guides ,TM modes in Circular wave guides , TEM modes in Circular wave guides, excitations of modes in Circular wave guides .

Unit-III Microwave cavities: rectangular cavity resonator, circular –cavity resonator & semi –circular –cavity resonators Q- factor of a cavity resonator.

Transferred Electrons devices (TEDs)

Gunn effect diodes, principle of operation, modes of operations, read diodes, IMPATT diodes, TRAPATT diodes.

Microwave communications: advantages of microwave transmission, loss in free space, propagation of microwave, components of antennas used in MW communication system.

Unit-IV Radar system:

Radar block diagram & operation ,radar frequencies ,pulse consideration, radar range equation ,derivation of radar range equation ,minimum detectable single receiver noise ,signal to noise ratio ,integration of radar pulses ,radar cross sections ,pulse reflections frequency ,antenna ,parameters ,systems losses & propagation losses ,radars transmitters receivers ,antennas displays

Unit V Satellite communication

Orbital Satellite, geostationary satellite ,orbital patterns ,look angles ,orbital spacing , satellite system ,link modules

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REFERENCE BOOKS

- 1) "Microwaves" by K.L. Gupta Wiley Estern Ltd. Delhi.
- 2) Advanced Electronic communication system by Wayne Toms Physics education.
- 3) Principle of communication of system-by Toub & Schilling: 2nd ed. TMH 1994
- 4) Communication system: by Siman Haykin, 3rd ed. John wiley & sons inc.1994.
- 5) Microwave devices & circuits by : Samuel, Y. Liau.
- 6) Electronic communication: George kennedy.

Paper IV (C) PHYSICS OF NANO MATERIALS - I

Unit I: Nano Materials

Properties of Nano-Particles: Metal nano-clusters, theoretical modeling of nanoparticles, geometric and electronic structure, magnetic clusters, Semiconductor nanoparticles, optical properties, rare gas and molecular clusters, Bulk nano-structured materials: Solid disordered nanostructures, methods of synthesis, properties, nano-cluster composite glasses, porous silicon, nano structured crystals.

UNIT II: Carbon Nano Tubes (CNTs)

Nature of carbon bonds, different allotropies of carbon, structure and properties of C_{60} , graphene, carbon nanotubes and its types, laser vaporization techniques, arc discharge method and chemical deposition technique, purification techniques, Properties of Carbon Nanotubes and Graphene: Optical, electrical, electronic, mechanical, thermal, optical, and vibrational properties.

UNIT III: Synthesis of Nano- Materials

Top-down & Bottom-up approaches: Formation of nanostructures by mechanical milling (ball milling) and mechanical attrition, Chemical Vapor Deposition (CVD), Physical Vapour Deposition (PVD), thermal and e beam evaporation, Pulsed Laser Ablation (PLD).

Chemical Routes for synthesis of Nanomaterials: Chemical precipitation and co-precipitation, chemical bath deposition (CBD), Sol-gel synthesis, Microemulsions or reverse micelles, Solvothermal synthesis, Thermolysis routes and spray pyrolysis.

UNIT IV: Characterization of Nano-materials (a)

X-ray Diffraction (XRD), powder and single crystal Diffraction, X-ray fluorescence (XRF), X ray photoelectron spectroscopy (XPS), Energy Dispersive X-ray analysis (EDAX), Extended X ray absorption and fluorescence spectroscopy (EXAFS), Dispersive high pressure XRD and Diamond anvil cells (DAC).

Nuclear Magnetic Resonance (NMR) and Raman spectroscopy: description and analysis. Surface analysis methods: Secondary ion mass spectroscopy (SIMS), Auger Electron Spectroscopy, ESCA, Deep Level Transient Spectroscopy (DL TS), Thermo Gravimetric Analysis (TGA), Differential Scanning Calorimetry (DSC), Differential Thermal Analysis.

UNIT V: Characterization of Nano-materials (b)

Scanning Tunneling Microscopy (STM), Contact and non contact Atomic Force Microscopy (AFM), Magnetic Force Microscopy (MFM), Nano indentation. Scanning Electron Microscopy (SEM), Transmission electron microscopy (TEM), High resolution TEM Field emission SEM, Electron Energy Loss Spectroscopy (EELS).

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Spectrophotometry: UV-Vis spectrophotometers, IR spectrophotometers, Fourier Transform Infrared Radiation (FTIR), Photoluminescence (PL), electroluminescence and thermoluminescence spectroscopy, Near-field Scanning Optical Microscopy (NSOM).

References: Books/ Research Monographs

1. Nano materials: Synthesis properties ,characterization and application: A.S Edelstein and R.C Cammarata
2. Introduction to Nanotechnology: Charles P. Poole Jr and Franks J. Qwens
3. Nanotechnology, Kohlr, Michael.
4. Nanoelectronics and Nanosystems , Karl Goser, Peter Glosekotter, Jan Dienstuhl., Springer, 2004
5. Handbook of Analytical instruments, R.S. Khandpur
6. X-ray diffraction procedures, H. P. Klung and L.E.Alexander
7. The Powder Method IV. Azaroff and M. J. Buerger
8. Elements of X-ray diffraction, B. D.Cullity
9. Differential Thermal Analysis, R.C.Mackenzie
10. Thermal Methods of Analysis, W.W.Wendlandt
11. Synthesis, Functionalization and Surface treatment of Nanoparticles :Maric Isbella and Buraton
12. Encyclopedia of Nanotechnology, H.S. Nalwa
13. Nanomaterial Systems Properties and Application, A.S.Eldestein and R.C.Cammarata.
14. Handbook of Nanotechnology: Bhushan (Ed), Springer Verlag, New York (2004).
15. Nanostructures and Nanomaterials- Synthesis properties and Applications by Guozhong Cao (Empirical College Press World Scientific Pub., 2004).
16. Nanocomposite Science and Technology, Ajayan, Schadler and Braun
17. Fullerene & Carbon nanotubes, Dressel Shaus
18. Carbon Nanotubes, Elizer
19. Physical properties of CNT, Saito
20. Carbon nanotechnology, Liming Dai
21. Nanotubes and nanowires, CNR Rao and Govindaraj RCS Publishing.
22. Piezoelectric Sensors: Force, Strain, Pressure, Acceleration and Acoustic Emission Sensors, Materials and Amplifiers, G. Gautschi.
23. Block Copolymers in Nanoscience Massimo Lazzari
24. Supramolecular Chemistry, Jonathan W. Steed, Jerry L. Atwood
25. Nanotechnology: Importance and Application by M.H. Fulekar, IK International, 2010.
26. Nanotechnology in Biology and Medicine: Methods, Devices and Application by Tuan Vo-Dinh, CRC press, 2007.
27. Nanosystem characterization tools in the life sciences by Challa Kumar. Wiley-VCH, 2006.
28. Nanolithography M.Gentili et al.(edits),Springer.
29. Environanotechnology by Mao Hong fan, Chin-pao Huang, Alan E Bland, Z Honglin Wang, Rachid Sliman, Ian Wright. Elsevier, 2010.
30. Nanotechnologies, Hazards and Resource efficiency by M. Steinfeldt, Avon Gleich, U. Petschow, R. Haum. Springer, 2007.
31. Nanotechnology: Health and Environmental risk by Jo Anne Shatkin. CRC press, 2008.
32. An Introduction to Quantum Computing Phillip Kaye, Raymond Laflamme, Michele Mosca
33. The Physics of Quantum Information: Quantum Cryptography, Quantum Teleportation, Quantum Computation by Dirk Bouwmeester, Artur K. Ekert, Anton Zeilinger
34. Problems And Solutions in Quantum Computing And Quantum Information Yorick Hardy Willi-Hans Steeb

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PAPER –IV (D): SPACE PHYSICS - I

Unit I: Solar Physics

Physical Characteristics of sun, Source of solar energy, thermonuclear reaction and building up of higher elements, Description of solar internal and external layers, Photosphere: Limb darkening, Granulation, Faculae, Solar Chromosphere and Corona, Heating of the solar chromosphere and corona, Prominences, Solar Cycle and Sunspots, Solar Magnetic Fields, Theory of Sunspots, Solar flares, Solar wind, Coronal mass ejections, Helioseismology.

Unit II: Planetary System

Solar planetary system, Major characteristics of the Planets, Atmospheric Composition, Planetary magnetism, Magnetic fields, Magnetic dipole, Asteroids, Comets, Extra Solar Planets, Magnetic fields of Extra Solar Planets

Unit III: Celestial Mechanics

Time and Coordinate system: Celestial Sphere, Solar Time, Sidereal Time, Julian Date, Right Ascension and Declination, Azimuth and Elevation, galactic coordinates, WGS 84 coordinate system. GPS – operation, accuracy, time and position information.

Unit IV: Space and Observational tools

Electromagnetic bands of observation: radio, infrared, optical, UV, X-ray and Gamma-ray windows. Ground-based, balloon-borne and satellite-borne telescopes, Resolution of Instruments and Limitations, Optical telescopes, Photometers, Spectrographs, CCDs, Polarimeters. Radio telescopes - interferometry, X-ray and Gamma-ray detectors, Neutrino and Cosmic Ray astronomy, Radar.

Unit V: Space Missions

Planetary Exploration, Early spacecraft visits to the moon, Unmanned Lunar landers; The Apollo program - man on the moon – instruments and experiments, Lunar structures; Exploration of Mercury, Venus, Mars - the Red Planet – Structure of Mars, Martian atmosphere; ice at the poles, Martian landscapes: linear features, volcanoes, and impact craters; exotic terrains; Study of Planetary moons with space missions, The Cassini-Huygens Mission, The Deep Impact Mission. Search for extra terrestrial life – SETI experiments.

Text and Reference Books

1. Solar System Astrophysics, J. C. Brandt and P. W. Hodge
2. Introduction to Experimental Physics, W. B. Fretter.
3. The Magnetic Field of the Earth, Roland T. Merrill, Michael W. McElhinny, Phillip L. Mcfadden, Academic Press
4. Physics of Geomagnetic Phenomena, Vol. I and II, S. Matsushita. and W. H. Campbell, Academic Press
5. Earth's Magnetospheric Process, Ed. B. M. McCormac, D. Reidel Publishers
6. Physics of the Magnetosphere, Eds. R. L. Corovillano, J. T. McCaulley and H. Radosky, D. Reidel Publishers
7. Solar System Plasma Physics, Vol. I, II and III, Eds. C. F. Kennel, L. J. Lanzenrutti and E. N. Parker
8. Dynamics of the Geomagnetically Trapped Radiation (Physics and Chemistry in Space, Vol II)

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9. Solar Terrestrial Physics, Ed. E. R. Dyer, D. Reidel Publishers
10. Solar Magneto-Hydrodynamics, E.R. Priest; D Reidel, 1982
11. R.C. Smith, Observational Astrophysics; CUP, 1995.
12. C.R. Kitchin, Astrophysical Techniques; Adam Hilger, 1984.
13. Digital Image Processing, R. C. Gonzales and R. E. Woods, 2nd Ed, Pearson India, 2002
14. Satellite Meteorology, S. Q. Kidder and T. H. Von der Haar, Academic Press, 1995
15. Lecture Notes on Satellite Meteorology, Vol 1 and 2, SAC, Ahmedabad
16. Remote Sensing and Image Interpretation, T. M. Lillesand and R. W. Kieffer, John Wiley, 2002
17. Fundamentals of Space Systems, V. L. Pisacane and R. C. Moore, Oxford University Press, 1994
18. Fundamentals of Remote Sensing, George Joseph, 2003
19. Processing Remote Sensing Data, M. C. Girgard and C. Girgard, Oxford-IBH, 1999
20. Quantitative Remote Sensing of Land Surfaces, Shunlin Liang, Wiley Interscience, 2004
21. Scale in Remote Sensing and GIS, D. A. Quattrachi and M. F. Goodchild
22. Theory of Satellite Orbits in an Atmosphere, King-Hele Desmond, Butterworths, 1964
23. Uncertainty in Remote Sensing and GIS, Ed: G. M. Foddy and P. M. Atkinson
24. Remote Sensing by George Joseph
25. Concepts in Space Sciences Edited by R.R. Daniel
26. Mathematical Principles of Remote Sensing by A.. Milman
27. An Introduction to Ionosphere and Magnetosphere, J. A. Ratcliffe
28. Solar System Astrophysics, J. C. Brandft and P. W. Hodge
29. Plasma Diagnostic Techniques, R. H. Huddlestone and S. L. Leonard
30. Introduction to Experimental Physics, W. B. Fretter
30. High Vacuum Techniques, J. Yarwood
31. Plasma Diagnostics, Vol. I, O. Anciello and D. L. Flamm
32. The Earth's Ionosphere: Plasma Physics and Electrodynamics, Michael C. Kelley, Academic Press
33. Ionospheric Techniques and Phenomena, A. Giraud and M. Petit, D. Reidel Publish.
34. Physics of Geomagnetic Phenomena, Vol. I and II, S. Matsushita and W. H. Campbell, Academic Press
35. Introduction to Ionospheric Physics, H. Risbeth and H. Garriot, Academic Press
36. Space Weather, Physics and Effects by Volker Bothmer and Loannis.A.Depli Springer
37. Aerospace Environment by T Beer
38. Free flight of a rocket By Gantmaker
39. Orbital Mechanics, Ed. Vladimir A, Chobotov, AIAA Edn Series
39. Introduction to Celestial Mechanics, S. W. McCusky, Addison-Wesley
40. Fundamentals of Astrodynamics, R. R. Bates et al, Dover
41. Orbital Motion, A. E. Roy, Adam Hinglar Ltd
42. Orbital Methods in Astrodynamics, P. R. Escobal, John Wiley
43. Fundamentals of Astrodynamics, R. R. Bates et al, Dover
44. Orbital Motion, A. E. Roy, Adam Hinglar Ltd
45. Design of Orbital Flights, J. Johnson et al., McGraw Hill
46. Modern Astrophysics, B. W. Carroll and D. A. Ostlie, Addison -Wesley
47. The Physical Universe, F. Shu, University Science Books
48. The Physics of Astrophysics, Vol. I and II, F. Shu, University Science Books

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49. Theoretical Astrophysics, Vol. I, II and III, T. Padmanabhan, Cambridge Uni.Press
50. The Physics of Fluids and Plasmas, Arnab Rai Choudhuri, Cambridge Uni.Press
51. Astrophysical Concepts, M. Harwitt, Springer-Verlag
52. Galactic Astronomy, J. Binney and M. Merrifield, Princeton University Press
53. Galactic Dynamics, J. Binney and S. Tremaine, Princeton University Press
54. Quasars and Active Galactic Nuclei, A. K. Kembhavi and J. V. Narlikar, Cambridge University Press
55. An Introduction to Active Galactic Nuclei, B. M. Peterson

Lab III-A: Materials Science & General

At least ten experiments should be performed from the following list of experiments or parallel level experiment depending upon the facilities available.

1. To determine activation energy of ionic/superionic solid by Temperature depended conductivity measurement.
2. To study Electron Spin(ESR) Resonance in DPPH (Diphenyl Pricyl Hydrazy) sample.
3. To study I-V characteristics of photovoltaic solar cell and find the efficiency.
4. To study the decay of photoconductivity of given sample and find out trap depth.
5. Study of decay of photoluminescence of a given sample.
6. Measurement of electrical conductivity using Impedance Spectroscopy technique.
7. To determine drift velocities of Ag^+ ion in AgI from temperature dependence of ionic transference number study.
8. Electrical conductivity of Ball milled/Mechano-chemical synthesized materials.
9. Determination of strength of a given radioactive source.
10. Study of complete spectra of radioactive sources, and study of photo peak efficiency of NaI(Tl) crystal for different energy gamma rays.
11. Structural analysis of powder sample by XRD and particle size determination using Scherrer's formula.
12. FTIR studies of solid samples.
13. Mechanoluminescence of sucrose crystals.
14. Thermoluminescence of irradiated samples.
15. Study of Op-Amp.-IC-741 is inverting/ Non inverting amplifier and draw frequency response curve.
16. Construction of Schmitt triggers using IC-741 and study of its characteristics.
17. Study of Astable and monostable Multi Vibrator using IC 555.
18. Digital electronics experiments on bread board using IC-7400.

Lab III-B: Astronomy & Astrophysics

1. Study of Quasar.
2. Study of the orbit of a visual binary Star.
3. Determine the mass of Saturn & it's rotational velocity.
4. Verification of Hubble's law and determination of Hubble's constant.
5. Identification of element from Fraunhofer spectrum of the sun.
6. Study of sun spots.
7. Study of light curves of Cepheid variable stars.
8. Study of Proper motion of stars.

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9. Determination of Pulsar period and distance.
10. Photo-electric photometry of Pleiades star cluster.
11. Study of expansion of the universe and calculate the age of the Universe.

OR III -B: Electronics

- (1) Experiments with microprocessor.
 - (a) Convert BCD in to binary & vice versa.
 - (b) To transfer group of data blocks from one location to another location.
 - (c) To write programme for addition & subtraction.
 - (d) To write programme for multiplication & division.
- (2) Logic gate study DTL & RTL.
- (3) To study & verify the Demorgan's Theorem.
- (4) Study of Adder/ Subtractor.
- (5) Study of Encoder & Decoder.
- (6) Study of Multiplexer & Demultiplexer
- (7) Study of digital to analog converter.
- (8) Study of analog to digital converter.
- (9) Study of 4-bit Counter/ ripple Counter.
- (10) Study of left/right shift register.
- (11) Study of read only memory.
- (12) Study of Random Access Memory.
- (13) Study of Phase locked loop.
- (14) Study of BCD to seven segment Decoder.
- (15) Study of modulation & demodulation.
- (16) Optical fiber based experiment.
- (17) Microwave characterization and measurements.

OR III -B: Physics of Nano-material

1. Synthesis of II-IV semiconductor nanoparticles by wet chemical method.
2. Synthesis of nanoparticles (ZrO_2) by Combustion method.
3. Synthesis of nanoparticles by Sol-gel method.
4. Synthesis of nanoparticles by Ball milling method.
5. Synthesis of Quantum cells structures using vacuum coating unit.
6. Synthesis of nanoparticles using Solid state reaction method.
7. Measurement of band gap energy and size of the nano particle of II-IV semiconductor using absorption spectrophotometer.
8. To make the peak analysis of IR transmission spectra of nanoparticle using FTIR spectrometer.
9. Study of effect of capping agent on the size of the nanoparticle during synthesis.
10. To determine the average particle size of nano materials by XRD using Sherer's formula.
11. To determine the Hall coefficient and carrier type for a semiconducting nanoparticles.
12. To determine the Band gap of a given semiconductor using Four probe method from room temperature to $100^\circ C$.
13. To determine the average size of nanoparticles using Zetasizer.

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14. To measure the change of dielectric constant and dielectric loss of nanoparticle with the change of signal frequency by impedance analyzer.
15. To characterize the mechanical properties by tensile testing.
16. To estimate the particle size by SEM.
17. To perform electron diffraction analysis from TEM image.
18. To do roughness analysis of nanostructured sample using AFM.

OR III -B: Space Physics

1. The flow of energy out of the Sun.
2. Study of Sun-spot.
3. Astrometry of asteroids.
4. Study of expansion of the universe and calculate the age of the Universe.
5. Identification of element from Fraunhoffer spectrum of the sun.
7. The transit of Venus and Mercury.
8. Jupiter's Moon and speed of light.
9. Determination of Pulsar period and distance.
10. Photo-electric photometry of Pleiades star cluster.
11. The large scale structure of the Universe.

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Semester – IV

PAPER – I: NUCLEAR AND PARTICLE PHYSICS

- Unit-I Nuclear Interactions :** Nucleon-nucleon interaction, Two-nucleon system, The ground state of the deuteron, Tensor forces, Nucleon-nucleon scattering at low energy, Scattering length, Effective range theory, Spin dependence of nuclear forces, Charge independence and charge symmetry of nuclear forces, Iso-spin formalism, Exchange forces, Meson theory of nuclear forces and the Yukawa interaction.
- Unit-II Nuclear Reactions :** Reaction energetics: Q-equation and threshold energies, Reactions cross sections, Resonance: Breit-Wigner single-level formula, Direct and compound nuclear reactions, Formal reaction theory: Partial wave approach and phase shifts, Scattering matrix, Reciprocity theorem,
- Unit-III Nuclear Decay :** Beta decay, Shape of the beta spectrum and problems in conservation laws, Pauli's neutrino hypothesis, Femi's theory of beta decay, Total decay rate, Angular momentum and parity selection rules, Comparative half-lives, Allowed and forbidden transitions, Parity violation, Detection and properties of neutrino.
Gamma decay, Multiple transitions in nuclei, Angular momentum and Parity selection rules, Internal conversion.
- Unit –IV Nuclear models :** Liquid drop model, Bohr-Wheeler theory of fission, Shell Model, Experimental evidence for shell effects, Single particle shell model, Spin-orbit interaction and magic numbers, Analysis of shell model predictions, Magnetic moments and Schmidt lines, Collective model of Bohr and Mottelson.
- Unit –V Elementary particle Physics:** The fundamental interactions, Classification of elementary particles, Leptons and Hadrons, Symmetries, groups and conservation laws, SU(2) and SU(3) multiplets and their properties, Quark model, Properties of Quarks, the standard model.

TEXT AND REFERENCE BOOKS:

1. A. Bohr and B.R.Mottelson, Nuclear structure, vol. 1 (1969) and vol.2, Benjamin, Reading, A, 1975.
2. Kenneth S. Krane, Introductory Nuclear Physics, Wiley, New York, 1988.
3. Ghoshal, Atomic and Nuclear Physics vol.2.
4. P.H.Perking, Introduction to high energy physics, Addison-Wesley, London, 1982.
5. Shriokov Yudin, Nuclear Physics vol.1 & 2, Mir Publishers, Moscow, 1982.
6. D.Griffiths, introduction to elementary particles, harper and row, New York, 1987.
7. H.A.Enov, introduction to Nuclear Physics, Addison-Wesley, 1973.
8. G,E.Brown and A.D.Jackson, Nucleon-Nucleon interaction North-holland Amsterdam, 1976.
9. S.D.Benedetti, Nuclear interaction, John Willey and sons, NewYork, 1964.
10. M.K.Pal, theory of Nuclear structure, affiliated East West, Madras, 1982.
11. Y.R.Waghmare, introductory nuclear physics, Oxford, IBH, Bombay, 1981.
12. J.M.Longo, elementary particles, McGraw Hill, New York, 1971.
13. R.R.Roy and B.P.Nigam, Nuclear Physics, Wiley-Eastern Ltd. 1983.

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PAPER – II LASER PHYSICS AND APPLICATIONS

Unit- I Laser Characteristics –

Spontaneous and stimulated emission, Einstein's quantum theory of radiation, theory of some optical processes, coherence and monochromaticity, kinetics of optical absorption, line broadening mechanism, Basic principle of lasers, population inversion, laser pumping, two & three level laser systems, resonator, Q-factor, losses in cavity, threshold condition, quantum yield.

Unit – II Laser Systems

Solid state lasers- the ruby laser, Nd:YAG laser, ND: Glass laser, semiconductor lasers – features of semiconductor lasers, intrinsic semiconductor lasers, Gas laser - neutral atom gas laser, He-Ne laser, molecular gas lasers, CO₂ laser, Liquid lasers, dye lasers and chemical laser.

Unit-III Advances in laser Physics

Production of giant pulse -Q-switching, giant pulse dynamics, laser amplifiers, mode locking and pulling, Non-linear optics, Harmonic generation, second harmonic generation, Phase matching, third harmonic generation, optical mixing, parametric generation and self-focusing of light.

Unit – IV Multi-photon processes; multi-quantum photoelectric effect, Theory of two-photon process, three- photon process, second harmonic generation, parametric generation of light, Laser spectroscopy : Rayleigh and Raman scattering, Stimulated Raman effect, Hyper-Raman effect, Coherent anti-stokes Raman Scattering, Photo-acoustic Raman spectroscopy.

Unit – V Laser Applications – ether drift and absolute rotation of the Earth, isotope separation, plasma, thermonuclear fusion, laser applications in chemistry, biology, astronomy, engineering and medicine.
Communication by lasers: ranging, fiber Optics Communication, Optical fiber, numerical aperture, propagation of light in a medium with variable index, pulse dispersion.

TEXT AND REFERENCE BOOKS:

1. Laud, B.B.: Lasers and nonlinear optics, (New Age Int.Pub.1996).
2. Thyagarajan, K and Ghatak, A.K.: Lasers theory and applications (Plenum press, 1981).
3. Ghatak, A.K.and Thyagarajan, K : Optical electronics (Cambridge Univ. Press 1999).
4. Seigman, A.E.: Lasers (Oxford Univ. Press 1986)
5. Maitland, A. and Dunn, M.H. : Laser Physics (N.H.Amsterdam, 1969).
6. Hecht, J.The laser Guide book (McGraw Hill, NY, 1986).
7. Demtroder, W. : Laser Spectroscopy (Springe series in chemical physics vol.5, Springe verlag, Berlin, 1981).
8. Harper, P.G.and Wherrett B.S. (Ed.): Non-linear-optics (Acad.press, 1977).

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PAPER – III: SOLID STATE PHYSICS- II

Unit- I: Plasmons, Polaritons

Dielectric function of the electron gas, Plasma optics, Dispersion relation for EM wave, Transverse optical modes in Plasma, Transparency of Alkali metals in the ultraviolet, Longitudinal Plasma oscillations, Plasmon, electrostatic screening and screened Coulomb potential, Mott metal-insulator transition, screening and phonons in metals, Polaritons, LST relation .

Unit –II: Dielectric and ferroelectrics

Maxwell's equations, polarization, macroscopic electric field, depolarization field, E_1 ; local electric field at an atom, Lorentz field E_2 , fields of dipoles inside cavity E_3 ; dielectric constant and polarizability, electronic polarizability; structural phase transition; ferro-electric crystals, classification; displacive transition, soft optical phonons, Landau theory of phase transitions, first and second order transition, antiferro-electricity, ferro-electric domain, piezoelectricity, ferro-elasticity, optical ceramics.

Unit –III: Magnetism

General ideas of dia- and para- magnetisms, quantum theory of paramagnetism, rare earth ions, Hund rule, iron group ions, crystal field splitting, quenching of orbital angular momentum, spectroscopic splitting factor, van vleck temperature dependent paramagnetism, Cooling by isentropic demagnetization, nuclear demagnetization, paramagnetic Susceptibility of conduction electrons.

Unit –IV: Ferromagnetism and anti ferromagnetism

Ferromagnetic order, Curie point and exchange integral, temp dependence of saturation magnetization, saturation magnetization at absolute zero; magnons, quantization of spin waves, thermal excitation of magnons; neutron magnetic scattering, Ferrimagnetic order, Curie temp and susceptibility of ferrimagnets, iron garnets. Antiferromagnetic order, susceptibility below neel temp, antiferromagnetic magnons, ferromagnetic domains.

Unit – V: Optical Processes & Excitons and defects

Optical reflectance, excitons, Frenkel and Mott-Wannier excitons, Alkali Halides and Molecular crystals Defects: lattice vacancies, Schottky and Frenkel point effects, colour centers, F and other centres, Line defect. Shear strength of single crystals, dislocations- edge and screw dislocations, Burger vectors, Stress fields of dislocations, low angle grain boundaries, dislocation densities, dislocation multiplication and slip, strength of alloys, dislocations and crystal growth, hardness of materials.

TEXT AND REFERENCE BOOKS

1. C. Kittel: Introduction to Solid State Physics (Wiley and Sons).
2. J.M.Ziman: Principles of theory of solids (Cambridge univ.press).
3. Azaroff : X-ray crystallography.
4. Weertman and weertman : Elementary Dislocation Theory.
5. Verma and Srivastava: Crystallography for Solid State Physics.
6. Azeroff and Buerger: The Power Method.
7. Buerger: Crystal Structure Analysis.
8. Thomas: Transmission Electron Microscopy.
9. Omar: Elementary solid state physics.

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10. Ashcroft and Mermin : Solid State Physics.
11. Chalking and Lubensky: Principles of Condensed Matter Physics.
12. Madelung : Introduction to solid state theory.
13. Callaway: Quantum theory of solid state physics.
14. Huang: Theoretical Solid State Physics.
15. Kittel: Quantum theory of solids.

PAPER –IV (A): ASTRONOMY AND ASTROPHYSICS - II

Unit- I: The Milkyway Galaxy: Structure of the Milkyway, Oort's theory of galactic rotation, Dynamics of the spiral arms, Distribution of Interstellar matter. Normal Galaxies: Classification of galaxies, Hubble sequence: Elliptical, Lenticulars and Spiral galaxies, and their properties, Brightness profiles, Distribution of gas and dust in galaxies, Rotation curve and dark matter.

Unit- II: Active galaxies: Active Galactic Nuclei (AGNs), Seyfert galaxies, BL Lac Objects, Radio galaxies: General properties, Superluminal motion, Quasars: Properties and Energy requirements, Nature of quasar redshifts, Supermassive black hole model and Unified model of AGNs.

Unit-III: Failure of Newtonian gravity and need of General Relativity. Principle of Equivalence. Concept of curved space, Predictions of General Relativity: precession of perihelion of Mercury, bending of light, gravitational lensing, Gravitational wave and its detection through Laser interferometer. Weyl's Postulate, Cosmological Principle, Friedmann Model, Einstein's model with cosmological constant, Steady State Model.

Unit- IV: Relics of the big bang, The early universe, Thermodynamics of the early universe, Thermal History, Primordial neutrinos, Helium synthesis and other nuclei, Microwave background, The very early universe, The formation of structures in the Universe, Jeans Mass, Growth Rate, Recombination era, Onset of matter dominated era.

Unit- V: Observations of the cosmological significance, Measurement of Hubble's constant, Anisotropy of local large - scale velocity fields, Age of the universe, Abundance of light nuclei, Dark matter, The redshift-magnitude relation, Number counts of extragalactic objects, The variation of angular sizes with distance.

TEXT AND REFERENCE BOOKS:

1. Astrophysics for Physicists, Arnab Rai Choudhuri, Camb. University Press, 2010.
2. Astrophysics : Stars and Galaxies, K.D. Abhayankar, Universities Press (India) Ltd, 2001.
3. An Introduction to Astrophysics, Baidyanath Basu, PHI, 2010.
4. Modern Astrophysics, B.W. Carroll and D.A. Ostlie, Addison-Wealey, 2007.
5. Introductory Astronomy and Astrophysics, M.Zeilik and S.A. Gregory, 4th ed., Saunders College Publishing, 1998.
6. Quasars and active galactic neuclei, A.K. Kembhavi and J.V. Narlikar, Cambridge University Press, 1999.
7. Elements of Cosmology, J.V. Narlikar, Universities Press, 1996.
8. Introduction to cosmology, J.V. Narlikar, 3rd edition, Cambridge Uni. Press, 2002.

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9. The Physical Universe: An introduction to astronomy, F.Shu, University Science Books 1982.
10. Textbook of astronomy and astrophysics with elements of cosmology, V.B. Bhatia, Narosa Publishing House, 2000.
11. The new cosmos, A.Unsold and B. Baschek, Newyork, Springer 2002.
12. Theoretical Astrophysics, vol. I, II, III, T. Padmanabhan, Cambridge University Press.
13. A Workbook for Astronomy, Jerry Waxman, Cambridge University Press, 1984.
14. Structure formation in the universe, T.Padmanbhan, Cambridge University, press 1993.
15. Galactic Astronomy: Binney and Merrifield, Princeton University Press,1981.
16. General relativity and Cosmology, J.V. Narlikar, Macmillan Company of India Ltd, New Delhi 1978.
17. General relativity, I.R. Kenyon, Oxford University Press 1990.
18. Classical theory of fields, vol. 2, L.D. Landau and E.M. Lifshitz, Oxford: Pergamon press 1971.
19. First course general relativity, B.P. Schutz – Cambridge Univ. Press 2009.

Paper – IV (B) Electronics II (Communication)

Unit-I Digital communications

Pulse modulation systems, Sampling Theorem, Low pass & Band pass signal, PAM- Channel BE for PAM signal, Natural Sampling, Flat-top sampling, Signal through holding, Quantization of signals, quantization error.

Unit-II Digital modulation techniques

PCM, Differential PCM, Delta modulation, Adaptive, delta modulation (CVSD). BPSK, DPSK, QPSK, PSK, QASK, BFSK, FSK, MSK

Unit-III Mathematical representation of noise

Sources of noise, Frequency domain representation of noise, Effect of filtering on the probability density of Gaussian noise, Spectral component of noise, Effect of a filter on the power spectral density of noise, Superposition of noise, Mixing involving noise, linear filtering, Noise bandwidth, Quadrature component of noise, Power spectral density of $n_c(t)$ $n_s(t)$ & their time derivatives.

Unit-IV Data Transmission I

Base band signal receiver, Probability of error optimum filter, White noise: Matched filter & probability of error, Coherent reception correlation, PSK, FSK, Non-Coherence detection on FSK, Differential PSK, QASK, Calculation of error probability for BPSK, BFSK, QPSK.

Unit-V Data Transmission II

Noise in pulse code & delta modulation system, PCM transmission, Calculation of quantization noise output signal power, Effect of thermal noise, output signal to noise ratio in PCM, DM, Quantization noise in DM, output signal power, DM output signal to quantization noise ratio, effect of thermal noise in delta modulation, output signal to noise ratio in DM

Text and Reference Books:

- 1) "Microwaves" by K.L. Gupta Wiley Estern Ltd. Delhi.
- 2) Advanced Electronic communication system by Wayne Toms Physics education.

- 3) Principle of communication of system-by Toub & Schilling: second edition TMH 1994
- 4) Communication system: by siman Haykin, third edition John wiley & sons inc.1994.
- 5) Microwave devices & ckts by: Samuel, Y. Liau.
- 6) Electronic communication: George kennedy.

Paper – IV (C) PHYSICS OF NANO MATERIALS- II

UNIT I: Electrical transport in nano-structure

Crystal bonding, structure, growth and symmetries; Band structure and density of states at nano-scale; Electrical transport in nano-structure- Electrical conduction in metals, classical and quantum theory, Conduction in Insulator and Ionic crystal, electron transport in semiconductors, various conduction mechanism in 3D (bulk) and 2D (thin film) and low dimensional systems, thermoionic emission , Field –enhanced thermoionic emission, Arrhenius type thermally activated conduction, variable range hopping and Polaron conduction.

UNIT II: Application of CNT

Applications of Carbon NanoTubes (CNTs) in field emission, fuel cells, CNT FETs, Light Emitting Displays (LEDs) and Flat Panel Displays (FPD), hydrogen storage, solar panels. Application of functional nanomaterials: clean energy (Hydrogen Production from Biomass, Catalytic coal hydrogasification), environmental technologies (clean water and air), health care (tissue and bone repairs, bio medical sensors)

Unit III: Next Generation Applications for Polymeric Nanofibres

Background, Biomedical Applications, Medical Prostheses, Tissue Engineering Scaffolds, Drug Delivery, Wound Dressing, Cosmetics. Filtration applications, Filter media, Protective Clothing, Material Reinforcement, Electrical Conductors, Optical applications, Sensor devices, Conclusion. Reference: Nanotechnology: Global Strategies, Industry Trends and Applications (Editor: Jurgen Schulte)

UNIT IV: Nano-Lithography

Photolithography Principles; Phase Shifting Optical Lithography; Electron Beam Lithography (EBL); Neutral Atomic Beam Lithography; Ion-Beam Lithography (IBL); X-ray Lithography (XRL); Proximal Probe Lithography, Proximal Probes, STM based Electron-Beam Lithography, Soft Lithography. Nano lithographic applications and current research.

UNIT V: Sustainable Nanotechnology and Human Health

Application of industrial ecology to nanotechnology, Fate of nanomaterials in environment, environmental life cycle of nano materials, environmental and health impacts of nano materials, toxicological threats, eco-toxicology, exposure to nano particles – biological damage, threat posed by nano materials to humans, environmental reconnaissance and surveillance. Corporate social responsibility for nanotechnology, Nano materials in future - implications.

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References: Books/ Research Monographs

1. Nanostructures & Nanomaterials: Synthesis, Properties & Applications: Guozhang Cao.
2. Introduction to Nanotechnology: Charles P. Poole Jr and Franks J. Qwens.
3. Handbook of Analytical instruments, R.S. Khandpur
4. Nano materials: Synthesis properties ,characterization and application: A.S Edelstein and R.C Cammaratra
5. Nanoelectronics and Nanosystems , Karl Goser, Peter Glosekotter, Jan Dienstuhl.,
6. Springer, 2004
7. Nanomaterial Systems Properties and Application, A.S.Eldestein and R.C.Cammarata.
8. Handbook of Nanotechnology: Bhushan (Ed), Springer Verlag, New York (2004).
9. Nanocomposite Science and Technology, Ajayan, Schadler and Braun
10. Piezoelectric Sensors: Force, Strain, Pressure, Acceleration and Acoustic Emission Sensors, Materials and Amplifiers, G. Gautschi.
11. Block Copolymers in Nanoscience Massimo Lazzari Supramolecular Chemistry, Jonathan W. Steed, Jerry L. Atwood
12. Nanotechnology: Importance and Application by M.H. Fulekar, IK International, 2010.
13. Nanotechnology in Biology and Medicine: Methods, Devices and Application by Tuan Vo-Dinh, CRC press, 2007.
14. Nanosystem characterization tools in the life sciences by Challa Kumar. Wiley-VCH, 2006.
15. Nanolithography M.Gentili et al.(edits),Springer. Environanotechnology by Mao Hong fan, Chin-pao Huang, Alan E Bland, Z Honglin
16. Wang, Rachid Sliman, Ian Wright. Elsevier, 2010.
17. Nanotechnologies, Hazards and Resource efficiency by M. Steinfeldt, Avon Gleich, U. Petschow, R. Haum. Springer, 2007.
18. Nanotechnology: Health and Environmental risk by Jo Anne Shatkin. CRC press, 2008.
19. An Introduction to Quantum Computing Phillip Kaye, Raymond Laflamme, Michele Mosca
20. The Physics of Quantum Information: Quantum Cryptography, Quantum Teleportation, Quantum Computation by Dirk Bouwmeester, Artur K. Ekert, Anton Zeilinger
21. Problems And Solutions in Quantum Computing And Quantum Information Yorick Hardy Willi-Hans Steeb
22. Introduction to Nano Science and Nano Technology- K.K. Chatopadhyay and A. N. Banerjee

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PAPER –IV (D): SPACE PHYSICS - II

Unit I: Glimpse of Universe

Universe - description, origin, its evolution, age and size; Stars–birth, life, death, spectral analysis, stellar composition - element synthesis in stars, Exotic stars- novae, supernovae, pulsars, black holes and gamma ray bursts; Galaxies; Starbursts and Active Galactic Nucleus; Evidence for the Big Bang; Cosmic Background Radiation; Expansion Models; Dark Matter and Energy Recent innovations about the concept of Universe: Dark Energy and an accelerating universe

Unit II: Spacecrafts & Satellites

Satellite orbits and attitude: principles of satellite motion, Kepler's laws, orbital elements, satellite attitude and its control, types of orbits, polar and geostationary, earth and sunsynchronous, orbit optimization, viewing geometry, launch vehicles and spacecrafts, rocket propulsion concepts such as solid, hybrid, liquid, nuclear and antimatter. Rocket motors and their design, flight stability and recovery systems, stability and control system.

Unit III: Remote Sensing

Sensors and systems: visible, infrared, water vapour and microwave sensors, sensor characteristics, sensor materials, passive and active sensors, scanning radiometers, spectral signatures.

Satellite data processing: satellite data acquisition, satellite communications, data collection platforms, earth station, image processing, geometric and radiometric corrections, image navigation, registration, image enhancement techniques, noise removal methods, histogram methods, density slicing, image classification.

Applications of remote sensing in earth resources management, agriculture, forestry, water resources and disaster mitigation

Unit IV: Solar Wind and Interuactions

The ionospheric layers D, E, F and their formation, effect of radiation on earth's atmosphere, photochemical processes,

Geomagnetic and magnetic coordinates, poles, measurement of geomagnetic field components, micropulsation indices, variations of geomagnetic field, quiet and disturbed variations, geomagnetic storms, equatorial and auroral phenomena.

Solar wind, model of solar winds, interaction in the interplanetary medium and with the planets. Magnetosphere: interaction of solar wind with the geomagnetic field and formation of the magnetospheric tail, storm and sub-storm phenomena, Van Allen radiation belts

Unit V: Space Weather

Space Weather Effects on Communication, Space Weather Effects on Power Grids, Space Radiation Protection, Effects on Spacecrafts hardware and Operations, Effects on Satellite Navigation, Forecast of Space Weather.

Text and Reference Books

Same as mentioned in Semester III, Paper IV (D)

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**SCHEME OF EXAMINATION
&
SYLLABUS
of
CHOICE BASED CREDIT SYSTEM (CBCS)
UNDER
FACULTY OF SCIENCE**

**Approved by Board of Studies in Physics
EFFECTIVE FROM SESSION 2019-2020**



**School of Studies in Physics & Astrophysics
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**Approved by Board of Studies in Physics on 18, January 2019
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Choice Based Credit System (CBCS)

Under the CBCS scheme all the courses offered at P.G. level are under semester system. Semester system is applicable to regular students of affiliated colleges and Autonomous colleges of this University and different SoS of Pt. Ravishankar Shukla University, Raipur. Course structure along with distribution of marks is given below:

Name of the Paper	Marks					Credits
	Theory		Internal		Total	
	Max	Min	Max	Min		
Semester-I Paper-I: Basic Concepts of Physics and Astrophysics	80	16	20	04	100	03
Semester-II Paper-II: Basic Concepts of Optics	80	16	20	04	100	03

Note: Any one of the paper chosen by the students for CBCS will have 03 credits.

अध्ययनशाला का नाम	–	भौतिकी एवं खगोल भौतिकी अध्ययनशाला
पाठ्यक्रम	–	च्चायस बेस्ड पाठ्यक्रम द्वितीय सेमेस्टर
प्रश्नपत्र का नाम	–	Paper-I: Basic Concepts of Physics and Astrophysics
कुल क्रेडिट: 03		कुल अंक: 100

Choice Based Credit Course

Semester –I

Paper I- Basic Concepts of Physics and Astrophysics

Total Credit- 03, Total Marks: 100 [80+20]

Mechanical Properties of Matter: Newton laws of motion; Kepler’s laws of planetary motion; Friction; Conservative & non-conservative forces; Work and Energy: kinetic and potential energy; Law of conservation of Energy, power; Elasticity; Surface tension, Viscosity, Equation of continuity, Bernoulli’s theorem and its application.

Thermal Properties of Matter: Heat and temperature; Thermal expansion; Specific heat capacity; Latent heat; Calorimetry; Transfer of heat; Thermal conductivity; Thermal radiation; Black body radiation; Kirchhoff’s law; Stefan’s law; Newton’s law of cooling; Perfect gas; Boyle’s law, Charles’s law, Kinetic theory of gases.

Electricity and Magnetism: Coulomb’s law; Electrostatic force; Electric field; Electric Potential; Work done on a charge in an electrostatic field; Lines of force & Electric Flux; Gauss law; Dielectrics; Electric Susceptibility; Permittivity and Dielectric constant; Biot-Savart Law; Lorentz force; Ampere law; Time varying fields; Magnetization; Electromagnetic induction; Faraday law; Maxwell Equations.

Digital Electronics: Number systems; decimal, binary, octal, hexadecimal and their conversion; Logic gates: AND, OR, NOT, NAND, NOR, EX-OR gates and their logic symbols/ equivalent simplified switching circuits/ truth tables; Boolean algebra; De- Morgan theorems; Half and Full Adder circuits.

Astronomy & Astrophysics: Time and Coordinate system; Celestial Sphere; Solar Time; Sidereal Time; Julian Date; Right Ascension and Declination; Azimuth and Elevation; Optical telescopes; Apparent Magnitude; Absolute magnitude; Colour Index; UBVRI photometric systems; Luminosity; Stellar Distances; Spectral classification; The H-R diagram of stars; Physical Characteristics of Sun; Morphological classification of galaxies; Milky way galaxy.

REFERENCE BOOKS:

1. Fundamental of Physics, Halliday, Resnick & Walker, Wiley publication.
2. University Physics, Shears & Zimanski.
3. Basic electronics, V.K.Mehta.
4. Classical Electrodynamics, J. D. Jackson, J. Wiley & Sons.
5. Astrophysics for Physicists, Arnab Rai Choudhuri, Cambridge University Press.
6. Modern Astrophysics, B.W. Carroll and D.A. Ostlie, Addison-Wiley Publishing Co.
7. Introductory Astronomy and Astrophysics, M. Zeilik and S.A. Gregory, Saunders College Publishing.
8. The Physical Universe: An introduction to astronomy, F. Shu, Mill Valley University Sciences books.

अध्ययनशाला का नाम	–	भौतिकी एवं खगोल भौतिकी अध्ययनशाला
पाठ्यक्रम	–	च्चायस बेस्ड पाठ्यक्रम तृतीय सेमेस्टर
प्रश्नपत्र का नाम	–	Paper-II: Basic Concepts of Optics
कुल क्रेडिट: 03		कुल अंक: 100

Choice Based Credit Course
Semester –II
Paper II- Basic Concepts of Optics
Total Credit- 03, Total Marks: 100 [80+20]

Light and Optics: Nature of light; Optical Path; Reflection, Refraction, Refractive index, Dispersion and dispersive power; Achromatic prisms: Deviation without dispersion; Dispersion with no deviation in prismatic combination; Introduction to Optical instrument; Eyepieces: Ramsden and Huygens eyepiece; Huygens principle of wave front propagation; Reflection and Refraction of light from wave theory.

Interference: Interference of light; Young's experiment; Analytical treatment of Interference (wave theory); Condition for interference; Interference and conservation of energy; Fringe-width and shape of fringes in double slit; White light fringes: Colour effect; Newton's rings: Applications of Newton's rings, Michelson's interferometer, Applications of Michelson's interferometer.

Diffraction: Diffraction, Distinction between Interference and diffraction; Classes of diffraction; Fresnel's half-period zones: Plane wave-front; Diffraction at a straight edge; Diffraction at a single slit; Diffraction at a double slit; Resolving power of grating; Resolving power of a prism(spectrograph); Resolving power of telescope; Resolving power of microscope.

Polarisation: Polarisation of light; Experiment to show transverse nature of light waves; Polarisation by reflection: Brewster's law; Double refraction; Ordinary and extra-ordinary rays; Uniaxial and Biaxial Crystal and their refractive indices.

Luminescence: Source of light; Incandescence, Luminescence, Fluorescence, Phosphorescence; Broad classification of luminescence.

Laser & Fibre Optics: Ordinary and Laser light; Einstein theory: Interaction of radiation with matter; Einstein's coefficients; Conditions for Laser Production: Population inversion, Pumping, Resonance Cavity; Laser system: Solid, Liquid, Gas; Applications of Laser; Introduction to Fibre Optics: Basic principle, Structure, Classification and Applications in modern communication systems.

REFERENCE BOOKS:

1. Physics part-I by R. Resnick and D. Halliday, Wiley Eastern Ltd, New Delhi.
2. Physics part-II by R. Resnick and D. Halliday, Wiley Eastern Ltd, New Delhi.
3. Laser Physics and Applications by L Tarasov, NIR Publisher Moscow.
4. Principle of Optics Eighth Edition by B. K. Mathur and T.P. Pandya, Gopal Printing Press Kanpur.
5. Optical Electronics by Ajoy Ghatak and K. Thyagarajan, Cambridge University Press.
6. A Text Book of Optics Eighth Edition N. Subramanyam and Brij Lal, S Chand Company Pvt. Ltd New Delhi.
7. Laser Systems and Applications by N. Choudhary and R. Verma, PHI Learning Pvt. Ltd New Delhi.
8. Fundamentals of Optics by Devraj Singh, PHI Learning Pvt. Ltd New Delhi.
9. Fiber Optic Communication Second Edition by D. C. Agrawal, Wheeler Publishing.

SCHEME OF EXAMINATION
&
SYLLABUS OF
Course Work for Ph.D. (PHYSICS)

UNDER

FACULTY OF SCIENCE

Approved by Board of Studies in Physics

EFFECTIVE FROM JULY 2017



School of Studies in Physics & Astrophysics

Pt. Ravishankar Shukla University

Raipur (C.G.) 492010

PH: - 0771-2262864

WEBSITE: -www.prsu.ac.in

Approved by Board of Studies in Physics on 10, February 2017
PT. RAVISHANKAR SHUKLA UNIVERSITY, RAIPUR

**SCHEME OF EXAMINATION & SYLLABUS PRESCRIBED FOR
THE
EXAMINATION OF Ph.D. Course Work (Physics)**

EFFECTIVE FROM JULY 2017

Scheme of Examination

The Course Work for Ph.D degree in Physics is a six month course after completion of P.G. degree in the subject. There shall be two compulsory papers based on the research areas of Physics. The structure of the course is given below:

S.No.	Theory Paper	Marks
1.	Research Methodology, Quantitative Methods & Computer Applications	100
2.	Review of Literature in Concerned Subject, Seminar/ Project Report	100
Total		200

Paper – I

Research Methodology & Quantitative Methods and Computer Applications

UNIT- I

Techniques for Structural, Microscopic, and Spectroscopic Characterization

X-ray diffraction: coherent scattering of X-rays, reflected intensities, experimental methods of crystallography, particle size determination.

Microscopy: Scanning Electron Microscopy (SEM), Transmission Electron Microscopy (TEM), Scanning Transmission Electron Microscopy (STEM), Scanning Tunneling Microscopy (STM), Atomic Force Microscopy (AFM).

Spectroscopy: Fourier Transform Infrared (FTIR) and Raman spectroscopy, Nuclear Magnetic Resonance (NMR), Electron Spin Resonance (ESR).

UNIT – II

Techniques for Characterization of Solid State Ionic and Luminescent Materials

Solid State Ionic Materials: Characterization of ion transport properties; AC Impedance Spectroscopy (IS) for conductivity (σ) measurements; DC polarization methods viz, Tubandt's method, Wagner's method, Transient Ionic Current (TIC) method for ionic mobility (μ), ionic transference number (t_{ion}), mobile ion concentration (n) and ionic drift velocity (v_d) measurements. Temperature dependent studies on σ , μ , n , v_d etc. and computation of respective energies.

Techniques for ML measurement and TL measurements. Measurement techniques to study Photoluminescence response, UV-visible spectrometry.

Thermal analysis: Differential Thermal Analysis (DTA), Differential Scanning Calorimetry (DSC), Thermal Gravimetric Analysis (TGA).

UNIT – III

Astrophysical Techniques for Astronomical Observations

Photometry: Instrumental magnitudes and colors, seeing and atmospheric effects, extinction correction. Standard photometric systems: UBV and other systems. Transformation to a standard photometric systems. Absolute and differential photometry.

Spectroscopy: Basics of prism and grating spectroscopes.

Basics of CCD data reduction: Plate scale, readout noise and gain, signal-to-noise ratio. correction for bias, dark and flat fielding, fringing and cosmetic effects.

UNIT – IV

(I) Programming in C

Getting Started: Elementary idea about C Language, Getting Started with C, the First C Program, Compilation and Execution, Receiving Input; C Instructions: Type Declaration Instruction, Assignment Instruction, Integer and Float Conversions, Type Conversion in Assignments, Hierarchy of Operations, Associativity of Operators. Control Instructions in C.

Control Structures: The Decision Control Structures, If Statement, If-else Statement, Use of Logical Operators, The Conditional Operators. **The Loop Control Structure:** Loops, the while Loop, the for Loop, the Odd Loop, the break Statement, the Continue Statement, the do-while Loop. **The Case Control Structure:** Decisions Using switch, switch Versus if-else Ladder The goto Keyword.

UNIT – V

(II) Programming in C

Functions & Pointers : What is a Function, Passing Values between Functions, Scope Rule of Functions calling Convention, Advanced Features of Functions; Function Declaration and Prototypes Call by Value and Call by Reference , An Introduction to pointers, Pointer Notation, Back to Function Calls, Conclusions.

Storage Classes in C: Automatic Storage Class, Register Storage Classes, Static Storage Classes, External Storage Classes, Which to Use When.

The C Preprocessor: Features of C Preprocessor, Macro Expansion, File Inclusion, Conditional Compilation, #if and #elif Directives, Miscellaneous Directives.

Arrays: What are Arrays; A Simple Program using Array. More on Arrays; Array Initialization, Bounds Checking, Passing Array Elements to a Function. Pointers and Arrays; Passing an Entire Array to a Function.

Recommended Text and Reference books:

1. Characterization of Materials: Wachtman J B (Butterworth-Heinemann)
2. Introduction to Nanotechnology by Charles P. Poole Jr. and Frank J. Owens (Willey Inter. Science Pub. 2003)
3. Condensed Matter Physics by Michal P. Marder (Willy Inter. Science Pub., 2000)
4. Superionic Solids- Principle and applications by S. Chandra (NH Pub., 1980)
5. Luminescence of Solids : R Vij (Plenum Press)
6. Digital Image processing: Gonzalez R. C. and Woods R. E. (Addision-Wesley)
7. Astronomical Photometry: Henden A. A. and Kaitchuck R H (Willmann-Bell)
8. Astrophysical techniques: Kitchin C R , third edition (IOP publishing)
9. Optical Astronomical Spectroscopy: Kitchin C R (IOP Publishing).
10. Let us C by Yaswant Kanitkar
11. C Programming by Dennis Riche and Brian Karnighan
12. C Programming by Schauam Series

Paper – II
Review of Literature in Concerned Subject, Seminar/ Project Report

Approved by Board of Studies in Physics on 20th September 2013

School of Studies in Psychology
Pt. Ravishankar Shukla University, Raipur (C.G.)

**POST GRADUATE DIPLOMA IN
PSYCHOLOGICAL GUIDANCE AND COUNSELLING
(PGC)**

1. SCOPE :

The P.G. Diploma in Psychological Guidance and Counselling is meant for those students. Who intend to take up position of Director of Guidance Bureau, School Counsellor, Career Master, Rehabilitation Officer, Marriage Counsellor and such other positions in private and public settings. It is also meant for those persons who intend to start their own guidance and counseling centers or consultancy services. The main purpose of this job-oriented course is to enable the student to understand the psychodynamics involved in the problems of human adjustment and their effective management.

2. Examination System

Title		Min. Marks	Max. Marks
A.	Theory Papers		
	PAPER I – Psychological Guidance	40	100
	PAPER II – Counselling Theories and Techniques	40	100
B.	PAPER III – Field Exploration		
	1. Field Internship – 30	40	100
	2. Case Study Report – 70		
C.	PAPER IV – Laboratory Practical		
	1. Construction of Guidance tool – 30	40	100
	2. Psychological testing – 70		
GRAND TOTAL		160	400

NOTE : Candidate securing at least 40% marks of the aggregate in (a) Theory paper in (b) Field exploration and (c) Lab practical separately shall be declared Successful at the examination. Candidates obtaining 60% marks or more in total shall be declared to have passed with merit and these obtaining 40% or more but less than 60% marks shall be declared as passed.

Course content of P.G. Diploma in P.G.C.

PAPER – I PSYCHOLOGICAL GUIDANCE

100 Marks

This paper has five units. At least two questions are to be set from each unit candidate is required to attempt five questions in all selecting one question from each unit.

UNIT – I

The Guidance

Meaning and Functions of guidance. The bases of present guidance approach Basic Principle and assumption of guidance. Guidance services. Difference between Guidance and Counselling.

UNIT – II

Techniques of Guidance

Understanding Individual (use of interviews and questionnaires) Appraisals of Aptitude for guidance appraisal of personal qualities and interest : (Test and Inventories rating scale, behavior descriptions. Anecdotal records. Socio- metric devices evaluation of achievement, Cumulative Records, Case study and follow-up.

UNIT – III

Organization of guidance programme in school. Problems of guidance in India. Types of guidance services, characteristics of a well organized guidance programme.

UNIT – IV

Guidance Services for children. Guidance of young children. Elementary School Children, Junior high school children. Adolescents.

UNIT – V

Guidance services to adults, vocational guidance. Guidance of adults. Guidance towards family life, guidance in personal adjustment, guidance to deviates, guidance in group situation appraisals of guidance programmes, Emerging Trends in guidance.

BOOK RECOMMENDED :

1. Traxler. E. Arthur and North D Robert (1996). Technique of Guidance IIIrd Edition Halper & Row, Publishers New York and London.

2. Crow, L. and Crow, A. (1962), An Introduction to Guidance IInd Ed. Eurasia Publishing House (P) Ltd.
3. Asch. M. (2000) Principals of Guidance and counselling 1st Ed. Sarun & sons New Delhi.
4. Jones, J. Arthur, eta (1952), Principal of Guidance 6th Edl Tata McGraw Hill Publishing Company.
5. Gupta S.K. (1985), Guidance and counselling in India education 1st Ed. Mittal Publishers Trinagar Delhi.

PAPER – II

COUNSELLING THEORIES AND TECHNIQUES

100 Marks

This paper has five units. At least two questions are to be set from each unit candidate is required to attempt five questions in all selecting one question from each unit.

UNIT – I

COUNSELLING : The art and Science of helping.

- a. Meaning, Purpose and goats of Counselling with special reference to India.
- b. Professional issues, ethics, education and training of the counsellor.
- c. Counselling relationship.

UNIT – II

COUNSELLING PROCESS : Theories and Techniques of Counselling.

- a. Psychodynamic Approach, Freudian, Neo Freudian, Modern.
- b. Humanistic Approach : Existential client centred.

UNIT – III

- a. Cognitive Approach : rational emotive, Transaction analysis.
- b. Behavioural Apporach : Operant conditionaing. Behaviour modification.
- c. Indian contribution – Yoga and Meditation.

UNIT – IV

COUNSELLING APPLICATION - I

- a. Counselling in schools.
- b. Career Counselling.
- c. Alcohhal and Drug Abuse.
- d. Group counselling.
- e. Crises Intervention Counselling – Case Studies for each of the above types of counselling applications, counselling interview.

UNIT – V

COUNSELLING APPLICATION - II

- Management of
- a. Shyness.
 - b. Smoking.
 - c. Depression.
 - d. Stress.
 - e. Marital Maladjustment
 - f. Old age problems.
 - g. Euresis
 - h. Phobias
 - i. Fear of interview
 - j. Fear of stage performance.
 - k. Problems in decision making.

Book Recommended :-

1. Windy, D. (1988) (Ed.) Counselling in Action New York; Sage Publication.
2. Nelson, J. (1982) The theory and practice of counselling Psychology. New York. Renhart and Winston.
3. Belkin, G.S. (1988) Introduction to counselling. W.G. Brown Publishers.

PAPER – III

FIELD EXPLORATION (INTERNSHIP PROGRAMME) :

100 Marks

A. INTERNSHIP PROGRAMME : 70 MARKS.

The Internship Programme consists of two phases, about 30 days each. The students would be attached to the institute organization for a period of about two months. During this period they have to explore and identify the problem for investigation, and prepare Study-report (case) under the guidance of the Supervisor (faculty member). This report would carry 70 marks and would be evaluated by both internal and external examiner, each examiner awarding marks out of 35, as per university rules.

B. INTERNSHIP EVALUATION : 30 MARKS.

- i. Presentation of the report in the departmental Seminar – 20 Marks.
- ii. Attendance for the programme certified by the supervisor – 30 Marks

PAPER – IV Lab Practical

100 Marks

1. Construction of guidance tools related to the area of specialization – 30 marks
2. Psychological Testing – Candidates would be required to administer, score and interpret at least 10 Psychological tests 50 marks.
3. Practical Record book – 10 marks.
4. Viva – Voce – 10 marks.

PRE – Ph. D. COURSE

Subject :- PSYCHOLOGY

DURATION : SIX MONTHS

M.M. 200

	COURSE	MARKS
COURSE I	Research Methods and Advanced Statistics	100
COURSE II	Project Based on Review of Research work	50
	Seminar	50
	TOTAL	200

PRE – Ph. D. COURSE

COURSE – I RESEARCH METHODS AND ADVANCED STATISTICS

M.M. 100

- UNIT - I** Psychological Research : Nature types, Complex Problems of Psychological Research : Research Designs, Types.
- UNIT – II** **Design** : Single subject designs, Quasi experimental design. Greco – Latin square design factorial experiments with repeated measures : One and two factors with repeated measures.
- UNIT – III** ANOVA up to 3 WAY.
Pre and Post ANOVA
- UNIT – IV** **Factor Analysis** : Theory and factor, extracting by centered method. Content analysis : Nature and applications.
- UNIT – V** **Basic Knowledge of Computer Application** : Internet learning, USE of SPSS

BOOK RECOMMENDED:

1. *Statistical analysis in Psychology and Education* : Ferguson, George, PP316-334
2. *Psychology Theory*, Nunally, Pp151-188.
3. *Psychology Methods*. Guilford, J.P. 470-482.
4. *Introduction to factor Analysis*, Fruchter. B.
5. *Statistical design in Experimental Research*, Winer (1971) MC Graw Hill,
6. *Foundations of Behavioural Research*. Kerlinger. F.N. (1978)
7. *An introduction to Psychological Statistics* DUBOIS, Philip M.V.
8. *Research Methodology : Methods and Techniques* : Kothari, C.R.(1985)
9. *Festinger, D. & Katz L. : Research Methods in Behaviour Science*. Holt Rinchart. N.Y.(1973)
10. *Broota, K.D. Experimental de4isgn in Behavioural research*,. Milar Fastern, N. Delhi (1989)

COURSE – II

M.M. 100

1. **Projects Based on Reviews of Research Work** : Use of Literature, knowledge of National and International Journals, Impact factor, Citation Index, SCI Journals. (To be supervised and evaluated by guide concerned.)
2. **Seminars** : Open seminar, evaluation will be done by member of DRC.

M.A. PSYCHOLOGY

[SEMESTER EXAM]

SYLLABUS

2018-19

2018-19

School of Studies in Psychology
Pt. Ravishankar Shukla University, Raipur
M. A. Psychology Syllabus
w.e.f. July, 2018

VISION

To prepare competent psychologists who would excel in knowledge, orientation and practice of psychology, with high ethical standards and social relevance.

OBJECTIVES

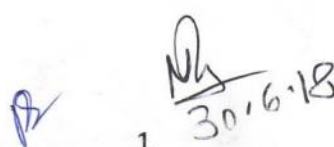


1. To create a strong research oriented theoretical foundation in consonance with recent advances in the discipline of psychology.
2. To enable students to take a creative, empirical and ethical approach to the program that combines conceptual repertoire and research practices in both quantitative and qualitative traditions.
3. To provide an opportunity to extend the knowledge base to the world of practice with a view to promote healthy interface between academia and society.

Programme Structure

The M. A. Psychology Programme divided into two Semesters to be known as Semester -1 and Semester- 2.

		Semester – 1	Semester – 2
Part I	First Year	Semester – I – 1	Semester – 1- 2
Part II	Second Year	Semester – II – 1	Semester – II – 2

The schedule of papers prescribed for all semesters shall be as follows:

1   


SEMESTER -I & SEMESTER - II

NOTE:

1. Each paper will carry 100 marks (80 marks for theory and 20 marks for internal assessment).
2. Each practicum course shall consist of 100 marks, which would include written record 25 marks, conduction of lab practical in exam 50 marks and viva-voce 25 marks.

SCHEME OF EXAMINATION

1. English and Hindi shall be the medium of instruction and examination.
2. Examinations shall be conducted at the end of each Semester as per the Academic Calendar notified by the University.
3. The System of evaluation shall be as follows:
 - Each paper will carry 80 marks, and 20 marks for the Internal Assessment based on classroom participation, seminar, **class tests**, viva-voce, field and laboratory work, practical and attendance. The weightage given to each of these components shall be decided and announced at the beginning of the semester by the individual teacher responsible for the course.
 - Any student who fails to participate in classes, seminars, tests, viva-voce, practical, field and laboratory work will be debarred from appearing in the end semester examination in the specific course and no Internal Assessment marks will be awarded.
 - His/her Internal Assessment marks will be awarded as and when he/she attends regular classes and unit tests in the course in the next applicable semester.
 - No special classes will be conducted for him/her during other semesters.
 - The duration of written examination for each paper shall be of three hours.
 - The duration of Practicum examination shall be of four hours.


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PASS PERCENTAGE

However, a candidate who has secured the minimum marks to pass in each paper but has not secured the minimum marks to pass in aggregate may reappear in any of the paper/s of his choice in the concerned semester in order to be able to secure the minimum marks prescribed to pass the semester in aggregate. No student would be allowed to avail of more than 3 chances to pass any paper inclusive of the first attempt.

DIVISION CRITERIA

Successful candidates will be classified on the basis of the combined results of Part-I and Part-II examinations as follows:

Candidates securing 60% and above: Ist Division

Candidates securing between 50% to 59.99 %: IInd Division

Candidates securing 40 to 49.99%: IIIrd Division

39.99% and less: Failed

ATTENDANCE REQUIREMENT

No student shall be considered to have pursued a regular course of study unless he/she is certified by the Head, School of Studies in Psychology, Ravishankar Shukla University, to have attended 75% of the total number of lectures, tutorials and seminars conducted in each semester, during his/her course of study.

Note: M. A. Psychology students will opt for 1 Choice-Based Course (CBC) of 100 marks each, in Semester II, & III with at least one from the other Department of the University.

M. A. PSYCHOLOGY
FIRST SEMESTER
(w.e.f. JULY 2018)

Paper No.	Title of the Paper	Theory	Internal
PSM 101 (I)	Basic Psychological Processes	80	20
PSM 102 (II)	Social Psychology	80	20
PSM 103 (III)	Basic Research Methodology	80	20
PSM 104 (IV)	Psychopathology	80	20
PSM 105 (V)	Practicum: (Experiment)	100	
		420	80

Note: All are compulsory papers

PAPER – I
BASIC PSYCHOLOGICAL PROCESSES – I

M. M. - 80


Note: This paper consists of five units. From each unit minimum two questions will be set and candidates will have to answer one question from each unit.

Unit – I. Psychophysics

Psychophysics: Nature, problems and Methods. Signal Detection Theory, Subliminal Perception and related factors.

Unit 2. Perceptual Processes

Approaches to study Perception: Gestalt, Physiological, Information Processing and Ecological Approaches. Perceptual Organization: Gestalt, Figure and Ground. Laws of Organization. Perceptual Constancy: Size, Shape and Brightness. Depth Perception: Monocular and Binocular cues Movement Perception: Nature, Types and Theories.


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Unit 3. Attention

Nature, concept and Mechanism of Attention. Selective Attention. Types, Theories and Applications.

Unit 4. Motivation

Nature and properties; origin, development and present status. Basic Motivational Concepts: Instincts, Needs, Drives, Incentives, Motivational Cycle. Theoretical framework: Murray and Maslow, Intrinsic and Extrinsic Framework. Biogenic Motive, Sociogenic Motive: Achievement, Affiliation and Approval.

Unit 5 Emotion

Emotion: Nature and concept. Physiological correlates of Emotions. Theories of Emotions: James-Lange, Canon-Bard, Schachter-Singer. Emotional Intelligence Conflict: Sources and Types.

BOOKS RECOMMENDED

1. Averill, J. R., Chon, K. K., & Hahn, D. W. (2001). Emotions and Creativity, East and West. *Asian Journal of Social Psychology*, 4(3), 165-183.
2. Barrett, L. F., Niedenthal, P. M. & Winkielman, P. (2007). Emotion and Consciousness. Guilford Press.
3. Best, J. B. (1989). Cognitive Psychology. II Edition. West Publishing Company, New York.
4. Carr, A. (2011). Positive Psychology: The Science of Happiness and Human Strengths. Routledge; 2 edition.
5. Ciccarelli, S. K. & Meyer, G. E. (2008). Psychology: South Asian Edition 1st Edition. Pearson.
5. Snyder (2011). Positive Psychology: The Scientific and Practical Explorations of Human Strengths Edition-Second. Sage South Asia.

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7. Feldman, R. (2009). *Essentials of Understanding Psychology*. Tata McGraw-Hill Education Pvt. Ltd.
8. Galotti, K. M. (1999). *Cognitive Psychology in and Outside Laboratory*. Mumbai: Thompson, Asia.
9. Iyer, S. (2006). *Introduction to Psychology*. Premier Publishing Company, India.
10. Menon, S., Nagaraj, N. & Binoy, V. V. (Editors) (2017). *Self, Culture and Consciousness: Interdisciplinary Convergences on Knowing and Being*. Springer.
11. Menon, S., Sinha, A. & Sreekantan, B. V. (2014). *Interdisciplinary Perspectives on Consciousness and the Self*. Springer.
12. Misra, G. & Baron, R. A. (2014). *Psychology: Indian Subcontinent Edition 5th Edition*, Pearson.
13. Rao, R. K. (2005). Perception, Cognition, and Consciousness in Classical Hindu Psychology. *Journal of Consciousness Studies*, 12, 3-30.
14. Rao, R. K. (2011). *Cognitive Anomalies, Consciousness and Yoga*. New Delhi, Matrix Publishers.
15. Sen, *Anima: Attention and Distraction*, New Delhi.
16. Snodgrass, J. G., Berger, G. L. & Haydon, M. (1985). *Human Experimental Psychology*. New York: Oxford University Press.
17. Solso, R. L. (2004). *Cognitive Psychology*. Sixth Edition. Pearson Education Pvt. Ltd., New Delhi
18. Stevens, S. (1959). *Handbook of Experimental Psychology*. A Wiley Publication in Psychology.
19. Wessells, M. G. (1982). *Cognitive Psychology*. Harper and Row Publishers, New York.
20. Wood, G. (1983). *Cognitive Psychology - A Skills Approach*. Cole Publishing Company, California.






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PAPER – II

SOCIAL PSYCHOLOGY

M. M. - 80

NOTE: This paper consists of five units. From each unit minimum two questions will be set and candidates will have to answer one question from each unit.

UNIT – I Introduction and Social Psychological Perspectives

Nature and Scope of Social Psychology. Historical Background. Methods of Social Psychology. Theoretical Perspective: Cognitive Dissonance, Attribution, Field, Psychodynamic, Symbolic Interactions, Socio-Biology.

UNIT – II Social Cognition and Person Perception

Sources of Errors in Social Cognition. Social Perception, Person Perception. Determinants of Person Perception. Impression Formation and Management. Role of Stereotypes in Person Perception.

UNIT – III Social Influence Process

Meaning and nature of Social Influence. Social Facilitation, Conformity, Compliance and Obedience, Social Power, Reactance.

UNIT – IV Attitude

Nature and Characteristics. Development, Functions and Formation of Attitudes. Influence of Attitude on Behaviour. Theories of Attitude Change. Barriers in Changing Attitudes.

UNIT – V Social Psychology and Social Situation

Prosocial Behaviour, Aggression: Nature, Characteristics Determinants and Theories. Controlling and Management of Aggression. Violence, Categories of Violence, Self-directed (Suicide), Domestic Violence.

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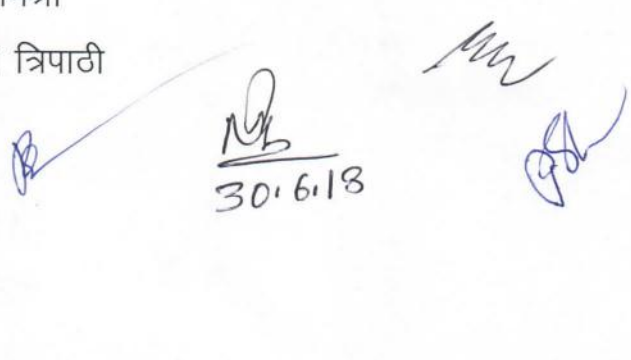
BOOKS RECOMMENDED

1. Baron, R. A. & Byrne, D. (2000) Social Psychology 12th edition. Pearson, New Delhi.
2. Billing, M. (1976). Social Psychology and Intergroup Relations. New York, Academic Press.
3. Crisp, R. J. & Turner, R. N. (2014). Essential Social Psychology: 3rd Edition. SAGE Publications Ltd.
4. Dalal, A. K. (1989). Attribution: Theory and Research. New Delhi, Wiley Limited.
5. Dalal, A. K. & Misra, G. (Ed.) (2001). New Directions in Indian Psychology, Vol. 1 Social Psychology.
6. Eiser, J. R. (1986). Social Psychology. London: Cambridge University Press.
7. Feldman, R. S. (1985). Social Psychology. New York, Mc Graw Hill.
8. Lindsey, G. & Aronson, E. (Eds) (1985). The Handbook of Social Psychology. New York. Random House.
9. Mathur, S. S. (2004). Social Psychology. Vinod Pustak Mandir, Agra.
10. Mishra, G. (1990). Applied Social Psychology in India. New Delhi, Sage.
11. Mishra, G. (Ed.) (2009). Psychology in India, Vol. 2. Social and Organizational Processes. New Delhi, Pearson.
12. McGarty, C. & Haslam, S. A. (Eds.) (1997). The Message of Social Psychology. Oxford, U K, Blackwell.
13. Pandey, J. (1988). Psychology in India; the State – 7 the Art Vol – 2 ND. Sage.
14. Tajfel, H. (1981). Human Groups and Social Categories. London: Cambridge University Press.
15. Taylor, M. & Moghaddam, F. M. (1987). Theories of Intergroup Relations. New York: Praeger

समाज मनोविज्ञान (2004): अरुण कुमार सिंह, मोतीलाल बनारसी दास।

समाज मनोविज्ञान: गिरीश्वर मिश्रा

समाज मनोविज्ञान: लालबचन त्रिपाठी

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PAPER – III
BASIC RESEARCH METHODOLOGY

M. M. - 80

NOTE: This paper consists of five units. From each unit minimum two questions will be set, and candidates will have to answer one question from each unit.

UNIT – I Introduction to Psychological Research

Meaning, Purpose and Dimensions of Research. Types of Psychological Research: Qualitative and Quantitative. Parametric and Non-Parametric Statistics. Methods of Psychological Research: Experimental, Quasi-Experimental, Case Studies, Field Studies. Variables: Nature and Types. Techniques of experimental manipulation, control in experiment.

UNIT – II Research Process

Research Process: Consideration of Research Problem and Hypothesis, Operationalization. Sampling: Probability and Nonprobability Sampling. Sources of Bias. Ethical Issues in Psychological Research.

UNIT – III Research Designs

Cross Sectional and Longitudinal, Experimental, Correlational. Single Factor, Quasi – Experimental.

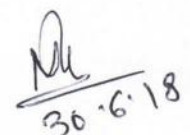
UNIT – IV Central Tendencies

Measures of Dispersion, Normal Probability Curve, its properties and utility. Null Hypothesis, Type-I and Type-II Errors, Level of Significance. Inferential Statistics: t -Test.

UNIT – V Method of Data Collection

Survey and Observation Method: Questionnaire, Interview. Tests and Scales.




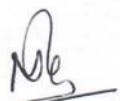



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BOOKS RECOMMENDED

1. Black, T. R. (1988). Quantitative Research Designs for Social Sciences. Thousand Oaks: Sage.
2. Broota, K. D. (1992). Experimental Design in Behavioural Research. Wiley Eastern Ltd. New Delhi.
3. Edwards, A. K. (1976). Experimental Designs in Psychological Research. New York Holt Rinehart.
4. Kerlinger, F. N. (1999). Foundation of Behavioural Research. S. Chand (G/L) & Company Ltd; 4th edition.
5. Kothari C. R. (1986). Research Methodology: Methods and Techniques. Wiley Eastern Ltd. New Delhi.
6. Mangal, S. K. (2012). Statistics in Psychology and Education (2nd Ed.). New Delhi: PHI Learning Pvt. Ltd.
7. Mason, J. (1997). Qualitative Researching. Thousand Oaks: Sage.
8. Miles, J. & Banyard, P. (2007). Understanding and Using Statistics in Psychology A Practical Introduction. Sage Publications.
9. Siegal, S. (2002). Non-Parametric Statistics for Behavioural Sciences. New Delhi: Tata McGraw Hill.
10. Winer, B. J. (1971). Statistical Principles in Experimental Design. New York, McGraw Hill.

 
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PAPER – IV
PSYCHOPATHOLOGY

M. M. - 80

NOTE: This paper consists of five units. From each unit minimum two questions will be set and candidates will have to answer one question from each unit.

UNIT – I Concept of Psychopathology and Classification System

Diagnosis: Purpose, Diagnostic System: Mental Status Examination (MSE).
Clinical Interview and Diagnostic Tools. Classification Systems: ICD and
DSM. Evaluation of Classification System.

UNIT – II Theoretical Models of Psychopathology

Psychodynamic, Behavioural, Cognitive, Humanistic, Biological
and Socio-Cultural.

UNIT – III Disorders of Anxiety, Somatoform, and Behavioural Syndromes

Panic, Phobic, OCD, Post-Traumatic, GAD, Somatoform Disorders,
Impulse Control Disorder, Eating Disorder, Sleep Disorder.
Dissociative Disorder: Types, Characteristics, Etiology and
Management.

UNIT – IV Psychotic Spectrum Disorders

Schizophrenia, Mood Disorder. Personality Disorders: Clinical
Characteristics, Etiology and Management.



**UNIT – V Substance Related Disorders and Developmental Disorders of
- Childhood**

Mental Retardation. Developmental Disorders of Childhood: Autism
Spectrum Disorder (ASD), Attention Deficit Disorder (ADD),
Attention Deficit and Hyperactive Disorder (ADHD). Learning
Disabilities.

BOOKS RECOMMENDED

1. Adams, H. E. & Sutker, P. B. (2004). Comprehensive Handbook of Psychopathology. New York, Plenum Press.
2. Aboud, T. D. (1988). Health Psychology in Global Perspective. Thousand Oaks, C.A: Sage.
3. Carson, C.R. & Butcher, J. N. (1992). Abnormal Psychology and Modern Life (9th Ed), Harper Collins Publisher.
4. Davison, G. C. & Neal, J. N. (2000). Abnormal Psychology – 8th Ed. Wiley, Publishers.
5. Page, J. D. (1975). Psychopathology: The Science of Understanding Deviance. (2nd Ed.). Chicago, IL, Aldine
6. Prokap, C. R. & Bradly, L.A. (1991). Medical Psychology: Contribution to Behavioural Medicine. Academic Press.

असामान्य मनोविज्ञान (2004): अरुण कुमार सिंह, मोतीलाल बनारसी दास।

 
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PAPER – V
PRACTICUM

M. M. - 100

This paper consists of the laboratory (Experimental) and Field -Work done throughout the semester and will be evaluated at the time of examination along with the other papers. Distribution of marks would be as under:

	Marks
A. Record of Lab Practical and Field Work	25
B. Evaluation of one Lab. Experiment of be conducted in the examination	50
C. Viva-Voce on Practicum	25

Note: No candidate would be allowed to appear in the practical examination unless his/ her day-to-day practical work and report are found satisfactory.

List of Practicum: **(Any five Experiments and One Field Study)**

1. Constancy- Size/Shape/Brightness
2. Biofeedback
5. Mental Fatigue
6. Learning
7. Verbal Learning
8. Selective Attention
9. Knowledge of Results
10. Problem Solving
11. RI / PI

Field Work

- | | |
|---------------------|--------------------------|
| 1. Motivation | 2. D.A.T./ Personality |
| 3. Mental Health | 4. Frustration Tolerance |
| 5. Stress / Anxiety | 6. Depression |

Note: Field Studies topics would be allotted by the Departmental Committee.

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COURSE STRUCTURE
M. A. PSYCHOLOGY
SECOND SEMESTER
(w.e.f. JULY 2018)

Paper No.	Title of the Paper	Theory	Internal
PSM 201 (VI)	Basic Psychological Processes – II	80	20
PSM 202 (VII)	Group Processes and Cultural Psychology	80	20
PSM 203 (VIII)	Advanced Research Methodology	80	20
PSM 204 (IX)	Physiological Psychology and Health Behaviour	80	20
PSM 205 (X)	Practicum	100	---
		420	80

PAPER – VI

BASIC PSYCHOLOGICAL PROCESSES – II

M. M. - 80

NOTE: This paper consists of five units. From each unit minimum two questions will be set and candidates will have to answer one question from each unit.

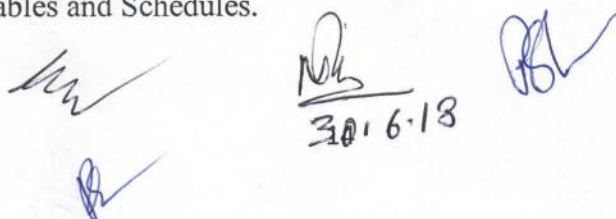
Unit I Learning Process

Classical Conditioning: Procedure, Phenomena and related Issues.

Instrumental Learning: Phenomena, Paradigms and Theoretical Issues. Process,

Escape Conditioning, Avoidance Conditioning, Generalization. Reinforcement:

Basic Variables and Schedules.



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UNIT II Experimental Analysis of Behaviour

Behaviour Modification, Shaping, Discrimination Learning. Neurophysiology of Learning.

Unit III Verbal Learning

Verbal Learning: Methods and Materials, Organizational Processes

UNIT IV Learning Theories

Learning Theories: Hull, Tolman, Skinner.

Cognitive approaches in Learning: Latent Learning, Observational Learning.

Unit V. Memory and Forgetting

Memory Processes: Encoding, Storage, Retrieval. Stages of Memory: Sensory Memory, Short-term Memory (STM) and Long-term Memory (LTM).

Episodic and Semantic Memory Forgetting: Nature and causes of Forgetting.


Theories of Forgetting: Interference, Decay, Retrieval. Improving Memory.


BOOKS RECOMMENDED

1. Baddley, A. (1997). *Human Memory: Theory and Practice*. New York: Psychology Press.
2. Baron, R. & Misra, G. (2013). *Psychology*. New Delhi: Pearson.
3. Chadha, N. K. & Seth, S. (2014). *The Psychological Realm: An Introduction*. New Delhi: Pinnacle Learning.
4. Ciccarelli, S. K., & Meyer, G. E. (2010). *Psychology*. South Asian Edition. New Delhi: Pearson Education.
5. Coon, D., & Mitterer, J. O. (2007). *Introduction to Psychology: Gateway to Mind and Behaviour*. New Delhi: Cengage.
6. DAmato, M. R. (1970). *Experimental Psychology*, New York, Mc. Graw Hill.
7. Feldman, R. (2009). *Essentials of Understanding Psychology*. New Delhi: Tata McGraw Hill.

8. Galotti, K. M. (1999). *Cognitive Psychology in and outside Laboratory*. Mumbai: Thompson, Asia.
9. Gerrig, R. J., & Zimbardo, P. G. (2006). *Psychology and Life* (17th Ed.). New Delhi: Pearson Education.
10. Passer, M. W. & Smith, R. E. (2010). *Psychology: The Science of Mind and Behaviour*. New Delhi: Tata McGraw-Hill.
11. Sen Anima: *Attention & Distraction*. New Delhi.
12. Smith, E.E. & Kosslyn, S. M. (2007). *Cognitive Psychology: Mind and Brain*. Prentice Hall.
13. Snodgrass, J. G., Berger, G. L. & Haydon, M. (1985). *Human Experimental Psychology*, New York, Oxford University Press.
14. Tripathi, A. N. & Babu, N. (2008). *Cognitive Processes*. In Misra, G. (Ed.). *Psychology in India: Advances in Research*, Vol. 1. New Delhi: Pearson Education.





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PAPER – VII

GROUP PROCESSES AND CULTURAL PSYCHOLOGY

M. M. – 80

NOTE: This paper consists of five units. From each unit minimum two questions will be set and candidates will have to answer one question from each unit.

UNIT – I Inter Group Relations

Group Dynamics and Group Behaviour, Group Effectiveness, and Group Cohesiveness: meaning, formation, Decision Making, Problem Solving and Group Level Behaviours.

UNIT – II Leadership

Meaning nature and Function of Leadership. Styles and Effectiveness of Leadership. Psychology of Followers.

UNIT – III Social Issues

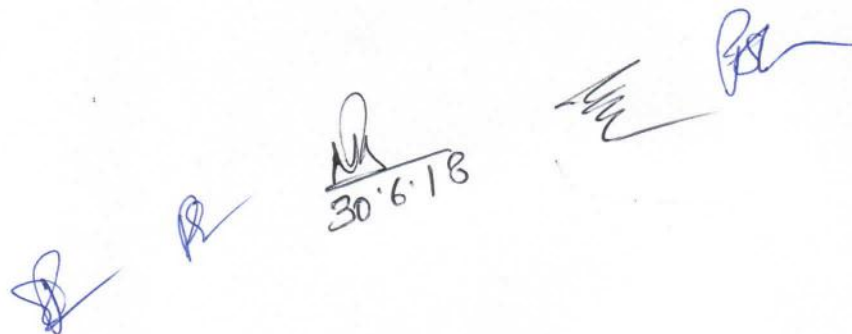
Poverty, Caste, Gender, Population Issues in India. Unemployment. Communal Tension and Harmony.

UNIT – IV Culture and Behaviour- I

Culture and Cognition and Emotion. Culture and Organisation.

UNIT – V Culture and Behaviour- II

Culture and Health. Culture and Personality. Health, Environment and Law.

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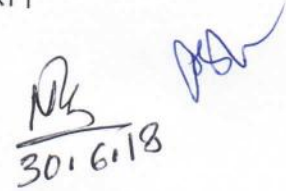
BOOKS RECOMMENDED

1. Ahuja, R. (2012). Social Problems in India. Rawat Publication.
2. Alcock, P. (1997). Understanding Poverty (2nd Ed). Great Britain: Palgrave.
3. Aronson, E (Eds). (1985). The Handbook of Social Psychology. N Y: Random House.
4. Baron, A.B. & Byrne, D. (1991). Social Psychology, - Boston Allyn & Bacon.
5. Billing, M. (1976). Social Psychology and Inter Group Relations, NY: Academic Press.
6. Dalal, A. K. (1989). Attribution Theory and Research. New Delhi, Wiley Limited.
7. Dalal, A. K. & Misra, G. (2001) New Directions in Indian Psychology. New Delhi: Sage Publications.
8. Eiser, J. R. (1986). Social Psychology. London: Cambridge University Press.
9. Feldman R.S. (1985) Social Psychology. New York, McGraw Hill.
10. Jai Prakash, I. & Bhogle, S. (1998). (Eds.) Psychology and Changing World. Bangalore, Prasaranga, Bangalore University.
11. Kakkar, S. (1996). Indian Psyche. New Delhi: Penguin.
12. Mishra, G. (1990). Applied Social Psychology in India. New Delhi, Sage.
13. Misra, G. & Nagpal, A. (1999). (Eds.). Psychology of Poverty and Disadvantages. New Delhi. Concept Publishing Company.
14. Pandey, J. (1988). Psychology in India; the State – 7 the Art Vol – 2. New Delhi: Sage.

समाज मनोविज्ञान (2004): अरुण कुमार सिंह, मोतीलाल बनारसी दास।

समाज मनोविज्ञान: गिरीश्वर मिश्रा।




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PAPER – VIII

ADVANCED RESEARCH METHODOLOGY

M. M. – 80

NOTE: This paper consists of five units. From each unit minimum two questions will be set and candidates will have to answer one question from each unit.

UNIT – I Experimental Design

Randomized groups, Matched Groups, Factorial Designs: Between and Within Groups, Repeated Measures (One Factor).

UNIT – II Analysis of Variance

ANOVA: One -Way and Two - Way, ANCOVA, a-priory and Post-Hoc Comparisons.

UNIT – III Measures of Relationships

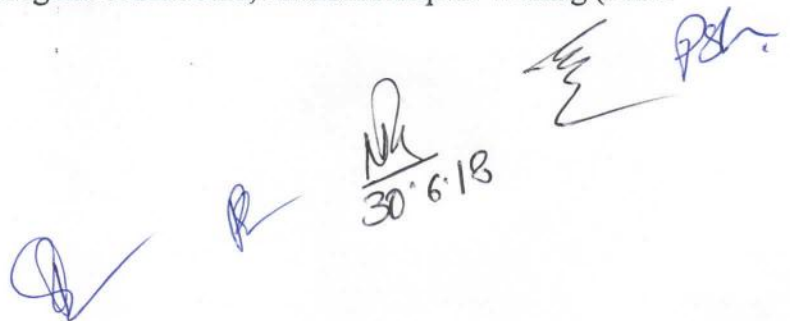
Bi-serial, Point Bi-serial, Tetrachoric and Phi.
Multiple and Partial Correlations.

UNIT – IV Regression and Factor Analysis

Simple and Multiple, Factor Analysis: Assumptions, Methods
Rotation and Interpretation.






UNIT – V Report Writing

Use of Computer in Psychological Researches, Research Report Writing (APA Style)

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BOOKS RECOMMENDED

1. Black T. R. (1988). *Quantitative Research Designs for Social Sciences*. Thousand Oaks: Sage.
2. Breakwell, G. M., Smith, J. A., & Wright, D. B. (2012). *Research Methods in Psychology* (4th ed.). Sage.
3. Bridget, S. & Cathy, L. (Eds.) (2008). *Research Methods in the Social Sciences*. Vistaar Publication New Delhi.
4. Broota, K. D. (1992). *Experimental Design in Behavioural Research*. New Delhi, Wiley Eastern Ltd.
5. Edwards, A. L. (1984). *Experimental Design in Psychological Research*. Harpercollins College Div; Subsequent edition.
6. Elmes, D., Kantowitz, B., & Roediger, H. (2011). *Research Methods in Psychology* (9th ed.). Cengage Learning.
7. Kerlinger, F. N. (1983). *Foundation of Behavioural Research* (2nd ed) Surjeet Publication, Kamla Nagar, New Delhi, 1983.
8. Kothari, C. R. (1986). *Research Methodology: Methods and Techniques*. Wiley Eastern Ltd. New Delhi.
9. Mason, J. (1997). *Qualitative Researching*, Thousand Oaks: Sage.
10. Nestor, P.G. & Schutt, R. K. (2011). *Research Methods in Psychology: Investigating Human Behaviour*. Sage.
11. Winer, B. J., Brown, D. R. & Michels, K. M. (1991). *Statistical Principles in Experimental Design*. New York: McGraw Hill.

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PAPER – IX

PHYSIOLOGICAL PSYCHOLOGY AND HEALTH BEHAVIOUR

M. M. – 80

NOTE: This paper consists of five units. From each unit minimum two questions will be set and candidates will have to answer one question from each unit.

UNIT – I Methods and Basic Concepts

Methods of Physiological Psychology: Lesion and Brain Stimulation.
Receptors, Effectors and Adjuster Mechanisms. Neural Impulse: Origin.
Conduction and Measurement.

UNIT – II Sensory System

Vision and Audition. Human Nervous System: Structure and Functions.
Structure of Neuron; The different parts of a Neuron; Types of Neurons
Functions of Neuron; generation of IPSP and EPSP, Conduction and
generation of Action Potential, Ionic Exchanges and Refractory Periods

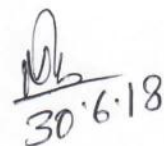
UNIT – III Sleep, Waking and Endocrine System

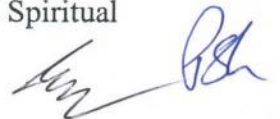
Sleep and Waking: Stages of Sleep, Disorders of Sleep and Physiological
Mechanisms of Sleep and Waking. Drinking and its Neural Mechanism;
Hunger and its Neural Mechanism. Endocrine System: Structure and Function.
Abnormalities of major Glands: Thyroid, Adrenal, Gonads, Pituitary, Pancreas
and Pineal

UNIT - IV Approaches to Therapy

Psychoanalytic, Biological, Behavioural, Behavioural Medicine and Spiritual
Therapy.




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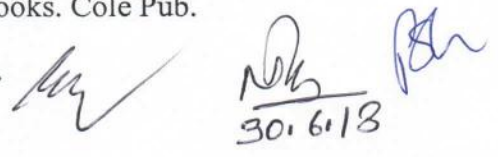


UNIT – V Health Assessments and Promotion

Quality of Life Scales, Health Indices Checklist, Lifestyle Evaluation and Coping Scales, Health Promotion Strategies, Psychological Intervention, Lifestyle Modification Techniques, Utility of Relaxation and Bio-Feedback Methods. Mental Health Promotion and Maintenance. Current Issues and Trends in Health Psychology.

BOOKS RECOMMENDED

1. Aboud, T. D. (1998). Health Psychology in Global Perspective. Thousand Oaks, C.A: Sage.
2. Adams, H. E. & Sutker, P. B. (2001). Comprehensive Handbook of Psychopathology. Kluwer Academic / Plenum Publishers, New York.
3. Brannon, L. & Feist, J. (2010). Health Psychology: An Introduction to Behaviour and Health. Belmont, CA: Thomson/Wadsworth.
4. Carson, C. R., Butcher J. N. (1992). Abnormal Psychology and Modern Life (9th ed) Harper Collins Publisher.
5. Davison, G. C. & Neal, J. N. (2000). Abnormal Psychology – 8th Ed. Wiley Publishers.
6. Deb, S. (2009). Reproductive Health Management, New Delhi, Akansha Publications.
7. Dimmates, M. R. & Martin, L. R. (2007). Health Psychology. Pearson.
8. Friedman, H. S. (1998). Encyclopaedia of Mental Health. Academic Press.
9. Kleinman, A. (1988). Rethinking Psychiatry from Cultural Category to Personal Experience. Free Press. New York.
10. Marks, D. F. (2002). The Health Psychology Reader. Sage.
11. Ogden, J. (1996). Health Psychology. A Textbook. Open University Press.
12. Page, J. D. (1975). Psychopathology: The Science of Understanding Deviance.
13. Prokop, C. K. & Bradly, L. A. (1981). Medical Psychology: Contribution to Behavioural Medicine. Academic Press.
14. Rice, P. L. (1998). Health Psychology. Pacific Grove Books. Cole Pub.
15. Taylor, S. E. (1999). Health Psychology. McGraw Hill.



PAPER – X
PRACTICUM

M. M. 100

This paper consists of the laboratory (Testing) and Field-Work done throughout the semester and will be evaluated at the time of examination along with the other papers.

Distribution of marks would be as under:

	Marks
C. Record of Lab Practical and Field Work	25
D. Evaluation of One Lab Testing of be conducted in Examination	50
E. Viva-Voce on Practicum	25

Note: No candidate would be allowed to appear in the practical examination unless his/ her day-to-day practical work and reports are found satisfactory.

List of Practicum: (Any Five Tests and One Field Study)

- | | |
|--------------------------------------|-----------------------------|
| 1. Aggression | 7. Personality |
| 2. Aptitude | 8. Mental Health |
| 3. Emotional Intelligence | 9. Projective Test |
| 4. Digit Memory Scope/Span | 10. Problem Solving Ability |
| 5. Intelligence (Individual / Group) | 11. Stress / Depression |
| 6. Locus of Control | 12. Motivation |

Field Work

- | | | |
|------------------------------|-----------------|-------------------|
| 1. Achievement Motivation | 2. Adjustment | 3. Anxiety |
| 4. Happiness | 5. Intelligence | 6. Leadership |
| 7. Parent Child Relationship | 8. Personality | 9. Social Support |

Note: Field Studies topics would be allotted by the Departmental Committee.

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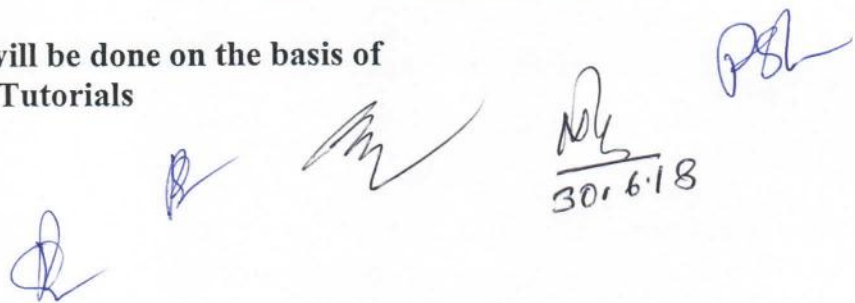
M. A. – III SEMESTER (PSYCHOLOGY)

The curriculum frame – work is as under.

COMPULSORY PAPERS (Two)

S.No.	Paper No	Title of Paper	Marks	
			Theory	Internal Assessment
1.	XI	Personality and Indigenous Psychology	80	20
2.	XII	Psychological Assessment - I	80	20
Optional Papers: Two Papers from any One of the Three Groups				
Group A: Psychology of Management				
3.	XIII	Organizational Behaviour – I	80	20
4.	XIV	Human Resource Development and Management – I	80	20
Group B: Psychology of Education				
3.	XIII	Educational and Instructional Psychology – I	80	20
4.	XIV	Basics of Psychological Guidance and Counselling – I	80	20
Group C: Clinical Psychology				
3.	XIII	Clinical Diagnosis – I	80	20
4.	XIV	Psychotherapeutic Counselling - I	80	20
5.	XV	Practicum	100	

NOTE: Internal Assessment will be done on the basis of Class Tests / Seminar / Tutorials

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M. A. – III SEMESTER (PSYCHOLOGY)
PAPER – XI (COMPULSORY)
PERSONALITY AND INDIGENOUS PSYCHOLOGY – I

M. M. - 80

NOTE: This paper consists of five units. From each unit minimum two questions will be set and candidates will have to answer one question from each unit.

UNIT – I Introduction

Personality Meaning, Perspectives and Measurement of Personality.
Concept of Mature Personality, Personality Theory- Problems and Procedures.

UNIT – II Approaches to Personality- I

Psychodynamic Perspectives of Personality: Theories of Personality: Freud, Erikson, Adler. Structure, Dynamics and Development of Personality.
Methods to study Personality.

UNIT – III Approaches to Personality –II

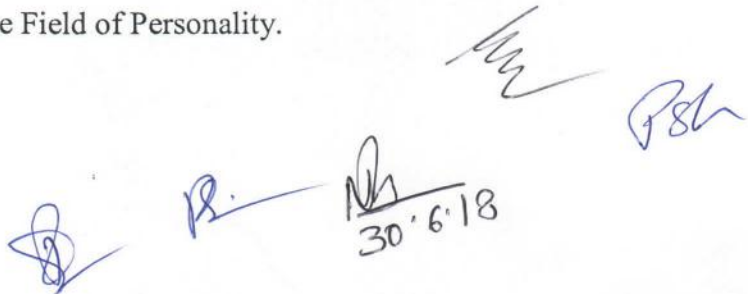
Theories of Personality: Cattell and Eysenck- Structure, Dynamics and Development of Personality. Research Methods.

UNIT – IV Approaches to Personality-III

Cognitive, Behavioural and Humanistic. Kelly, Bandura and Roger's.
Structure, Dynamics and Development of Personality. Research Methods.

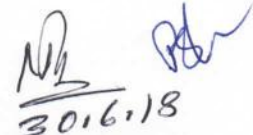

UNIT – V Approaches to Personality-IV

Indigenous Concept and Models of Personality – Yogic, Samkhya.
Current Researches in the Field of Personality.


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BOOKS RECOMMENDED

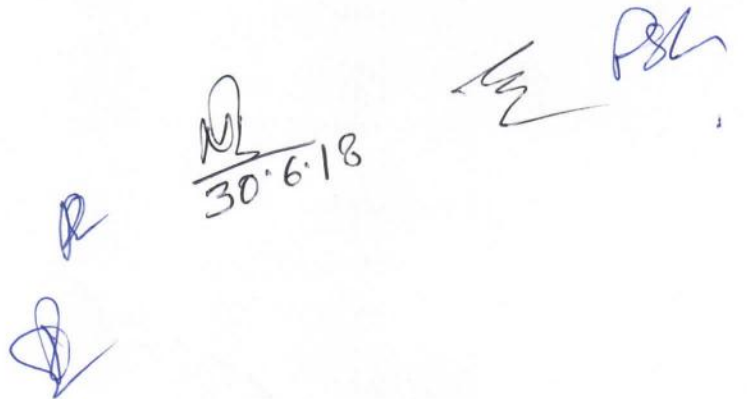
1. Barbara, E. (2008). *Personality Theories* (8th Edition). California. Wadsworth Publishing Company.
2. Bischof, L. J. (1970). *Interpreting Personality Theories*. Harper & Row, New York.
3. Feldman, S.R. (2009). *Essentials of Understanding Psychology*, 7th Edition. Tata McGraw-Hill Education, Pvt. Ltd.
4. Friedman, H. S. & Schustack, M. W. (2016). *Personality: Classic Theories and Modern Research*. (6th Edition), Pearson.
5. Hasurkar, S. S. (1958). *Vācaspati Miśra on Advaita Vedanta*. Darbhanga: Mithila Institute of Post-Graduate Studies.
6. Hall, C. S., Lindzey, G. & Campbell, J. B. (2007). *Theories of Personality* (4th Ed.). John Wiley, New York.
7. Hjelle, L. A. & Ziegler, D. J. (1992). *Personality Theories: Basic Assumptions, Research and Applications* (2nd Ed.). International Student Edition. McGraw Hill, International Book Co.
8. John, O. P., Robins, R. W. & Pervin, L. A. (2010). *Handbook of Personality: Theory and Research*. Guilford Press.
9. Loehlin, J. C., Willerman, L., & Horn, J. M. (1988). Human Behaviour Genetics. *Annual Review of Psychology*, 39(1), 101-133.
10. Magnusson, D., & Endler, N. S. (1977). *Personality at Crossroads*. New Jersey, Hillsdale: Lawrence Erlbaum Associates.
11. Misra, G., & Mohanty, A. K. (2002). *Perspectives on Indigenous Psychology*. New Delhi: Concept Company.
12. Mohanty, J. N. (2000). *Classical Indian Philosophy*. Oxford: Rowman & Littlefield.
13. Mukhopadhaya, K. L. & Swami Niranjana Saraswati. *Yoga Darshan Munger*: Bihar School of Yoga.
14. Murphy, G., & Murphy, L. B. (1968). *Asian Psychology*. New York: Basic Books.
15. Naidu, R. K. & Pandey, N. (1999). Anāsakti: The Indian vision of Potential Human Transcendence beyond Mechanistic Motivations. In G. Misra (Ed.), *Psychological Perspectives on Stress and Health* (pp. 85–99). New Delhi: Concept Publishing Company.



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16. Paranjpe, A. C. (2011). Indian Psychology and the International Context, *Psychology and Developing Societies*, 23 (1), 1-26.
17. Paranjpe, A. C. (1988). A Personality Theory according to Vedanta. In A.C. Paranjpe, D.Y.F. Ho, & R. W. Rieber (Eds), *Asian contributions to Psychology*. New York: Praeger.
18. Paranjpe, A. C., Ho, D. Y. F., & Rieber, R. W. (Eds.). (1988). *Asian Contributions to Psychology*. New York, NY, England: Praeger Publishers.
19. Patanjali Yog Sutra.
20. Pervin, L. A. (1975). *Personality: Theory, Assessment and Research*. 2nd Ed. Wiley International ed. New York.
21. Pervin, L. A. (1993). *Personality: Theory and Research*. John Wiley & Sons.
22. Rao, Sheshagiri, V. N. (1984). *Vācaspati's Contribution to Advaita*. Mysore: Samvit Publishers.
23. Sahakian, W. S. (1975). *Psychology of Personality: Readings in Theory*. Rand McNally, Chicago, Illinois, United States.
24. Sinha, J. (1958). *Indian Psychology* (2nd ed., 2 vol). Calcutta: Sinha Publishing House.

उच्चतर सामान्य मनोविज्ञान (2004): अरुण कुमार सिंह, मोतीलाल बनारसी दास ।
व्यक्तित्व मनोविज्ञान (2004): अरुण कुमार सिंह, मोतीलाल बनारसी दास ।
व्यक्तित्व मनोविज्ञान (2002): मधु अस्थाना, किरण बाला, मोतीलाल बनारसी दास ।
व्यक्तित्व मनोविज्ञान (2004): डी. एन. श्रीवास्तव, भार्गव पब्लिकेशन हाउस, आगरा ।

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M. A. – III SEMESTER
(COMPULSORY)
PAPER – XI
PSYCHOLOGICAL ASSESSMENT – I

M. M. – 80

NOTE: This paper consists of five units. From each unit minimum two questions will be set and candidates will have to answer one question from each unit.

UNIT – I Nature of Psychological Assessment

Nature of Psychological Assessment, Difference between Physical and Psychological Assessment. Problems in Psychological Assessment. Levels of Assessment.

UNIT – II Scaling

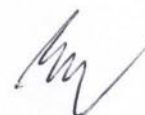
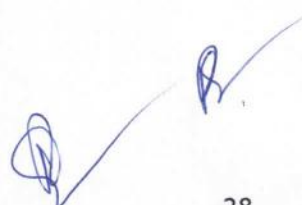
Scaling: Unidimensional and Multidimensional. Scale Construction Techniques. Difference among Tests, Scales, Questionnaire and Schedule. Characteristics of a good Psychometric Test. Difference between Psychometric and Projective Tests.

UNIT – III Construction of Psychometric Tools

Construction of Psychometric Tools: Steps in Test Construction, Item-writing, Pre-try out, Item difficulty, Discrimination Power. Types of Psychological test.

UNIT – IV Standardization Process of Psychometric Test

Standardization Process of Psychometric Test. Reliability: Concept and Type. Methods of determining Reliability. Validity: Concept and Type. Methods of determining Validity. Factors affecting Reliability and Validity. Norms: Types, Uses and Method.



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UNIT – V **Adaptation of Tests**

Adaptation of Tests. Test taking Response Styles: Social Desirability, Acquiescence and Faking. Use of Psychological Tests in applied field of Life: Diagnosis, Psychotherapy, Education, Occupations and Organizations.

BOOKS RECOMMENDED

1. Anastasi, A. (1988). Psychological Testing. Macmillan.
2. Cronbach, L. (1951). Essentials of Psychological Testing New York: Harper & Brothers.
3. Freeman, F. S. (2008). Theory and Practice of Psychological Testing. Publisher: Oxford and IBH Publishing.
4. Friedenberg, L. (1995). Psychological Testing: Design, Analysis, and Use. Allyn & Bacon.
5. Ghiselli, E. E. (1964). Theory of Psychological Measurement. New Delhi, Tata McGraw- Hill.
6. Gregory, R. J. (2004). Psychological Testing: History, Principles, and Applications. Needham Heights, M A, US: Allyn & Bacon.
7. Guilford, J. P. (1954). Psychometric Methods. New Delhi Tata Mc Graw Hill
8. Nunnally, J. C. (1970). Introduction to Psychological Measurement. New York: McGraw-Hill.
9. Price, L. R. (2016). Psychometric Methods: Theory into Practice. Guilford Press, Routledge.


30.6.18

M. A. – III SEMESTER (PSYCHOLOGY)

GROUP - A

PAPER – XIII (OPTIONAL)

ORGANIZATIONAL BEHAVIOUR – I

M. M. – 80

NOTE: This paper consists of five units. From each unit minimum two questions will be set and candidates will have to answer one question from each unit.

UNIT – I Introduction

Emergence of OB as a Discipline and Contributing Disciplines to OB. Contributions of Hawthorne Studies to OB; OB trends – Globalization; Outsourcing; Call Centres; Knowledge Process Outsourcing. The FIVE Anchors of OB and Knowledge Management.

UNIT – II Motivational Process

Motivational Process: Meaning of Motivation; Primary Motives; General Motives, Secondary Motives and Motivational Process. Content Theories of Work Motivation – Maslow's Hierarchy of Needs; Herzberg's Factor Theory; ERG Theory. Theory X and Theory Y.

UNIT – III Leadership

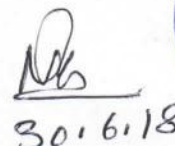
Leadership: Difference between Leader and Manager. Important studies on Leadership. Factors influencing Leadership Role. Essentials of Leadership, Leadership Styles. Supervision and Patterns of Supervision. Modern Theoretical Process of Leadership: Charismatic Leadership Theories; Transformational Leadership Theory; A Socio-Cognitive Approach; Leadership across Cultures; Corporate Leaders.

UNIT – IV Conflict and Power ^{at} in Work Place

Conflict: The Conflict Process; Sources of Conflict in Organizations. Organizational Conflict, Conflict Management. Interpersonal Conflict Management Styles; Resolving Conflicts.

Power: Meaning of Power; Sources of Power; Contingencies of Power; Influencing Others; Influencing Tactics and Organizational Politics.

Organizational Power and Politics. Union Management Interface.



30.6.18



UNIT – V **Decision Making**

Nature and Concepts. Decision Making Process, Types of Decisions.
Factors influencing Decision Making. Management Decision Techniques.

BOOKS RECOMMENDED

1. Bristal, V. (1997). Rethinking the Future: Rethinking Business, Principles, Competition, Control & Complexity, Leadership, Markets and the World. *The Journal of Business Strategy*, 18(4), 62.
2. Gibson, R., & Handy, C. (1998). Rethinking the Future: Rethinking Business Principles, Competition, Control and Complexity, Leadership, Markets and the World.
3. Greenberg, J. & Baron, R. A. (2003). Behaviour in Organizations: Understanding and Managing the Human Side of Work. Upper Saddle River, N J: Prentice Hall.
4. Griffin, W. H. & Pareek, U. (2005). Management of Change in Education.
5. Luthans, F. (1995). Organizational Behaviour. Mc Graw Hill, International Student Edition.
6. Lynton, R. P. & Pareek, U. (1978). Training for Development.
7. Pareek, U. (1996). Organizational Behaviour Processes.
8. Pareek, U. (2007). Understanding Organizational Behaviour.
9. Pareek, U. (2011). Udai Pareek's Understanding Organizational Behaviour.
10. Pareek, U. (2016). Understanding Organizational Behaviour 4E.
11. Pareek, U. (2017). Designing and Managing Human Resource Systems.
12. Pareek, U. & Rao, V. (2005). First Handbook of Psychological and Social Instruments.
13. Pareek, U. & Khanna, S. (2007). Understanding Organizational Behaviour. Oxford University Press.
14. Rao, T. V. (2015). Performance Management: Toward Organizational Excellence.
15. Robbins, S. P. (2000). Organizational Behaviour. (9th edition). Prentice Hall India, New Delhi.

16. Schein, E. M. (1990). Organizational Psychology 3rd edition. Prentice Hall of India Pvt. Ltd. New Delhi.
17. Toffler, A., Toffler, H., & Gibson, R. (2011). Rethinking the Future: Rethinking Business Principles, Competition, Control and Complexity, Leadership, Markets and the World. Hachette UK.
18. Ulrich, D., Allen, J., Brockbank, W., Younger, J., & Nyman, M. (2009). HR Transformation: Building Human Resources from the Outside In. New York: McGraw-Hill.
19. Wolfe, B. (2015). The Little Black Book of Human Resources Management. The Expressive Press.

M. A. – III SEMESTER (PSYCHOLOGY)

GROUP - A

PAPER – XIV (OPTIONAL)

HUMAN RESOURCE DEVELOPMENT AND MANAGEMENT – I

M. M. 80

NOTE: This paper consists of five units. From each unit minimum two questions will be set and candidates will have to answer one question from each unit.

UNIT – I Human Resource Management

Nature, Function, Personnel Management vs. HRM, HRD vs. HRM. Assumptions about HRM, Structure and Role of HRM. The Indian context of HRM. Models of HRM. Current and Future Challenges to HRM. Strategic Role, International Human Resource Management.

UNIT – II Human Resource Planning

Human Resource Planning: Importance, process, Forecasting Demand, Estimating Supply, Effective HRP, Human Resource Accounting. Steps, Stages and Structure in Manpower Planning. HRD in India.

UNIT – III Job Analysis and Job Design

Job Analysis: Uses, Process, Methods, Job Description and Job Specifications. Job Analysis and Job Design. Recruitment and Selection.

UNIT – IV Training and Development

Training: Nature and Importance. How to make Training Effective. Importance of Training in Organizational Set Up-Training as a Profession-Training Needs Analysis- Types of Training-Training Design-Steps Involved. Organizational Development: Nature and Objectives of OD. Phases of an OD Programme; OD Interventions; OD in Indian Industry; Criticism of OD.

UNIT – V Performance Appraisal

Performance Appraisal, Factors Distorting Appraisal and how to improve Appraisals. Types of Appraisal. Comparing with Performance Management, Methods, Challenges, Legal Implications.

BOOKS RECOMMENDED

1. Aswathappa, K. (1999). Human Resource and Personnel Management-Text and Cases, New Delhi: Tata McGraw Hill, pp.208.
2. Beardwell, I. & Holden, L. (1997). Human Resource Management. A Contemporary Perspective.
3. DeCenzo, D. A., Robbins, S. P. & Verhulst, S. L. (2012). Fundamentals of Human Resource Management, Wiley.
4. Fisher, C. D., Shaw, J. B. & Schoenfeldt, L. F. (1993). Human Resource Management. Houghton Mifflin Company.
5. Pareek, U. (2017). Designing and Managing Human Resource Systems. Oxford and IBH Publishing.
6. Pareek, U. & Rao, T. V. (1981). Designing and Managing Human Resource Systems. New Delhi: Oxford and IBH.
7. Robbins, S. P. & Judge, T. A. (2013). Essentials of Organizational Behaviour. Pearson.
8. Sinha, J. B. (2009). Culture and Organizational Behaviour. SAGE Publications India.

M. A. – III SEMESTER (PSYCHOLOGY)
GROUP - B
PAPER – XIII (OPTIONAL)
EDUCATIONAL AND INSTRUCTIONAL PSYCHOLOGY – I

M. M. - 80

NOTE: This paper consists of five units. From each unit minimum two questions will be set and candidates will have to answer one question from each unit.

UNIT – I Conceptual and Theoretical Perspectives

Conceptual and Theoretical Perspectives in Educational Psychology.

Theories: Behaviouristic, Social Learning and Cognitive Applications in Teaching.

UNIT – II Information Processing Models

Instructional Models, Programmed Learning, Concept, Characteristics and Models.

UNIT – III Human Diversity and Education

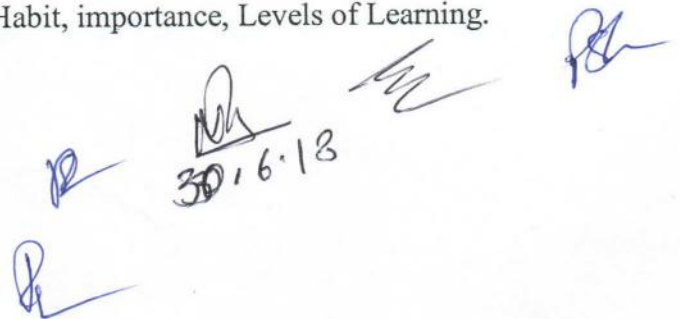
Learning Styles: Nature, Approaches to Learning Style, Measurement of Learning Styles. Attempt to Modify Learning Styles.

UNIT – IV Individual and Group Differences

Individual and Group Differences in Intelligence. Theories of Intelligence, Gender Differences issues in the Classroom.

UNIT – V Learning and Motivation

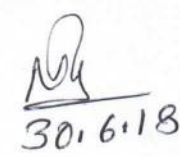
Learning and Motivation, Study Habit, importance, Levels of Learning.


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BOOKS RECOMMENDED

1. Bruce, R. J., Weil, M., & Calhoun, E. (2014). Models of Teaching (9th Edition) Pearson.
2. De Secco, J. P. & Crawford, W. R. (1974). The Psychology of Learning and Instruction. Englewood Cliffs, NJ: Prentice Hall.
3. Ellis, R. S. (1965). Educational Psychology, A Problem Approaches Affiliated. New Delhi, East West Press.
4. Gage, N. L., & Berliner, D. C. (1998). Educational Psychology (6th ed.). Boston, MA: Houghton Mifflin.
5. Ghaoui, C. (2004). Human Factors and Innovative Approaches. Idea Group Inc (IGI).
6. Santrock, J. W. (2011). Educational Psychology. Tata McGraw Hill.
7. Schunk, D. H. (2012). Learning Theories an Educational Perspective, Sixth Edition. Pearson.
8. Travers, J. F. (1979). Educational Psychology (2nd Ed.). New York & Row.
9. Woolfolk, A. E. (1995). Educational Psychology (6th Ed.) Allyn & Bacon, London/ Boston.
10. Woolfolk, A. (2005). Educational Psychology, 9/E, Active Learning Edition. Allyn & Bacon, Boston.
11. Woolfolk, A. (2006). Educational Psychology. International Edition with Pearson Education.
12. Woolfolk, A., Misra, G. & Jha, A. (2012). Fundamentals of Educational Psychology. Pearson.
13. Woolfolk, A. & Perry, N. E. (2014). Child and Adolescent Development. Pearson.
14. Woolfolk, A., & Vij Shivani (2017). Educational Psychology. Pearson.







M. A. – III SEMESTER (PSYCHOLOGY)
GROUP - B
PAPER – XIV (OPTIONAL)
BASICS OF PSYCHOLOGICAL GUIDANCE AND COUNSELLING – I

M. M. – 80

NOTE: This paper consists of five units. From each unit minimum two questions will be set and candidates will have to answer one question from each unit.

UNIT – I Introduction

Nature, Need and Functions of Guidance. Principles of Guidance.
Individual and Group Approaches.

UNIT – II Techniques of Appraising the Client – I

Non-Standardized Methods: Anecdotal Record, Auto Biography, Case Study,
Sociometric, Observation, Rating Scale, Questionnaire.

UNIT – III Techniques of Appraising the Client -II

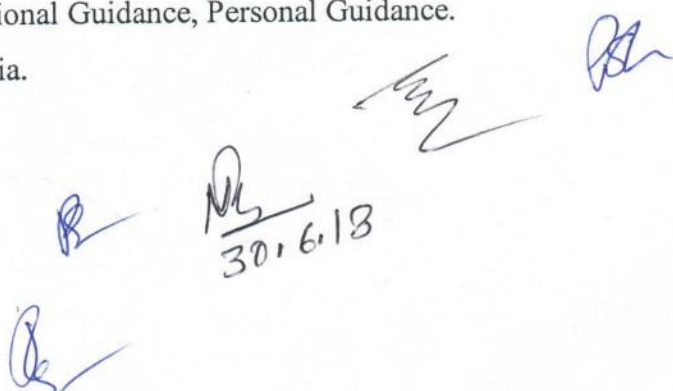
Standardized Methods: Intelligence, Personality Aptitude, Interest,
Achievement.

UNIT – IV Organization of a Guidance Programme

Duties and Responsibilities of the Guidance Personnel, School,
Duties and Responsibilities of Family and Community. Individual and Group
Guidance


UNIT – V Special Areas of Guidance

Vocational Guidance, Educational Guidance, Personal Guidance.
Problems of Guidance in India.


30.6.18

BOOKS RECOMMENDED

1. Anastasi, Z. (1992). Psychological Testing (Seventh Ed.). New York, McMillan.
2. Anastasi, Z., & Lewis, E.C. (1970). Counselling Psychology. New York, Holt Rinehart and Winster, Inc.
3. Gibson, R. L. & Mitchell, M. (2008). Introduction to Counselling and Guidance. New Delhi: Prentice Hall of India.
4. Harson, J. C. (1978). Counselling Processes and Procedures. New York, McMillan Publishing Co. Inc.
5. Kemp. C. G. (1970). Foundations of Group Counselling. New York, McGraw Hill.
6. Nystul, M. S. (2006). Introduction to Counselling: As an Art and Science Perspective. Allyn & Bacon.
7. Rappaport, D., Gill, M. M. & Schafer, R. (1968). Diagnostic Psychological Testing. (Revised edition, edited by Holt, R. R.) New York, International Universities Press.
8. Rao. S. N. (1981). Counselling Psychology. New Delhi, Tata McGraw Hill.
9. Siddiqui, M. H. (2008). Guidance and Counselling. APH Publishing.
10. Shrivastava, K. K. (2003). Principles of Guidance and Counselling. Kanishka Publishers, Distributors, New Delhi.
11. Steffler, B. (Ed.) (1965). Theories of Counselling. New York, McGraw Hill Book Co.
12. Warters, J. (1964). Techniques of Counselling. New York, McGraw Hill Book Co.


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M. A. – III SEMESTER (PSYCHOLOGY)
GROUP - C
PAPER – XIII (OPTIONAL)
CLINICAL DIAGNOSIS – I

M. M. - 80

NOTE: This paper consists of five units. From each unit minimum two questions will be set and candidates will have to answer one question from each unit.

UNIT – I Introduction

History and Current trends. Nature, Problems and Methods of Clinical Psychology. Professionals. Growth of the Branch. Growth in India.

UNIT – II Approaches

Psychodynamic, Behaviouristic, Humanistic, Cognitive and Socio-Cultural.

UNIT – III Diagnosis -I

Meaning of Psycho-Diagnosis. Types and Importance. Concept of Prognosis. Symptomatic vs. Dynamic. Symptomatic Diagnosis: ICD-10, DSM-IV (R).

UNIT – IV Diagnosis -II

Dynamic Diagnosis: Observation, Case History, and Interview.

UNIT – V Impressionistic Approach

Impressionistic Approach of Diagnosis: Informal Assessment, Sources of Errors in Impression Formation. Importance of Psychometric Approach.

BOOKS RECOMMENDED

1. Bholra, P. & Raghuram, A. (2016). Ethical Issues in Counselling and Psychotherapy Practice. Springer.
2. Carr, A. (2012). Clinical Psychology: An Introduction. Routledge.
3. Dalton, J. H., Elias, M. J., Wandersman, A. & Dalton, J. H. (2007). Community Psychology: Linking Individuals and Communities. Wadsworth, Thomson Learning US.
4. Davey, G. (2008). Clinical Psychology. Taylor & Francis, India Pvt Ltd, New Delhi.

5. DeRubeis R. J., Donald, K. and Routh, D. K. (1998). The Science of Clinical Psychology: Accomplishments and Future Directions. Google Books.
6. Gladding, S. T. (2017). Counselling: A Comprehensive Profession. Seventh Edition. Pearson.
7. Hecker, J. E. & Thorpe, G. L. (2007). Introduction to Clinical Psychology. Pearson Education.
8. Heiden, L. A. & Hersen, M. (1995). Introduction to Clinical Psychology 1st Edition. Springer.
9. Iscope, I., Block, B. L. & Spielberger, C. D. (1977). Community Psychology: Perspectives in Training and Research. NY: Appleton.
10. Kellerman, H. & Burry, A. (2009). Handbook of Psycho-Diagnostic Testing: Analysis of Personality in the Psychological Report. Springer.
11. Korchin, S. J. (1978). Modern Clinical Psychology: Principles of Intervention in the Clinic and Community. International Edition.
12. Korchin, S. J. (2004). Modern Clinical Psychology: Principles of Intervention in the Clinical and Community. 1st Edition. CBS Publisher.
13. Kumar, V. (2011). Clinical Psychology. Aadi Publications.
14. Mann, P.A. (1978). Community Psychology: Concepts and Applications. The Free Press.
15. Perkins, D. (2011). An Introduction to Community Psychology. Vanderbilt University.
16. Plante, T. G. (2010). Contemporary Clinical Psychology. John Wiley & Sons.
17. Pomerantz, A. M. (2017). Clinical Psychology: Science, Practice, and Culture 4th Edition. Sage Publications.
18. Rapaport, J. (1977). Community Psychology: Values, Research and Action. NY: Holt Rinehart.
19. Rappaport, J. & Seidman, E. (2000). Handbook of Community Psychology. Springer Science + Business Media, LLC.
20. Reich, S. M., Riemer, M, Prilleltensky, I. & Montero, M. (2007). International Community Psychology: History and Theories. Springer.
21. Walker, E. C. (1991). Clinical Psychology: Historical and Research Foundations. Springer Science + Business Media, LLC.
22. Wolman, B. B. (ed). (1965). Handbook of Clinical Psychology. Mc Graw Hills.

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M. A. – III SEMESTER (PSYCHOLOGY)
GROUP - C
PAPER – XIV (OPTIONAL)
PSYCHOTHERAPEUTIC COUNSELLING – I

M. M. – 80

NOTE: This paper consists of five units. From each unit minimum two questions will be set and candidates will have to answer one question from each unit.

UNIT – I Psychotherapeutic Counselling Techniques

Techniques of Psychotherapeutic Counselling: Psychoanalytic, Behavioural.
Client Centred. Community Interventions and Group Therapeutic Techniques.

UNIT – II Methods for Altering Maladaptive Behavioural - Deficits

Shyness, Delinquency, Depression, Speech and Sexual Dysfunctions.

UNIT – III Methods for Altering Maladaptive Behavioural - Excesses

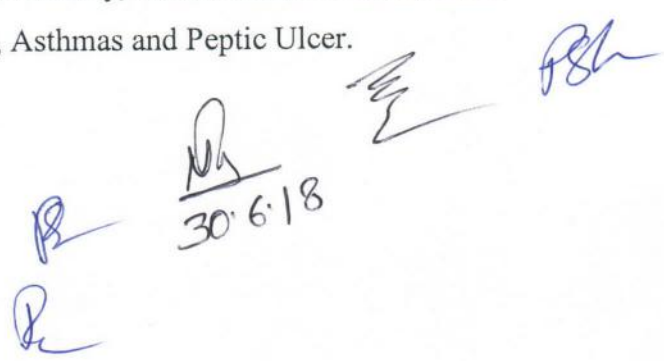
Excessive Smoking, Alcoholism, Drug Addiction and Temper-Outburst,
Physical Aggression.

UNIT – IV Methods of Altering Inappropriate Behaviour

Marital Maladjustment, Child Misbehaviour, Homosexuality, Exhibitionism.
Stress and Coping.

UNIT – V Methods for Altering Fears and Anxiety

Methods for altering Fears and Anxiety. Treating Psychophysiological
Disorders: Test-Anxiety, Generalized Anxiety, Stress, School Phobia, Snake
Phobia, Combination of Fears, CHD, Asthmas and Peptic Ulcer.


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BOOKS RECOMMENDED

1. Abate, L. & Milan, M. A. (ed.) (1985). Handbook of Social Skill Training and Research. New York: John Wiley & Sons.
2. Adelson, D. & Kalis, B. L. (1970). Community Psychology and Mental Health Perspectives. Seaton.
3. Carson, R. C., Butcher, J. N. & Mineka, S. M. (1999). Abnormal Psychology and Modern Life. Pearson.
4. Corey, G. (1986). Theory and Practice of Counselling and Psychotherapy. Monterey, C A.
5. Gelso, C J. Williams, E. N. & Fretz, B. R. (1995). Counselling Psychology. APA Books.
6. Ghosh, M. (2015). Health Psychology: Concepts in Health and Well-being. Pearson.
7. Iscoe, I., & Spielberger, C. D. (Eds.). (1970). Community Psychology: Perspectives in Training and Research. New York, Appleton-Century-Crofts.
8. Iscoe, I. Bloom, B. L. & Spielberger, C. D. (1977). Community Psychology in Transition. USA: Hemisphere Publishing Corporation.
9. Levine, M., Perkins, D. D. & Perkins, D. V. (2005). Principles of Community Psychology: Perspectives and Applications. Third Edition, New York, Oxford University Press.
10. Mann. A. P. (1978). Community Psychology: Concepts and Applications. Free Press.
11. Rennie, D. L. (1998). Person-Centred Counselling: An Experiential Approach. London, UK: Sage.
12. Tayler S. E. (2006). Health Psychology. Tata McGraw Hill, New Delhi
13. Toukmanian, S. G. & Rennie, D. L. (1992). Psychotherapy Process Research: Paradigmatic and Narrative Approaches. Thousand Oaks, CA: Sage.
14. Wolberg, L. R. (2013). The Technique of Psychotherapy. Fourth Edition, International Psychotherapy Institute E-Books.
15. Woolfe, R. & Dryden, W. (eds) (1996). Handbook of Counselling Psychology. Sage, London.

M. A. – III SEMESTER (PSYCHOLOGY)
PAPER – XV (OPTIONAL)
PRACTICUM

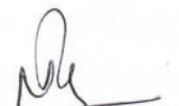
M. M. – 100

NOTE: Any five of the following to be completed in the Laboratory training.

1. Knowledge of Results.
2. Effect of Social Support on Conformity.
3. Attribution of Achievement Outcomes.
4. Zeigarnik Effect.
5. Level of Aspiration as a function of Success or Failure.
6. Reminiscence in Motor Learning.
7. Short Term Memory (STM)
8. Effect of Group on Individual Judgement.
9. Mental Health

One Field Study

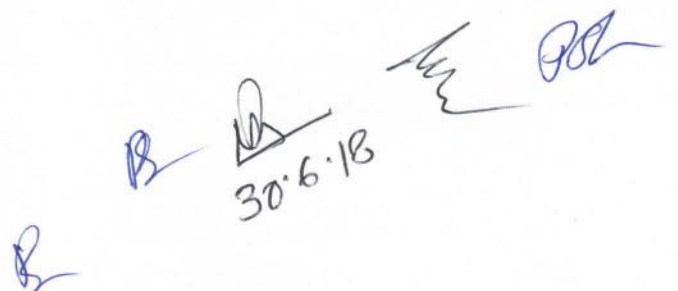



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M. A. – IV SEMESTER (PSYCHOLOGY)

S. No.	Paper No	Title of Paper	Marks		Time
			Theory	Internal Assessment	
16.	XVI	Life Span Development	80	20	Three Hours
17.	XVII	Psychological Assessment – II	80	20	Three Hours
Optional Papers: Two Papers from any One of the Three Groups					
Group A: Psychology of Management					
18.	XVIII	Organizational Behaviour - II	80	20	Three Hours
19.	IX	Human Resource Development and Management – II	80	20	Three Hours
Group B: Psychology of Education					
18.	XVIII	Educational and Instructional Psychology – II	80	20	Three Hours
19.	IX	Basics of Psychological Guidance and Counselling – II	80	20	Three Hours
Group C: Clinical Psychology					
18.	XVIII	Clinical Diagnosis and Community Mental Health – II	80	20	Three Hours
19.	IX	Psychotherapeutic Counselling – II	80	20	Three Hours
20.	XX	Practicum (Field Work)	100		Four Hours



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M. A. – IV SEMESTER (PSYCHOLOGY)

PAPER – XVI (COMPULSORY)

LIFE SPAN DEVELOPMENT

M. M. – 80

NOTE: This paper consists of five units. From each unit minimum two questions will be set and candidates will have to answer one question from each unit.

Unit – I Introduction to Development

Introduction: Nature, Stages and Principles of Developmental Psychology, Maturation vs Experience; Nature- Nurture debate

Unit – II Theories of Development

Theories of Human Development: Psychodynamic, Psychosocial, Behaviourism, Social Learning, Cognitive, Socio-Cultural Theory of Development.

Unit–III Research Methods and Ethical Issues

Research Methodology in Development Psychology and Measurement Techniques, Research Design, Ethical Issues in Research on Child Development.

Unit – IV Foundations of Development

Biological foundation of Development, Development of Language and Communication. Emotional, Social, Personality and Moral Development.


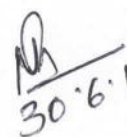

Unit – V Development in Later Age

Adulthood, Middle and Old Age: Characteristics, Psychological Changes and Adjustment.

Books Recommended

1. Baltes, P. B. & Brim O. G. Jr. (1978). Life Span Development and Behaviour. New York Academic Press.
2. Baltes, P.B. & Brim O.G. Jr. (1979). Life Span Development and Behaviour (Vol. 2). New York Academic Press.
3. Baltes, P. B. & Brim O. G. Jr. (1980). Life Span Development and Behaviour (Vol. 3). New York Academic Press.
4. Baltes, P. B., Reese, H. W., & Lipsitt, L. P. (1980). Life-Span Developmental Psychology. *Annual Review of Psychology*, 31(1), 65-110.

5. Baltes, P. B. & Brim O. G. Jr. (1981). Life Span Development and Behaviour (Vol. 4). New York Academic Press.
6. Baltes, P. B. & Brim O. G. Jr. (1983). Life Span Development and Behaviour (Vol. 5). New York Academic Press.
7. Baltes, P. B. & Brim O. G. Jr. (1984). Life Span Development and Behaviour (Vol. 6). New York Academic Press.
8. Baltes, P. B. (1987). Theoretical propositions of Life-Span Developmental Psychology: On the Dynamics between Growth and Decline. *Developmental Psychology*, 23(5), 611.
9. Brophy, J. E., & Willis, S.L. (1981). Human Development and Behaviour. New York: St. Martin's Press.
10. Hurlock, E. (2017). Developmental Psychology: A Life-Span Approach. Tata McGraw Hill Education (5th Ed.).
11. Keenan, T. & Evans, S. (2009). An Introduction to Child Development. London: Sage Publications.
12. Papalia, D., Olds, S. & Feldman, R. (2017). Human Development. McGraw Hill Education, (9 Edition).
13. Thomas, M. R. (2000). Recent Theories of Human Development. Thousand Oaks: Sage Publication Hill.

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PAPER – XVII (COMPULSORY)
PSYCHOLOGICAL ASSESSMENT - II

M. M.- 80

NOTE: This paper consists of five units. From each unit minimum two questions will be set and candidates will have to be answer one question from each unit.

UNIT – 1 Measurement of Intelligence

Concept and Measurement of Intelligence, Major Tests of Intelligence developed under Western and Indian Cultural set up.

UNIT – II Measurement of Aptitude Test

Concept and Measurement of Aptitude Test. Major Test of Aptitude Developed under Western and Indian Cultural set up. Achievement Test: Concept and Measurement.

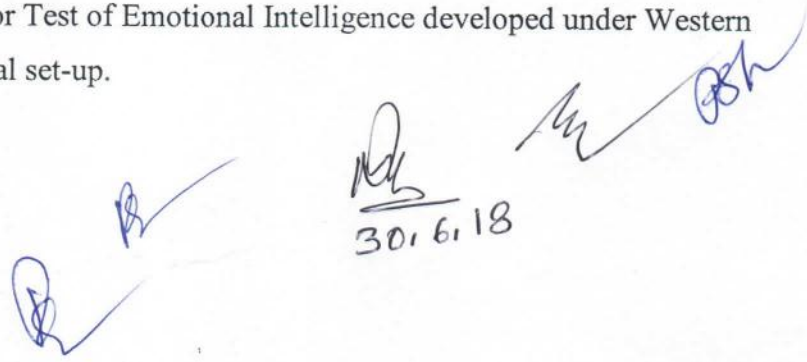
UNIT – III Test of Personality

Test of Personality: Projective and Psychometric Approaches, Major Test of Personality: Developed under Western and Indian Cultural set up.

UNIT – IV Test of Adjustment, Values, Interest, Stress and Anxiety development under Indian condition.

UNIT – V Psychological Testing in Applied Field

Psychological Testing in Applied Field: Neuro-Psychological Testing: Objectives and Major Neuropsychological Test. Emotional Intelligence Test: Concept and Major Test of Emotional Intelligence developed under Western and Indian Cultural set-up.


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BOOKS RECOMMENDED

1. Anastasi, A. (1988). Psychological Testing. London: Mc Millan Publishing Company.
2. Cronbach, L. J. (1997). Essentials of Psychological Testing. Pearson.
3. Freeman, S. (2018). Theory and Practice of Psychological Testing, 3/E. Oxford & IBH-Pubs Company-New Delhi.
4. Ghiselli, E. E. (1964). Theory of Psychological Measurement. Tata McGraw-Hill.
5. Goleman, D. (1996). Emotional Intelligence. Bantam Doubleday Dell Publishing Group.
6. Guilford, J. P. (1954). Psychometric Methods. New Delhi, Tata Mc Graw Hill.
7. Guilford, J. P. (1982). Psychometric Methods. New Delhi, Tata McGraw Hill.
8. Nunnally, J. C. (1970). Introduction to Psychological Measurement. Mc Graw Hill.
9. Nunnally, J. C. (1997). Psychometric Theory. Pearson, 5 Edition.
10. Nunnally, J. & Bernstein, I. (2017). Psychometric Theory. McGraw Hill Education.
11. Psychological Studies – 2004, Vol.-49.
12. Urbina, S. (2014). Essentials of Psychological Testing. John Wiley & Sons Inc.

GROUP - A

PAPER – XVIII (OPTIONAL)

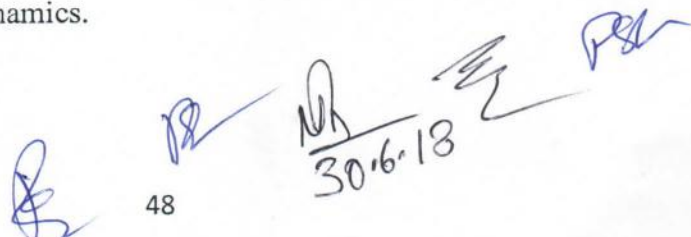
ORGANIZATIONAL BEHAVIOUR – II

M. M. – 80

NOTE: This paper consists of five units. From each unit minimum two questions will be set and candidates will have to answer one question from each unit.

UNIT – I Groups

Types of Groups, Processes, Group Culture and Social Influence, Team Building. Techniques of Building Group Consensus. Understanding and Managing Team Dynamics.

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UNIT – II Communication

Nature, Types, Application of different types of Communication, Role of T A in Communication.

UNIT – III Organizational Change

Types of Change, Sources of Change Process, Human Element in Change.

UNIT – IV Organizational Development

Concepts, objectives and Goals, Process Behavioural Science approach to Organizational Development.

UNIT – V Marketing

Marketing Research, Nature and Functions, Consumer Behaviour. Sales Promotion Strategies.

BOOKS RECOMMENDED

Drummond, H. (2000). Introduction to Organizational Behaviour. OUP Catalogue.

Greenberg, J. & Baron, R. A. (2008). Behaviour in Organizations. Upper Saddle River, N.J.: Prentice Hall.

Johns, G., & Saks, A. M. (2001). Organizational Behaviour: Understanding and Managing Life at Work.

Luthans, F. (1995). Organizational Behaviour. Mc Graw Hill International Edition.

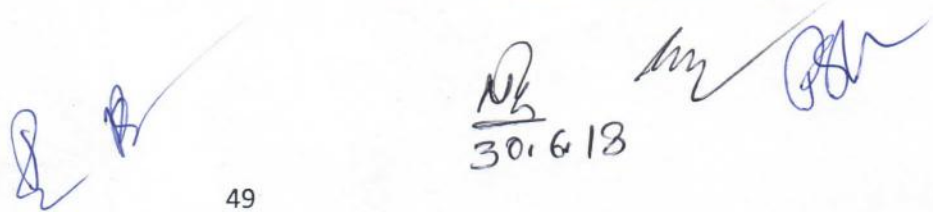
Luthans, F. (2011). Organizational Behaviour. The McGraw-Hill Companies, Inc.

Robbins, S. P. (2000). Organizational Behaviour (9th edition). Prentice Hall India, New Delhi.

Robbins, S.P. Organizational Behaviour: Concepts and Self-Assessment. Pearson College Division.

Robbins, S. P., Judge, T., & Breward, K. (2003). Essentials of Organizational Behaviour (Vol. 7). Upper Saddle River, NJ: Prentice Hall.

Wilson, F. M. (2018). Organizational Behaviour and Work: A Critical Introduction. Oxford University Press.

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GROUP - A
PAPER – XIX (OPTIONAL)
HUMAN RESOURCE DEVELOPMENT AND MANAGEMENT – II

M. M. – 80

NOTE: This paper consists of five units. From each unit minimum two questions will be set and candidates will have to answer one question from each unit.

UNIT – I Job Evaluation

Job Evaluation, Wage and Salary Administration. Employment Incentives.

UNIT – II Human Resource Policies and Practices





Human Resource Policies and Practices, changing trends in Work Environment, Developing the Human Resource.

UNIT – III Maintaining Human Resource

Maintaining Human Resource Safety and Health Stress Management, Labour Relations.

UNIT – IV Collective Bargaining, Employee Involvement, Employee Communication.

UNIT – V Employee Counselling. Challenges of Human Resource Management.


  
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BOOKS RECOMMENDED

Aswathappo. (2002). Human Research and Personnel Management. Tata McGraw Hill.

Bhattacharyya, D. K. (2011). Performance Management Systems and Strategies. Pearson Education India.

Cascio, W. F. (1998). Managing Human Resource. Delhi: Tata McGraw Hill.

Cascio, W. F. & Aguinis, H. (2010). Applied Psychology in Human Resource Management. Prentice Hall India Learning Private Limited; 6 Edition.

Cascio, W. & Nambudiri, R. (2010). Managing Human Resources: Productivity, Quality of Work Life, Profits. McGraw Hill Education; 8 Edition.

John O. Okpara, J. O. & Wynn, P. (2007). Human Resource Management Practices in a Transition Economy: Challenges and Prospects. Emerald Group Publishing Limited.

Johnson, G. & Scholes, K. (1996). Exploring Corporate Strategy. Prentice- Hall, New Delhi.

Miner, J. B. (1992). Industrial / Organizational Psychology. New York, McGraw Hill.

Pareek, U. & Rao, T. V. (2015). Designing and Managing Human Resources Systems. Oxford & IBH.

Pareek, U. (2017). Designing and Managing Human Resource Systems. Oxford & IBH Publishing Co Pvt. Ltd; 3rd edition.

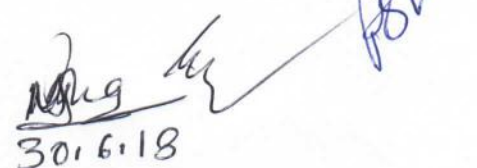
Pareek, U. & Rao, T. V. (2005). First Handbook of Psychological and Social Instruments. Concept Publishing Company.

Rao, T. V. (2015). Performance Management: Toward Organizational Excellence. SAGE Response; Second edition.

Pareek, U. & Khanna, S. (2016). Understanding Organizational Behaviour. Oxford University Press.

Robbins, S. P., Judge, T. & Vohra, N. (2016). Organizational Behaviour. Pearson.

Snell, S. & Bohlander, G. (2012). Human Resource and Management. Cengage Learning.



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GROUP - B
PAPER – XVIII (OPTIONAL)
EDUCATIONAL INSTRUCTIONAL PSYCHOLOGY – II

M. M. - 80

NOTE: This paper consists of five units. From each unit minimum two questions will be set and candidates will have to answer one question from each unit.

UNIT – I Teaching and Classroom Management

Effective Teaching and Classroom Management. Planning and Setting Objectives for Teaching. Characteristics of Effective Teachers.

UNIT – II Teaching Methods and Instruction

Teaching Methods, Instruction Lecturing and Explaining, Questioning, Student Centred Teaching Class Room Management and Teaching in Small Groups. Discussion Method and Cooperative Learning, Computer-Assisted Instruction.

UNIT – III Exceptionality and Social Education

Exceptionality and Social Education: Categories of Exceptionality, Labelling and Educational Relevance. Physically Disabled Students. Students with Cognitive Disabilities. Brain Dysfunction and Communication Disorders.

UNIT – IV Emotional and Behaviour Disorder

Students with Emotional and Behaviour Disorder. Attention Deficit Disorder (ADD), Attentional Deficit Hyperactive Disorder (ADHD), Gifted and Talented Students. Intervention and Special Education for Various Forms of Exceptionality, Mainstreaming.

UNIT – V Measurement and Evaluation

Measurement and Evaluation: Educational Assessment, Measurement and Evaluation (Norm Referenced and Criterion Referenced Tests). Test Scores- Meaning and Types, Standardized Test: Meaning Types and Interpretation. Classroom Assessment and Grading. Techniques of Class Room Evaluation. Observation, Questionnaire.

BOOKS RECOMMENDED

1. Aruna, M. G. (2003). Educational Psychology. New Delhi: Neel Kamal Publications.
2. Best, J. W. (1992). Research in Education. New Delhi: Prentice Hall of India, Private Limited.
3. Borg, W. R., Gall, M. D. & Gall, M.D. (1997) Educational Research and Introduction. New York: Longman Inc.
4. Cecco, John P.De (1968). The Psychology of Learning and Instruction: Educational Psychology. Englewood Cliffs, N. J.: Prentice-Hall.
5. Cohen, L & Manion, L. (1989) Research Methods in Education. London: Routledge.
6. Crow, L. & Crow A (1991.) Educational Psychology. New Delhi: Eurasia Publishing Home.
7. Ellis, R. S. (1965). Educational Psychology: A Problem Approach Affiliated, New Delhi, East West Press.
8. Gage, N. L., & Berliner, D. C. (1998) Educational Psychology (6th ed.). Boston, MA: Houghton Mifflin.
9. Goswami, M. (2015). Essentials of Educational Psychology. Mahaveer Publications.
10. Meece, J. L., Anderman, E. M. & Anderman, L. H. (2006). Classroom Goal Structure, Student Motivation and Academic Achievement. Annual Review of Psychology, Vol. 57 (1), 487-503.
11. Sharma, R. A. (2010). Essentials of Educational Technology and Management. International Publishing House – Meerut.
12. Travers, J. F. (1979). Educational Psychology (2nd Ed.). Harper & Row, New York.
13. Travers, R. M. W. (1986). An Introduction to Educational Research. New York: The McMillan Publishing Company.
14. Woolfolk, A. H. (1993). Educational Psychology (6th Ed.) Allyn & Bacon, London/Boston.
15. Woolfolk, A. H. (2018). Educational Psychology. Pearson.

GROUP - B
PAPER – XIX (OPTIONAL)
BASICS OF PSYCHOLOGICAL GUIDANCE AND COUNSELLING – II

M. M. – 80

NOTE: This paper consists of five units. From each unit minimum two questions will be set and candidates will have to answer one question from each unit.

UNIT – I Introduction

Nature, Need and Functions of Counselling. Counselling and Psychotherapy. Intervention, Goal and Objectives of Counselling. Characteristics of a Good Counsellor. Counsellor's Training.

UNIT – II Counselling Process and Counselling Skills

Stages in Counselling. Critical Issues in Counselling Process. Basic and Advanced Counselling Skills: Active Listening, Empathy, Probing, Working through thought Cognition, Affect and Emotion.

UNIT – III Approaches

Approaches of Counselling: Directive, Non-Directive, Eclectic. Individual and Group Counselling. Group Counselling Skills. Evaluation of Counselling. Follow-Up and Placement.

UNIT – IV Counselling in Special Settings -I

Educational Settings: Elementary, School, Secondary School, Institutions of Higher Education. Vocational Schools, Career Counselling, Employment Counselling

UNIT – V Counselling in Special Settings -II

Community and Mental Health. Pre-Marital and Marital Counselling. Family Counselling. Gerontology Counselling. Special Populations: Suicide, HIV-AIDS, Sexual Abuse.

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BOOKS RECOMMENDED

1. American Psychiatric Association (2013). Diagnostic and Statistical Manual of Mental Disorders (DSM-5 (R)). American Psychiatric Association Publishing; 5th Revised edition.
2. Anastasi, Z., & Lewis, E. C. (1970). Counselling Psychology. New York, Holt Rinehart and Winster, Inc.
3. Berms, C. (1999). Dealing with Challenges in Psychotherapy and Counselling (Skills, Techniques, & Process). Brooks Cole.
4. Bhatnagar, A. & Gupta, N. (1199). Guidance and Counselling, Vol. 1: A Theoretical Perspective. Vikas Publishing House Pvt. Ltd., New Delhi.
5. Bhatnagar, A. & Gupta, N. (1999). Guidance and Counselling, Vol. II: A Practical Approach. Vikas Publishing House Pvt. Ltd., New Delhi.
6. Corey, G. (2013). Theory and Practice of Counselling and Psychotherapy Perfect. Wadsworth; 9 Edition.
7. Corey, G., Haynes, R. H., Moulton, P. & Muratori, M. (2014). Clinical Supervision in the Helping Professions: A Practical Guide. American Counselling Association; 2 Edition.
8. Feltham, C., Feltham, C. & Hortan, I. (2006). The SAGE Handbook of Counselling and Psychotherapy. Sage Publications Ltd; Second Edition.
9. Gibson, R. L. & Mitchell, M. H. (2009). Introduction to Counselling & Guidance Learning: New Delhi: PHI, Pvt. Ltd.
10. Harson, J. C. (1978). Counselling Processes and Procedures. New York, McMillan Publishing Co. Inc.
11. Jones, R. N. (2012). Basic Counselling Skills: A Helper's Manual. Sage South Asia; Third Edition.
12. Jones R. N. (2012). Theory and Practice of Counselling and Therapy. SAGE South Asia; Fifth edition.
13. Jones R. N. (2012). Introduction to Counselling Skills: Text and Activities. SAGE Publications Ltd; Fourth edition.
14. Jones, R. N. (2014). Nelson-Jones' Theory and Practice of Counselling and Psychotherapy. SAGE Publications Ltd; Sixth edition.
15. Kapur, M. (1995). Mental Health of Indian Children. New Delhi: Sage Publications.
16. Kapur, M. (1997). Mental Health in Indian Schools. New Delhi. Sage Publications.

17. Kapur, M. (2011). Counselling Children with Psychological Problems. Pearson Education India.
18. Kemp. C.G. (1970). Foundations of Group Counselling. New York, McGraw Hill.
19. Lewis, E. C. (1970). The Psychology of Counselling. New York: Holt, Rinehart and Winston, Inc.

GROUP - C
PAPER – XVIII (OPTIONAL)
CLINICAL DIAGNOSIS AND COMMUNITY MENTAL HEALTH

M. M. - 80

NOTE: This paper consists of five units. From each unit minimum two questions will be set and candidates will have to answer one question from each unit.

UNIT – I Clinical Assessment

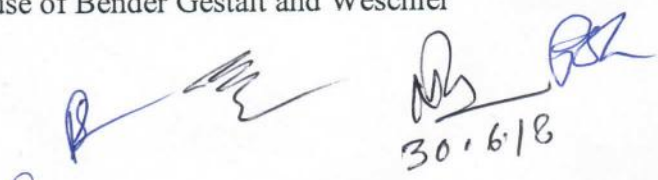
Clinical assessment: Basic principles, Psychometric Tests: MMPI, WAIS and WISC.

UNIT – II Projective Tests

Projective Tests: Characteristics and Clinical Use, Rorschach and TAT.

UNIT – III Neuro Psychological Examination

Neuro Psychological Examination: Approaches: Halstead Neuropsychological Test Battery, Luria Nebraska Battery, use of Bender Gestalt and Weschler Scale in Neuro Psychological Testing.


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UNIT – IV Community Psychology

Community Psychology: History and Perspectives of Community Psychology. Theoretical concepts of Community Psychology: Definition and Perspectives with Reference to Mental Health, Organizational Health and Social Action. Individual Wellness, Sense of Community, Psychological Sense of Community, Social Justice, Participatory Approach, Empowerment Citizen Participation, Collaborative Community Strength, Human Diversity and Empirical Grounding.

UNIT – V Community Psychology and Social Intervention

Community Psychology: Social Interventions: Methods and Strategies.

BOOKS RECOMMENDED

1. Carter, J. W. (1986). Research Contributions from Community Psychology in Community Health Behaviour Pub. NY.
2. Iscope, I., Block, B. L. & Spielberger, C. D. (eds) (1977). Community Psychology: Perspectives in Training and Research. NY: Appleton.
3. Korchin, S. (1978). Modern Clinical Psychology. Harper and Row.
4. Mann. A. P. (1978). Community Psychology: Concepts and Applications. Free Press.
5. Nelson, G., Kloos, B. & Ornelas, J. (2014). Community Psychology and Community Mental Health: Toward Transformative Change. Prints Publication.
6. Park, K. (2013). Park's Textbook of Preventive and Social Medicine. Banarsidas Bhanot-Jabalpur.
7. Rapaport, J. (1977). Community Psychology: Values, Research and Action. NY: Holt Rinehart.
8. Wolman, B. B. (ed). (1972). Handbook of Clinical Psychology. Mc Graw Hills.

GROUP - C
PAPER – XIX (OPTIONAL)
PSYCHOTHERAPEUTIC COUNSELLING – II

M. M. – 80

NOTE: This paper consists of five units. From each unit minimum two questions will be set and candidates will have to answer one question from each unit.

UNIT I Cognitive and Behaviour Therapies

Nature, Concept and Modes of Therapies: Individual and Group, Couple and Family. Behaviour Modification. Behavioural Therapy, Cognitive Behaviour Therapy, Rational Emotive Therapy. Integrative and Multi-Model Therapies.

UNIT II Assertiveness Training

Nature and Concept. Assertiveness Training. Developing Assertive Behaviour. Assertiveness through Personal Appearance, Improving Client's Grooming Modelling.

UNIT III Career Planning and Decision Making

Counselling for Career Planning and Decision Making. Theories of Career Development and Decision Making. Career Planning and Decision Making in Schools.

UNIT IV Psychological Interventions

Psychological Interventions Techniques. Rogers Client Centred Therapy. Family and Group Interventions and Wellness.

UNIT V Ethical Issues and Legal Concerns

Counsellors Accountability System. Ethical Issues, Legal Concerns of the Counsellors. Special Counselling Population: HIV- AIDS, Substance Abuse.

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BOOKS RECOMMENDED

1. Abate, L. & Milan, M. A. (ed.) (1985). Handbook of Social Skill Training and Research. New York: John Wiley & Sons.
2. Busch, F. N. (2018). Psychodynamic Approaches to Behavioural Change. American Psychiatric Association, Publishing.
3. Caligor, E., Kernberg, O. F., Clarkin, J. F. & Yeomans, F. E. (2018). Psychodynamic Therapy for Personality Pathology: Treating Self and Interpersonal Functioning. American Psychiatric Association, Publishing.
4. Carson, R. C., Butcher, J. N. & Mineka, S. (2000). Abnormal Psychology and Modern Life. Allyn & Bacon.
5. Corey, G. (2017). Theory and Practice of Counselling and Psychotherapy. Cengage Learning.
6. Corbett, F. C. (1977). The Community Involvement Program: Social Service as a Factor in Adolescent Moral and Psychological Development. Dissertation and Thesis. <https://digitalcommons.unomaha.edu/slcedt/5>, University of Nebraska at Omaha.
7. Dewan, M.J., Steenbarger, B. N. & Greenberg, R. P. (2018). The Art and Science of Brief Psychotherapies: A Practitioner's Guide, Third Edition. American Psychiatric Association Publication.
8. Gelso, C. J. & Fretz, B. R. (1995). Counselling Psychology, Bangaluru. Prism Book Ltd.
9. Iscoe, I. Block, B.L. & Spielberger, C.D. (eds.) (1977): Community Psychology: Perspectives in Training and Research. N.Y: Appleton.
10. Levine, M., Perkins, D. D. & Perkins, D. V. (2005). Principles of Community Psychology: Perspectives and Applications.
11. Mann, A. P. (1978): Community Psychology: Concepts and Applications. Free Press.
12. McBride, D. M. & Cutting, J. C. (2015). Lab Manual for Psychological Research. Revised Third Edition. SAGE Publications, Inc.
13. Simel, D. L. & Rennie, D. (2009). The Rational Clinical Examination: Evidence-Based Clinical Diagnosis. McGraw-Hill Education / Medical; 1 edition.
14. Toukmanian, S. G. & Rennie, D. L. (1992): Psychotherapy Process and Research. Sage. Psychology. (Editor) SAGE Publications.

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15. Wolberg, L. R. (1995). The Technique of Psychotherapy. Jason Aronson, Inc.; Fourth edition.
16. Wolberg, L. R. (1977). The Technique of Psychotherapy, 3rd edition, Parts 1 and 2, Grune & Stratton, New York City.
17. Wolberg, L. R. (2013). The Technique of Psychotherapy. Fourth Edition. International Psychotherapy Institute E-Books.
18. Woolfe, R. & Dryden, W. (eds) (1996). Handbook of Counselling Psychology. Sage Publications.
19. Woolfe, R., Strawbridge, S., Douglas, B. & Dryden, W. (2009). Handbook of Counselling Psychology, Third Edition, Sage Publications.

PAPER – XX (OPTIONAL)
PRACTICALS (COMPULSORY)

M. M. - 100

FIELD STUDY

This part of the practical paper comprises of completion of two Field Studies, and two tests, one from the area of compulsory papers and another from the area of optional papers of the special groups. Administration, Scoring and Interpretation of various test results should be done. The optional group prescribed along with the areas of specialization given below:

Group ‘A’ Psychology of Management

Communication Network
Emotional Intelligence
Job Satisfaction / Job Analysis
Management Style
Occupational Stress
Organizational Structures
Role Conflict / Role Stress

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Group 'B' Psychology of Education

- Academic Stress
- Exceptional Children
- Learning Style /Thinking Style
- Need of Guidance: Educational/ Vocational
- Test Anxiety
- Youth Problem

Group 'C' Clinical Psychology

- Adjustment
- Intelligence (Verbal / Non- Verbal)
- Mental Health
- Depression
- Personality
- Rorschach Ink Block Test
- Well-Being

Note: Besides the above, the candidate has to complete any two of the following in detail.

- Case Study
- Construction of a tool on a theme
- Construction of Questionnaire
- Steps of Clinical Interview
- Designing any OD intervention




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Suggested Readings

List of Books in English and Hindi

Semester I & II

Cognitive and General Psychology

- Best, J. B. (1992). Cognitive Psychology .3rd Edition. West Publishing Company.
- Feldman, R. S. (2008). Essentials of Understanding Psychology. Pearson Education; Eighth edition.
- Feldman, R. S. (2008). Understanding Psychology. McGraw-Hill, Higher Education; 9th edition.
- Feldman, R. (2010). Development across the Lifespan. Pearson Education: Delhi.
- Feldman, R. S. (2013). Understanding Psychology. McGraw-Hill, Higher Education; eleventh edition.
- Galotti, K. M. (2001). Cognitive Psychology in and outside of the Laboratory. 2nd Edition, Wadsworth.
- Goldstein, B. E. (2007). Sensation and Perception (7th Edition). Wadsworth.
- Harley, T. A. (2002). The Psychology of Language: From Data to Theory. Taylor Francis
- Hoeksema, S. N., Fredrickson, B. L. Loftus, G. R. & Lutz, C. (2015). Atkinson & Hilgard's Introduction to Psychology. Cengage India.
- Kellog, R. T. (2012). Fundamentals of Cognitive Psychology. SAGE South Asia; Second edition.
- Kosslyn, S. M. & Smith, E. E. (2015). Cognitive Psychology: Mind and Brain. Pearson Education India; 1 edition.
- Mangal, S. K. (2009). General Psychology. Sterling Publishers, Pvt. Ltd.
- Mangal, S. K. (2009). An Introduction to Psychology. Sterling Publishers.
- Matlin, M. W. (2008). Cognition (7th Ed.). CA: John Wiley & Sons.
- Naranjo, C. (2000). Gestalt Therapy: The Attitude and Practice of an Atheoretical Experientialism. Wales: Crown House Publishing Limited.
- Passer, M. W. & Smith, R. E. (2010). Psychology: The Science of Mind and Behaviour. New Delhi: Tata McGraw-Hill.

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Solso, R. L., MacLin, O. H. & MacLin, M. K. (2008). *Cognitive Psychology*. Pearson, Allyn and Bacon.

Social Psychology

Aronson, E., Wilson, T. D., & Akert, R. M. (2010). *Social Psychology* (7th ed.). Upper Saddle River, NJ: Prentice Hall.

Baron, R. A., Branscomb, N. R. & Byrne, D. (2009). *Social Psychology* (12th ed.). New York: Pearson Education.

Baron, R. A., Branscombe, N. R., Byrne, D. & Bharadwaj, G. (2009). *Social Psychology*. Pearson India.

Baumeister, R. F. & Bushman, B. J. (2013). *Social Psychology and Human Nature*. Wadsworth.

Bhardwaj, G. (2011). *Fundamentals of Social Psychology*. Pearson Education India.

Branscombe, N. R., Baron, R. A. & Kapur, P. (2017). *Social Psychology*. Pearson Education; Fourteenth edition.

Chiu, C., & Hong, Y. (2006). *Social Psychology of Culture*. New York: Psychology Press.

Cornelissen, R. M., Verma, S. & Misra, G. (2010). *Foundations of Indian Psychology, Volume one: Concepts and Theories*. Pearson, New Delhi.

Dalal, A. K. (2016). *Cultural Psychology of Health in India: Well-Being, Medicine and Traditional Health Care*. Sage Publications India Private Limited.

Deb, S. (2004). *Child Abuse and Neglect: South Asian Scenario*. Kolkata. Lunar Publications.


Deb, S. (2004). *Child Protection: Socio-Legal Measures in India*. Kolkata. Lunar Publications.

Deb, S. (2006). *Children in Agony*. New Delhi, Concept Publications.

Deb, S. (2006). *Contemporary Social Problems in India*. New Delhi, Anmol Publications.

Deb, S. (2009). *Child Protection: Scenario in India*. *International Journal of Child Health and Human Development*, 2 (3), 339-348.


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Deb, S. & Modak, S. (2010). Prevalence of Violence against Children in Families in Tripura and its relationship with Socio-economic, Cultural and Other Factors. *Journal of Injury and Violence Research*, 2 (1), 5-18.

Deb, S. (2011). Background and Adjustment Capacity of Sexually Abused Girls and their Perceptions of Intervention. *Child Abuse Review*, 20, 213-230.

Deb, S. & Mathews, B. (2012). Children's Rights in India: Parents' and Teachers' Attitudes, Knowledge and Perceptions. *International Journal of Children's Rights*, 20, 1-24.

Deb, S. & Walsh, K. (2012). Impact of Physical, Psychological, and Sexual Violence on Social Adjustment of School Children in India. *School Psychology International*, 33(4), 391-415.

Elliot, A., Timothy, W. D. & Sommers, S. R. (2017). *Social Psychology*. Pearson Education; Ninth edition.

Feldman, R. S. (1999). *Social Psychology*. Pearson Education; Eighth edition.

Fiske, S. T., & Taylor, S. E. (2007). *Social Cognition, from Brains to Culture*. New York, McGraw-Hill.

Franzoi, S. L. (2009). *Social Psychology (5th Ed.)*. New York: McGraw-Hill.

Glassman, W. & Hadad, M. (2008). *Approaches to Psychology (3rd Ed.)*. Buckingham: Open University Press.

Jain, U. (2002). An Indian Perspective on Emotions, in G. Misra, and A. K. Mohanty (eds.), *Perspectives on Indigenous Psychology*, p. 281-291. New Delhi: Concept Publishing Company.

Kim, U., Shu, K., Yang, K. S. & Hwang, K. K. (2006). *Indigenous and Cultural Psychology: Understanding People in Context*. Springer.

Kimble, C. E. (1990). *Social Psychology: Studying Human Interaction*. C. Brown Publishers, New York.

Kothurkar, V. V. & Vanarase, S. D. (1985). *Experimental Psychology*, Wiley Eastern, New Delhi

Krech, D. & Crutchfield, R. S. (1961). *Theory and Problems of Social Psychology*. McGraw Hill, New York.

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Lindgren, H. C. (1973). *An Introduction to Social Psychology*. Second Edition. John Wiley and Sons, New York.

Lindzey, G. & Aronson, E. (1975). *Handbook of Social Psychology*. Amerind Publishing Company, New Delhi, Vol III and IV (Selected Chapters).

Macrae, C. N., & Quadflieg, S. (2010). Perceiving People. in S. T. Fiske, D. T. Gilbert, & G. Lindzey (Eds.), *Handbook of Social Psychology* (5th Ed., Vol. 1, Pp. 428–463). Hoboken, NJ: John Wiley & Sons.

Madan, G. R. (1995). *Indian Social Problems*. Vol.1, Allied Publishers.

Misra, G., Tripathi, R. C. & Sinha, D. (1995). *Deprivation: Its Social Roots and Psychological Consequences*. Concept Publishing Company.

Misra, G. (2006). *Psychology and Societal Development*. Concept Publishing Company.

Misra, G. (2009). *Psychology in India*. Volume I: Basic Psychological Processes and Human Development. Pearson Education India.

Misra, G. & Gergen, K. J. (2002). On the place of Culture in Psychological Science. In G. Misra, and A. K. Mohanty (eds.), *Perspectives on Indigenous Psychology*, p. 421- 439. New Delhi: Concept Publishing Company.

Myers, D. G., Sahajpal, P. & Behra, P. (2017). *Social Psychology*. McGraw Hill Education; tenth edition.

Myers, D. G. (2006). *Social Psychology*. New Delhi: Tata McGraw Hill.

Myers, D. G. (2017). *Social Psychology*. McGraw Hill Education.

Newman, W. L. (1991). *Social Research Methods: Quantitative and Qualitative Methods*, Boston: Allyn & Bacon.

Oskamp, S. & Schultz, P. W. (1998). *Applied Social Psychology*. Pearson.

Sanderson, C. A., & Safdar, S. F. (2012). *Social Psychology*. Ontario, Canada: John Wiley.

Singh, A. K. (2015). *Social Psychology*. Prentice Hall India Learning Private Limited.

Sinha, D. (2015). *Psychology for India*. Sage Publications India Private Limited.

Sinha, D., Tripathi, R. C., & Misra, G. (Eds.). (1982). *Deprivation: Its Social Roots and Psychological Consequences*. Concept Publishing Company.

Sinha, J. B. P. (2002). Towards indigenization of Psychology in India. In G. Misra and A. K. Mohanty (eds.), *Perspectives on Indigenous Psychology*, p. 440-457. New Delhi: Concept Publishing Company.

Smith, P. B., Bond, M. H., & Kagitcibasi, C. (2006). *Understanding Social Psychology across Cultures: Living and Working in a Changing World*. London: Sage.

Smith, P. K., Fischer, R., Vignoles, V. L. & Bond, M. H. (2013). *Understanding Social Psychology across Cultures: Engaging with others in a Changing World*. Sage.

Smith, R. E. & Passer, M. W. (2010). *Psychology: The Science of Mind and Behaviour*. McGraw-Hill Education.

Taylor, S. E., Peplau, L. A., & Sears, D. O. (2006). *Social Psychology* (12th ed.). New Jersey: Pearson Education.

Wells, G. L., Memon, A., & Penrod, S. D. (2006). Eyewitness Evidence: Improving its Probative Value. *Psychological Science in The Public Interest*, 7(2), 45-75.

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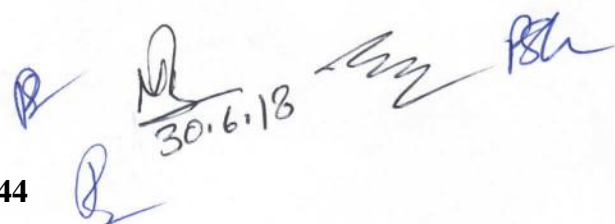
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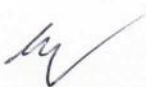


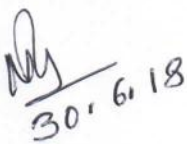
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2. Singh, A. K. & Singh, A. K. (2013). Vyaktitva Ka Manovigyan: The Psychology of Personality. Motilal Banarsidass Publishers Pvt. Ltd., New Delhi, India
3. Singh, A. K. (2015). The Comprehensive History of Psychology. Motilal Banarsidass Publishers Pvt. Ltd., New Delhi, India.
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10. Singh, A. K. (2017). Sangyanatamak Manovigyan: Cognitive Psychology. Motilal Banarsidass Publishers Pvt. Ltd., New Delhi, India.
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12. Singh, A. K. (2017). Neuromanovigyan ke Mooltattva: Fundamentals of Neuropsychology. Motilal Banarsidass Publishers Pvt. Ltd., New Delhi, India.
13. Suleman, M. (2014). Uchatar Samaj Manovigyan: Advanced Social Psychology. Motilal Banarsidass Publishers Pvt. Ltd., New Delhi, India.
14. Suleman, M. (2014). Uchatar Shiksha Manovigyan: Advance Educational Psychology. Motilal Banarsidass Publishers Pvt. Ltd., New Delhi, India.
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16. Suleman, M. & Choudhary, V. K. (2014). Adhunik Audhyogik Evam Sangathanatamak Manovigyan: Modern Industrial and Organizational Psychology. Motilal Banarsidass Publishers Pvt. Ltd., New Delhi, India.

17. Suleman, M. & Kumar, D. (2016). Sangathanatmak Vyavahar: Organizational Behaviour. Motilal Banarsidass Publishers Pvt. Ltd., New Delhi, India.
18. Suleman, M. & Kumar, D. (2017). Manorog Vigyan: Psychopathology. Motilal Banarsidass Publishers Pvt. Ltd., New Delhi, India.
19. Suleman, M. & Touwab, M. (2017). Asamanya Manovigyan: Vishay aur Vyakhya. Motilal Banarsidass Publishers Pvt. Ltd., New Delhi, India.
20. Suleman, M. (2018). Manovigyan, Shiksha evam anya Samaajik Vigyanon mein Samkhyikee: Statistics in Psychology, Education and other Social Sciences. Motilal Banarsidass Publishers Pvt. Ltd., New Delhi, India.





30.6.18

M.A. PSYCHOLOGY

[ANNUAL EXAM]

SYLLABUS

2018-19

M. A. PREVIOUS (PSYCHOLOGY)

The curriculum frame – work is as under.

COMPULSORY PAPERS

PAPER	NAME	MARKS	HOUR
I	Experimental and Cognitive Psychology	100	3 hours
II	Social and Cultural Psychology	100	3 hours
III	Research Methodology and Statistics	100	3 hours
IV	Psychopathology and Health Psychology	100	3 hours
V	Practicum	100	4 hours
	Total Marks	500	

PAPER – I EXPERIMENTAL AND COGNITIVE PSYCHOLOGY

M.M. - 100

NOTE : This paper consists of five units. From each unit minimum two questions will be set and candidates will have to answer one question from each unit.

UNIT – I **Attentional and Perceptual Processes:**

Attention: selective attention and its theories, Biological basis. Motivation:
Perception: Nature, Principles of perceptual organization, Picture perception,
and Determinants.

UNIT – II Memory & forgetting: Memory process: Encoding, Storage, Retrieval: stages of
memory: Sensory. STM, LTM Episodic, Memory improvement Meta-
Cognition, Tip of the tongue Phenomenon, Meta memory.
Theories of forgetting: Interference, decay.

UNIT – III Thinking & Problem solving: Theories of thought Process, Reasoning, Problem
solving: Problem solving approaches strategies, Role of Concepts in thinking.
Decision-making: Algorithms and heuristics.

UNIT – IV Learning: Nature and Types, Classical Conditioning Instrumental learning,
Verbal learning, reinforcement.

UNIT – V Creativity and Reasoning
Creativity: Nature and Measurement, Factors affecting creativity.
Reasoning: Types and errors in reasoning process: deductive and inductive.

BOOK RECOMMENDED :

1. Snodgrass, J. Gray. Et. Al (1985) Human experimental psychology, New York : Oxford University Press.
2. Galott, K. M. (1999) Cognitive psychology in and outside laboratory, Mumbai : Thompson Asia.
3. D. Amato M.R. (1970) Experimental Psychology, New York, Mc. Graw Hill.
4. Sen Anima : Attention & Distraction New Delhi.

PAPER – II
SOCIAL AND CULTURAL PSYCHOLOGY

M.M. - 100

NOTE : This paper consists of five units. From each unit minimum two questions will be set and candidates will have to answer one question from each unit.

- UNIT – I** Historical Background & Theoretical perspective: Growth of social psychology, Methods of social psychology. Theoretical perspective: Cognitive dissonance, Social comparison, Attribution, Field Psychoanalytic, Socio-biology.
- UNIT – II** Social cognition and Influence Processes : Social and Person perception, impression management.
Communication.
Attitude : Nature and Characteristics, Development and change.
Leadership : Meaning and nature, function, styles of leadership, effectiveness.
- UNIT – III** Understanding Relationship and Group Processes: Social Motivations, Pre-social Behaviour.
Aggression and Violence.
Group Dynamics and cohesiveness: Group Dynamics: meanings, formation, decision making, group level behaviour.
- UNIT – IV** Applied Social Psychology: National character.
Poverty, Gender and Population Issues.
Social tension and group conflict.
Problems of social change
- UNIT – V** Culture and Behaviour: Culture and Cognition.
Culture and Organisation.
Culture and Personality.
Culture and Health.
Prejudice and discrimination.
Stereotypes.

BOOK RECOMMENDED :

1. Billing, M. (1976) Social Psychology and inter group relations, NY: Academic Press
- Lindsey, G. & Aronson, E (Eds) (1985) The Handbook of social psychology. NY : Random House.
2. Mishra, G. (1990) Applied social psychology in India ND: Sage
3. Eiser, J.R. (1986) Social Psychology, London : Cambridge University Press.
4. Dalal, A.K. (1989) Attribution theory and research ND wiley limited .
5. Feldman R.S. (1985) Social Psychology, New York, Mc Graw hill.
6. Baran A.B. & Byre, D (1991) Social Psychology, - Boston allyn & Bacon.
7. Pandey, J. (1988) Psychology in India; the state – 7 the art Vol – 2 ND. Sage.

PAPER – III
RESEARCH METHODOLOGY AND STATISTICS

M.M. - 100

NOTE : This paper consists of five units. From each unit minimum two questions will be set and candidates will have to answer one question from each unit.

- UNIT – I** Nature of scientific research in behavioural sciences. Experimentation in psychology Variables: Nature and types. Techniques of experimental manipulation, control in experiment. Sources of bias. Ethical issues in psychological research, Research Process: Consideration of research problem and hypothesis.
- UNIT – II** Sampling: probability and nonprobability sampling. Research report writing (APA style). Normal Probability Curve, its properties and utility in inferential statistics, Null hypothesis, Type I and Type II errors, Levels of significance.
- UNIT – III** Method of Collecting data: Observation, Questionnaire, Interview. Case Study, Psychological tests and Content - Analysis.
- UNIT – IV** Experimental Design : Single Factor, Randomized block, 2X2 factorial design, Repeated measures (on one factor) Design : Graeco Latin – Square Design, t-test, NOVA : one – way and two – way : Newman - Keul tests.
- UNIT – V** Cross sectional and longitudinal designs. Measures of relationships: Multiple regression, factor analysis: the centroid method, calculation of factors, content analysis.

BOOK RECOMMENDED :

1. Kerlinger D & Katz L. : Foundation of behavioural research (2nd ed) Surjeet Publication, Kamlanagr, Delhi, 1983
2. Kothari C.R.: Research methodology : methods and techniques. Wiley eastern Ltd. New Delhi 1986
3. Broota, K.D. : Experimental design in behavioural research Wiley eastern Ltd. New Delhi 1992
4. Black T.R. : Quantative research designs for social sciences thousand oaks: sage 1988
5. Winer, B.J. : Stastical principles in experimental design, New York, Mc graw hill, 1971
6. Edwards, A.K.: Experimental designs in psychological research. New York Holt 1976
7. Mason, J. : Qualitative Researching, thousand oaks: sage 1997.

PAPER – IV

PSYCHOPATHOLOGY AND HEALTH PSYCHOLOGY

M.M. - 100

NOTE : This paper consists of five units. From each unit minimum two questions will be set and candidates will have to answer one question from each unit.

- UNIT – I** Classification systems in psychopathology: W.H.O. (ICD-10) and multi-axial systems (DSM-IV TR): Evaluation of classification system. Theoretical background, approaches to psychopathology (1) Psychodynamic; (2) Behavioural; (3) Cognitive; (4) Phenomenological; (5) Biological (6) Socio-cultural approach Diagnosis – purposes of diagnosis, Method of diagnostic assessment.
- UNIT – II** Intervention models and Psychotherapies Psychodynamic, Behavioural, Biological, Behavioural medicine socio-cultural, Phenomenological and spiritual approach to therapy.
- UNIT – III** Theories and models of Anxiety disorder: (a) Panic, Phobic, OCD Post – Traumatic. Stress disorders, Generalized Anxiety Disorders, (b) somatoform disorders, Impulse control disorder, eating disorder and Sleep disorder.
- UNIT – IV** Schizophrenia Mood disorder. Mental Retardation and Personality disorder (cluster categories and problems), types & symptoms substance related disorders.
- UNIT – V** Psychophysiological disorder, Theories of Personality-dispositions, coronary heart disease (CHD), Asthma, Allergy, Eczema Itching, Rheumatoid, Arthritis, Peptic. Ulcer, Diabetes and Menstrual disorders, sexual and gender identity disorder. Mental Health Promotion and Maintenance.

BOOK RECOMMENDED :

1. Aboud, T.D.: Health psychology in global perspective. Thousand oaks, C.A: Sage (1988).
2. Page, J.D.: PSYCHOPATHOLOGY : The Science of understanding Deviance. (2nd ed.) (1975)
3. Carson, C.R., Butcher J. N. : Abnormal psychology and modern life (9th ed) Harper Collins publisher. (1992).
4. Adams, H.E. & Sutkar. P.B. : comprehensive handbook of psychopathology New York, Plenum Press.
5. Prokap, C.R. & Bradly, L.A.: Medical psychology: Contribution to Behavioural medicine, Academic press, (1991)
6. Davison G.C. and Neal J.N. Abnormal Psychology – 8th Ed. Wiley Publishers, 2000.

PAPER – V
PRACTICUM

M.M. 100

This paper consists of the laboratory (experimental and testing) and field – work done throughout the academic session and will be evaluated at the time of annual examination along with the other papers. Distribution of marks would be as under:

	Marks
A. Record of lab practical and field work	25
B. Evaluation of one lab. Experiment of be conducted in the examination	25
C. One test to be administered in the examination	25
D. Viva-Voce on practicum	25

Note : No candidate would be allowed to appear in the practical examination unless his/ her day-to-day practical work and report are found satisfactory.

List of Practicum : **(Any five experiments four tests and one field study)**

1) Experiments :-

1. Meaningfulness and selective attention.
2. Effect of types of information on impression formation.
3. Memory improvement.
4. Episodic memory
5. Chunking
6. Proactive inhibition
7. Problem solving
8. Retroactive inhibition
9. Meaningfulness in verbal learning
10. Feedback in verbal learning.

Tests :-

1. E.P.Q.
2. Locus of control
3. Picture frustration
4. Intelligence test (performance/non-verbal)
5. Thinking style
6. Cognitive style
7. Trait-state anxiety
8. Projective test.

Field Work :

- | | |
|------------------------------|--------------------------|
| 1. Person perception | 2. Impression management |
| 3. Attitude measurement | 4. Group conformity |
| 5. Value judgement | 6. Identity crisis |
| 7. Gender discrimination | 8. Communal tension |
| 9. Interpersonal interaction | 10. Pro-social behaviour |
| 11. Social loafing. | |

Note : Field study Workshop on topics would be allotted by the departmental committee.

M. A. FINAL (PSYCHOLOGY)

The curriculum frame – work is as under.

COMPULSORY PAPERS (Two)

No.of Paper	Name of Paper	Marks	Hours
(vi)	Life Span Development and Personality Psychology	100	3 hours
(vii)	Psychological Assessment	100	3 hours
	Optional Papers : Two papers from any one of the three groups		
	Group A : Psychology of Management		
(viii)	Organizational Behaviour Management	100	3 hours
(ix)	Human Resource Development and Management	100	3 hours
	Group B : Psychology of Education		
(viii)	Educational and Instructional Psychology	100	3 hours
(ix)	Guidance and Counselling Psychology	100	3 hours
	Group C : Clinical Psychology		
(viii)	Clinical Diagnosis and Community Mental Health	100	3 hours
(ix)	Psychotherapeutic Counselling	100	3 hours
(x)	Practicum	100	4 hours

PAPER – VI (COMPULSORY)

LIFE SPAN DEVELOPMENT AND PERSONALITY PSYCHOLOGY

M.M. - 100

NOTE : This paper consists of five units. From each unit minimum two questions will be set and candidates will have to answer one question from each unit.

UNIT – I Scope, Nature and Principles of development, Factors influencing development: Heredity, Environment, Motivation, Learning. Methods; Cross-sectional, longitudinal approach, Research strategies: Correlation, Experimental and other sequential techniques. The Developmental tasks and theories of Development.

UNIT – II How life begins, Infancy, baby hood and childhood. Characteristics, adjustment, hazards and Physical, Emotional, Social and Personality Development.

UNIT – III Adolescence, Adulthood, Middle and Old age- Characteristics. Physical, Social, Cognitive and Spiritual development psychosocial Changes and adjustment.

UNIT – IV Personality Meaning and Concept of Mature Personality, Theories of Personality, Psychodynamic: Approach Freud, Erikson, Adler. Trait: Approach Allpert, Cattell and Eysenck, Cognitive: Approach Kelly, Behavioural Approach Bandura.

UNIT – V Humanistic approach: Maslow & Rogers, Indigenous concept and Models of Personality – Yogic, Sankhya and Buddhist View. Structure, Dynamics, Development and Current Researches in the field of Personality.

BOOK RECOMMENDED :

1. Baltes, P.B. & Brim O.G. (1978): Life span development behaviour, N. Y. Academic Press.
2. Thomas, M. R. (2000): Recent theories of Human Development, thousand Oaks: sage Publication.
3. Zanden, J.W. & Vander (1997): Human Development (7th Ed.) New York: Mc Graw Hill.
4. Elizabeth B. Hurlock (1977): Development Psychology. A life span approach, (5th Ed.)
5. Jere E. Brothy & Sherry L. Willis (1981): Human Development and Behaviour, St. Maitins Press, NY.
6. Liebert, R.M. & Spiegler, M.P. (1993): Person aligy: Strategies & issues, P.C. California Books Cole Pub. Co.
7. Hall C.S. and Lindsey, G. (1996) theories of Personality N.Y.J. Wiley & Sons.
8. Pervin L.A. (1975): Psychology of personality readings in theory, Chigos. Rand Meznally College Lab.
9. Sinha J.N. (1969) : Indian Psychology, Calcutta.
10. Mukkopadhyay, Swami Niranjanand Saraswati Yoga Darshan Munger : Bihar School of Yoga.

PAPER – VII (COMPULSORY)
PSYCHOLOGICAL ASSESSMENT

M.M.- 100

NOTE: This paper consist of five units. From each unit minimum two questions will be set and candidates will have to be answer one question from each unit.

UNIT – 1 Nature of Psychological Assessment, Differences between Physical & psychological assessment. Problems in Psychological Assessment., Levels of Assessment.

UNIT – II **Scaling:** Unidimensional and Multidimensional. Scale construction techniques. Difference among tests, scales, questionnaire and schedule. Characteristics of a good psychometric test. Difference between psychometric and projective technique.

UNIT – III **Construction of Psychometric tools:** Step in test construction. Item writing, Pretry out, item difficulty level, discrimination power Reliability; Concept, type, method of determining reliability, Validity: Factors affecting reliability and validity. Norms: Types, uses and method to determine various types of norms.

UNIT – IV Cognitive and Non-Cognitive Tests
(a) Major Tests of Intelligence, Aptitude and Achievement developed under Western and Indian Cultural Setup.
(b) Projective and Psychometric tests of Personality, adjustment, Values Interest, Stress and Anxiety developed under Indian and Western conditions.
(c) Psycho-Physical and Neuro-Psychological test.

UNIT – V (a) Adaptation of tests.
(b) Test taking Response Styles: Social desirability, Acquiescence and Faking.
(c) Psychological testing in Applied Field of Life: Diagnosis, Psychotherapy, Education, Occupations and Organizations.

BOOK RECOMMENDED :

1. Anastasi, A. (1988) Psychological Testing London: Mc Millan Publishing Co. Crowback. L.J. Essentials of Psychological Testing.
2. Rreeman F. Theory and Practice of Psychological Testing.
3. Gheselli Theory of Psychological Measurement New Delhi Tata HeGraw Hill Publication.
4. Guilford, J.P. Psychometric Methods. New Delhi Tata Mc Graw Hill.
5. Nunally, J.C. Introduction to Psychological Measurement, Tokyo: Mc Graw Hill.
6. Nunally, J.C. Psychometuric Theory, New Delhi: Tata Mc.Graw Hill Publishing Co.

GROUP - A
PAPER – VIII (OPTIONAL)
ORGANIZATIONAL BEHAVIOUR MANAGEMENT

M.M. - 100

NOTE : This paper consists of five units. From each unit minimum two questions will be set and candidates will have to answer one question from each unit.

- UNIT – I** Historical overview of the field Old and Emerging forms of organizations, Psychological processes in organizations: person, learning principles perceptions and motivation.
- UNIT – II** Organizations Processes: Influence and power in organization leadership: Nature and theories of communication. Barriers, effectiveness, current issues, role of T.A. in communication decision making, nature of rational process of decision-making. Group decision-making, techniques of good DM.
- UNIT – III** Interpersonal Processes in organizations: Group dynamics and team work in organization, conflict, decision Making negotiation in organization, Union Management interface, TQM, bench marking, Re-engineering, changing organizational culture.
- UNIT – IV** Marketing Research: Nature and function: consumer behavior, sales promotion strategies.
- UNIT – V** Organizational change and development: Managing the OD process, OD approaches and techniques, theoretical development and emerging OD technique, organization change, process and models.

BOOK RECOMMENDED :

1. Udai Pareek: Organizational learning R. Gibson (1997) Rethink the future London Nicholas Brealey Publishing.
2. Luthans Fred: Organizational Behaviour (1995) Mc Graw Hill international Edition.
3. Stephens P. Robbins: Organizational behaviour (9th edition) (2000) Prentie Hall India, New Delhi 110001.
4. Jerald Greenbery, Robert, A aburon: Behaviour in organization (1999) PrentieHall of India. New Delhi 110001.

GROUP - A
PAPER – IX (OPTIONAL)
HUMAN RESOURCE DEVELOPMENT AND MANAGEMENT

M.M. - 100

NOTE : This paper consists of five units. From each unit minimum two questions will be set and candidates will have to answer one question from each unit.

UNIT – I Some assumptions about HRM, Structure and Role of HRM. The Indian Context of HRM Models of HRM. Current and future Challenges to HRM.

UNIT – II Human Resource Planning: Steps and stages in manpower planning. Structure of manpower planning HRD in India. Job analysis and job design. Recruitment and selection. Job and Careers in HRM

UNIT – III Performance appraisal, Factors distorting appraisal and how to improve appraisals. Type of appraisal system., wage and salary administration. Employment incentive.

UNIT – IV Human Resource policies and practices, changing trends in work environment, developing the human resource, the employment relationship. Professional bodies.

UNIT – V Maintaining Human Resource: Safety and Health Stress Management, Labour Relations and Collective Bargaining. Employee involvement, Employee counselling.

BOOK RECOMMENDED :

1. Human Resource Management. A contemporary perspective I. Board Well & Holden.
2. Personnel Human Resource Management. D.A. centre & S.P. Robbins.
3. Designing and Management. Human Resources Systems U. Pareek & T.V. Rao.
4. Human Resource Management. Fisher. Scheenfeldt and show.

GROUP - B
PAPER – VIII (OPTIONAL)

EDUCATIONAL INSTRUCTIONAL PSYCHOLOGY

M.M. - 100

NOTE : This paper consists of five units. From each unit minimum two questions will be set and candidates will have to answer one question from each unit.

UNIT – I Conceptual and theoretical perspectives in Educational Psychology. Theories, Behaviouristic, Social learning and Piaget and their application in teaching. Information processing Models, Instructional Models, Programmed learning concept, Characteristics and models.

UNIT – II Human diversity and education.
Learning styles: Nature, approaches to learning style, measurement of learning styles, attempt to modify learning styles.
Individual and group differences in intelligence. Theories of intelligence, multiple intelligence, Gender differences issues in the classroom. Multilingualism and minority language issues in education, tongue education, bilingual or multilingual education.

UNIT – III Effective Teaching and Classroom Management
Planning and setting objectives for Teaching, Taxonomy of objectives. Types of objectives and their utility, characteristics of effective teachers. Teaching methods instruction lecturing and explaining, questioning, aptitude – treatment interaction, student centred teaching, individualized instruction, class room management and teaching in small groups: The discussion method and cooperative learning, computer-assisted instruction.

UNIT – IV Exceptionality and social education:
Categories of exceptionality, labeling and educational relevance Physically disabled students, students with cognitive disabilities, brain dysfunction and communication disorders.
Students with emotional and behavior disorder. Attention deficit disorder (Add), attentional deficit hyperactive disorder (ADHD), Gifted and talented students. Intervention and special education for various forms of exceptionality, mainstreaming.

UNIT – V Educational Assessment
Measurement and evaluation (Norm reference and criteria referenced tests), Test scores- meaning and types, standardized test: Meaning Types and interpretation Classroom assessment and grading: Techniques of Class room evaluation. Observation, questionnaire.

BOOK RECOMMENDED :

1. De Secco, J.P. & Croford, W.R. : The Psychology of Learning and Instruction, New Delhi. Prentice Hall.
2. Ellis, R.S.: Educational Psychology, A Problem approaches affiliated, New Delhi, ease West Press.
3. Bruce & Marshvell : Models of Teaching (2nd Ed.) 1980.
4. Travers, J.F. : Educational Psychology (2nd Ed.) 1979.

GROUP - B
PAPER – IX (OPTIONAL)
GUIDANCE AND COUNSELLING

M.M. - 100

NOTE : This paper consists of five units. From each unit minimum two questions will be set and candidates will have to answer one question from each unit.

- UNIT – I** Definition, Nature, Need and Functions of Guidance and Counselling. Counselling and Psychotherapy. Intervention, Goal and objectives of Counselling.
- UNIT – II** Techniques of Appraising the client: Standardized and Non-Standardized Techniques, Intelligence, Personality, Aptitude and Interest. Observation, Auto biography, Case study, interview, Rating scales.
- UNIT – III** Approaches of Counselling: Directive, Non-directive, Eclectic. Individual and group counselling. Evaluation of counselling. Follow up and placement services.
- UNIT – IV** Characteristics of a good Counsellor. Counsellors, Training Organization of guidance program in educational institution. Relevance of guidance under 10+2+3 educational pattern. Issues and trends in guidance and counselling. Ethical standards.
- UNIT – V** Special areas of Guidance and Counselling: Vocational, Marital, Educational, Family. Counselling for the pre-school and elementary school children adolescent.

BOOK RECOMMENDED :

1. Lewis, E.C. (1970): Counselling Psychology, New York, Holt Rinehart and Winster, Inc.
2. Harson, J.C. (1978): Counselling Processes and Procedures. New York, McMillan Publishing Co. Inc.
3. Narayan Rao. S. (1981): Counselling Psychology, New Delhi, Tata McGraw Hill.
4. Kemp. C.G. (1970): Foundations of group counselling., New York, McGraw Hill.
5. Steffler, B.(Ed.) 1965. Theories of counselling, New York, McGraw Hill Book Co.
6. Warters, J. (1964): Techniques of counselling, New York, McGraw Hill Book Co.
7. Rappaport, D. Gill, M.M. and Schafer, R. (1968): Diagnostic Psychological testing. (Revised edition, edited by Holt, R.R.) New York, International Universities Press.
8. Anastasi, Z. (1992): Psychological Testing (Seventh Ed.) New York, McMillan.

GROUP - C
PAPER – VIII (OPTIONAL)
CLINICAL DIAGNOSIS AND COMMUNITY MENTAL HEALTH

M.M. - 100

NOTE : This paper consists of five units. From each unit minimum two questions will be set and candidates will have to answer one question from each unit.

- UNIT – I** History and current trends. Approaches: Psychodynamic, Behaviouristic, Humanistic, Cognitive and Socio-cultural.
- UNIT – II** Clinical diagnosis: Symptomatic vs. dynamic. Symptomatic diagnosis: ICD-10, DSM-IV (R). Dynamic diagnosis: Observation, Case history and Interview.
- UNIT – III** Clinical Assessment : Basic principles, Psychometric tests: MMPI, WAIS & WISC. Projective tests: Rorschach & TAT.
- UNIT – IV** Impressionistic approach of diagnosis: Informal assessment, Psycho-Physiological Assessment: EEG, ECG, and PGR, Blood pressure, Pulse-rate; Neuro-Psychological testing. Clinical report writing.
- UNIT – IV** Community Psychology: Perspectives of Community Psychology, Social Interventions: Methods and Strategies.

BOOK RECOMMENDED :

1. Iscope, I.; Block B.L. and Spielberger, C.D. (eds) Community psychology: Perspectives in training and research. NY: Appleton, 1977.
2. Mann. A.P.; Community Psychology: Concepts and applications. Free Press, 1978.
3. Rapaport, J. Community Psychology: Values, Research and action. NY : Holt Rinehart. 1977.
4. Korchin, S.Modern Clinical Psychology. Harper and Row, 1978.
5. Wolman, B.B. (ed) Handbook of Clinical Psychology, Mc Graw Hills, 1972.

GROUP - C
PAPER – IX (OPTIONAL)
PSYCHOTHERAPEUTIC COUNSELLING

M.M. - 100

NOTE : This paper consists of five units. From each unit minimum two questions will be set and candidates will have to answer one question from each unit.

- UNIT – I** Psychotherapeutic Counselling: Psychoanalytic Technique, Behavioural. Technique, Client centered technique, Community interventions and Group therapeutic techniques.
- UNIT – II** Methods for Altering Maladaptive Behavioural deficits: Shyness, delinquency, depression, speech and sexual dysfunctions.
- UNIT – III** Methods for altering maladaptive behavioural excesses: Excessive smoking, alcoholism, drug addiction and temper-out burst, physical aggression.
- UNIT – IV** Methods of altering inappropriate behaviour: Marital maladjustment, child-misbehaviour, homosexuality, and exhibitionism.
- UNIT – V** Methods for altering fears and anxiety and treating psychophysiological disorders: test-anxiety, generalized anxiety, stress, school phobia, snake phobia, combination of fears, CHD, asthma and peptic ulcer.

BOOK RECOMMENDED :

1. Carson & Butcher : Abnormal Psychology and modern life.
2. Wolpe, R. & Dryden, W. (eds) (1996) : Handbook of counselling psychology, New Delhi
3. Woolberg, L.R. (1998) : The Techniques of Psychotherapy, Barcour Brace : Groune and stration.
4. Toukimarian, S.G. & Rennie D.C. (1992): Psychotherapy Process and Research, Sage
5. Gelso; C.J. and Fretz, B.R. (1995): Counselling Psychology, Bangalore, Prism Books Ltd.
6. Abate, L. & Milan, M.A. (ed.) (1985) : Handbook of social skill training & Research, New York: John Wiley & Sons.
7. Gorey, G (1986) Theory and Practices of Counselling and Psychotherapy, Monterey California, books colely publishing.
8. Adelson, D. & Kalis, B.L. (1970) : Community Psychology and Mental Health. Perspectives Seanto.
9. Mann. A.P. (1978): Community Psychology : Concepts and applications, Free Press.
10. Iscoe. I. Block, B.L. & Spielberger, C.D. (eds.) (1977): Community Psychology : Perspectives in training and research N.Y. : Appleton.

PAPER – X (OPTIONAL)
PRACTICALS (COMPULSORY)

M.M. - 100

Note :- This Paper Consists of two parts: Part –I and Part – II

PART – I LAB PRACTICALS :-

(Any five of the following to be completed in the Laboratory training.)

1. Knowledge of results.
2. Effect of social support on conformity.
3. Attribution of achievement outcomes.
4. Zeigarnik effect.
5. Level of aspiration as a function of success or failure.
6. Reminiscence in motor learning.
7. Short Term Memory.
8. Effect of group on individual judgement.

PART – I FIELD STUDY

This part of the practical paper comprises of completion of two field studies, one (I) from the area of compulsory papers and another (II) from the area of optional papers of the specialization group.

- (I) Any one of the areas given below from the compulsory papers be selected by the candidate and its field studies be completed under supervision of the departmental supervisor.

DEVELOPMENTAL PSYCHOLOGY:

1. Childhood
2. Adolescence
3. Adulthood
4. Old age
5. Home environment

DEVELOPMENTAL PSYCHOLOGY:

1. Leadership Styles
2. Matured Personality
3. Personality type ‘A’ and ‘B’
4. Neuroticism
5. Psychopathic personality

- (II) candidate is required to complete one field study from the optional group under supervision of a concern teacher. The optional group prescribed along with the areas of specialization is given below:

Optional Group ‘A’ Psychology of Management: Any one of the following:

1. Study of Job Analysis
2. Communication Network
3. Organizational Structures
4. Management Style
5. Role Stress

OR Optional Group ‘A’ Psychology of Education: Any one of the following:

1. Test Anxiety
2. Exceptional Children
3. Teaching Style
4. Educational Guidance
5. Vocational Guidance

OR Optional Group ‘A’ Psychology of Mental Health: Any one of the following:

1. Neuro-Psychological evaluation of a stroke patient.
2. Identification of stressors
3. Drug abuse
4. Study of faith healers
5. Study of yoga or Vipashyana

The distribution of marks of Paper X (Practical) will be as under:

- | | | | |
|----|---------------------------------------|---|----|
| 1. | Conduction of Laboratory experiments. | : | 30 |
| 2. | Completion of Field Study Reports | | |
| | (a) Compulsory area | : | 20 |
| | (b) Optional area | : | 20 |
| 3. | Viva – Voce on Practical | : | 30 |

Curriculum Framework

POSTGRADUATE DIPLOMA IN REHABILITATION PSYCHOLOGY (P.G.D.R.P.)

Norms, Regulations & Course Content

March, 2017

Effective from Academic Session 2018-19
One Year Duration



Rehabilitation Council of India
B-22, Qutab Institutional Area,
New Delhi - 110 016

Email: rehabstd@nde.vsnl.net.in , rehcouncil_delhi@bol.net.in

www.rehabcouncil.nic.in

Postgraduate Diploma in Rehabilitation Psychology (PGDRP)

1.0 INTRODUCTION

The aim of the course is to prepare rehabilitation counselors who promote understanding of the situations and needs of people with disabilities and perform a vital role in the personal, vocational and educational adjustment of persons with disability within self-advocacy and community development model. The program is an ideal model for entry into the field of professional rehabilitation counseling and allows for the easiest avenue to registration under CRR.

The training program prepares prospective candidates in a variety of concepts, theories, and techniques to function in numerous settings such as state or private run rehabilitation centers, public and private schools and other organizations serving persons with physical, sensory or cognitive disabilities. The coursework for the program includes: history of the rehabilitation movement and its legislation, models of disability and rehabilitation theory, psychosocial implications of disabling conditions, theoretical understanding of psychological assessment and testing methods, evaluation of the psychosocial problems and counseling, education and vocational needs of clients, case management skills utilizing community resources and multidisciplinary approach. In summary, the successful trainees have the broad base of rehabilitation knowledge to serve people with disabilities and they also have the ability to counsel, support, and deal with their clients from a humanistic and holistic approach.

1.1 Distinguishing Features

Rehabilitation counseling is first level (entry) of a two-level series within rehabilitation psychology services and is distinguished from the second higher level (M. Phil in Rehabilitation Psychology) training program. The later is an independent full-fledged professional training with higher level of competency, responsibility and authority for providing services to clients with disability. The Rehabilitation Counselor cadre shall not be used as an under fill class for existing Rehabilitation Psychologist positions for providing services to clients with disability.

1.2 Typical Tasks

The successful candidates screen and evaluate referrals to determine potential eligibility for services; may make referrals to other resources as appropriate; assess family background, prior work experience and education, disability, and functional limitations; determine needs and coordinate medical and psychological assessments with concerned specialists and/or medical/psychology consultants; advice/refer for aptitude, intelligence and personality tests and provide interpretation of results to clients and their families; determine physical restoration requirements (e.g., surgery, physical therapy, artificial limbs, hearing aids) and training necessary for employability; coordinate needed services with other agencies and organizations; provide psychological, behavioral, career and vocational counseling to clients; develop and implements rehabilitation plans with each client and track progress through successful termination of the case.

2.0 AIM

The aim of the program is to train candidates in basic knowledge and skills necessary for rehabilitation counseling practice. The program includes core counseling courses (e.g. theories of counseling) and rehabilitation-specific coursework (e.g. assessment of persons with physical/sensory/developmental/ cognitive disability). The program allows the trainees to develop expertise in any one areas of rehabilitation counseling (for eg. school counseling) during the one-month extra-institutional placement, which occurs in the third quarter of the course/training.

2.1 Objectives

On completion of the course the trainees are expected to demonstrate:

- 2.1.1 An understanding of basic physical, sensory, developmental and cognitive impairments and effects such impairments have on functional performance.
- 2.1.2 Knowledge of commonly accepted interventions for various impairments and skill in communicating verbally and in writing the decisions made and explaining and answering questions.
- 2.1.3 Skill in interviewing and providing support and empathy to clients with disability and their families.
- 2.1.4 Ability to utilize the principles and practices used in counseling and in the provision of services to rehabilitation clients and facilitate the development of problem solving skills in individuals with disability.
- 2.1.5 Demonstrate an understanding of caregiver and family burden, suggest and/ or undertake interventions drawing on their knowledge and problem solving skills.
- 2.1.6 Ability to develop plans for vocational rehabilitation clients, and counsel, motivate, and inspire clients.
- 2.1.7 Ability to work within specific agency programs, operations, policies, and procedures affecting assigned work, and to coordinate the provision of services to clients with other agencies and organizations.
- 2.1.8 Ability to read and interpret psychometric reports (intelligence, aptitude, personality assessment etc.) provided by rehabilitation/clinical psychologists and explains the implications of findings to clients and their families and carry out the suggested counseling and/or remedial training with the clients (for eg. remedial training/intervention in children with disorders of scholastic skills, and counseling of families and children with behavioral and emotional disorders occurring in the home/school context)
- 2.1.9 Ability to develop and maintain effective working relationships with local employers and community social service agencies, and market clients' skills and abilities to potential employers.

3.0 INSTITUTIONS ELIGIBLE TO CONDUCT THE COURSE

3.1 Centers already recognized by the RCI for conducting M. Phil. Rehabilitation Psychology program are eligible to conduct the course. However, such centers need to apply for Council's permission before starting the course.

3.2 Institute/center catering to people with following disability are eligible to conduct the program.

- A) Specific developmental disability such as mental retardation, cerebral palsy, autism spectrum disorders, epilepsy or any disabling conditions found to be closely related to development processes, that limits/disrupt life activities such as learning, speech and language, mobility, self-help, and independent living begin anytime during developmental period (up to 18 years of age), and lasting throughout a person's lifetime.
- B) Locomotor disability-congenital or acquired, including leprosy-cured.
- C) Sensory impairments such as hearing or vision and both.
- D) Multiple disabilities.
- E) Traumatic/burn injuries.
- F) Postgraduate Department of Psychology at universities having attachment or an MOU with any of the Rehabilitation centers (specified in A to E) to place the trainees for hands-on experience

3.3 There shall be at least two regular rehabilitation/clinical psychology faculty members on fulltime basis at the center, one of them with at least 5 years of post-qualification (RCI recognized M.Phil. Rehabilitation Psychology or Clinical Psychology degree) experience.

4.0 REGULATIONS OF THE COURSE

4.1 Number of Seats

Since the course involves hands-on training, the number of candidates registered for the course will depend on the availability of qualified clinical psychology/ rehabilitation psychology faculty working fulltime in the concerned institute and the clinical material available at the center. In order to make the training effective, therefore, the intake of the students shall not exceed the following ratio.

RCI Registered Rehabilitation/Clinical Psychologist working fulltime on regular basis -
Candidate ratio shall be, 1: 5

4.2 Entry requirement

Minimum educational requirement for admission to this course will be

- a. Bachelor's degree (regular mode) with general psychology courses in all the three years, or
- b. Master's degree in any branch of psychology either in regular or distance mode, or
- c. Master's degree in counseling psychology either in regular or distance mode

with a minimum of 55% marks in aggregate. For SC/ST/OBC category, minimum of 50% marks in aggregate is essential. Entry qualification shall be from a UGC recognized university.

4.3 Admission Procedure

A selection committee constituted by the University/ Institute shall make admission on the basis of aggregate percentage of marks, academic achievements and experience, if any, in the field of rehabilitation.

4.4 Duration

4.4.1 This is a fulltime training course with opportunities for appropriate practicum and supervised experiences for one academic year.

4.4.2 The candidates shall be posted at any other specialty center for a period of one-month duration during the third quarter of the training.

4.5 Attendance

4.5.1 Course of training must continuously be pursued and complete all the course requirements within a stipulated period from the date of enrollment.

4.5.2 A minimum attendance of 80% shall be necessary for appearing for qualifying examination.

4.5.3 Fifteen days leave shall be permitted during the entire course period.

4.6 Fee Structure

The prescribed tuition and examination fee as laid down from time to time by the concerned institution shall be paid by the candidates.

4.7 Content of the Course (See section 5.0 for subject wise syllabus.)

Group – A

- Paper I : Disability and Rehabilitation
- Paper II : Psychosocial Issues in Disability
- Paper III : Rehabilitation Assessment and counseling
- Papers IV : Community Based Rehabilitation
- Practical** : Rehabilitation Interventions and viva voce

Group – B

Submission : Five fully worked-out Rehabilitation Counseling Records which include case formulation, problem areas elicited, type and technique/s employed to resolve the problems, and the processes of counseling. Out of five records, two shall be related child cases including one from multiple disabilities.

4.8 Minimum prescribed clinical work during the training.

	By the end I year
1) Assessment & workup of client and/or family	25
2) Counseling of persons and/or family with disability (Out of 25 cases 5 shall be related to children)	25

4.9 Internal Assessment

In each subjects of Group – A, 30% marks shall be determined on the basis of two internal exams (theory and practical), each conducted for 50 marks. The marks so obtained are added to the marks allocated to the respective subjects in the final examinations. The results of the final examinations will be declared on the basis of the total so obtained.

4.10 Examination

- a) Before appearing for the qualifying examination a candidate should have done the minimum prescribed clinical work as outlined in section 4.8. The logbook duly certified by the concerned supervisors shall be submitted at the time of examination for an evaluation of the clinical work done by the board of examiners.
- b) A candidate failing in any of the Group – A subjects has to appear again in all the Group – A subjects.
- c) A candidate failing in Group – B has to resubmit five fully worked-out counseling records.
- d) A candidate shall appear for both Group A and B examinations when appearing for the first time.
- e) All candidates have to complete the course successfully within a period of three years from the year of admission to course, and within three attempts.
- f) The qualifying examination is held twice a year. The dates for supplementary examinations shall be worked out by the concerned universities depending upon the start of the academic year.
- g) The medium of instruction and examination shall be in English.

h) 4.11 Scheme of Examination

Papers Title	Duration	Marks		
		Final Examination (Maximum)	Internal Assessment (Maximum)	Total
<u>Group – A</u>				
Paper I: Disability and Rehabilitation	3 hr.	70	30	100
Paper II: Psychosocial Issues in Disability	3 hr.	70	30	100
Paper III: Rehabilitation Assessment and Counseling	3 hr.	70	30	100
Paper IV: Community Based Rehabilitation	3 hr.	70	30	100
Practical: Rehabilitation Interventions and viva voce		70	30	100
<u>Group – B</u>				
Submission of five fully worked-out Counseling record – formulation, type, technique/s and processes of counseling		None	100	100

4.12 Board of Examination

The University will conduct the examinations having a board consisting of two examiners of which one shall be an external Rehabilitation/Clinical Psychology faculty appointed for this purpose, and the other shall be an internal Rehabilitation/Clinical Psychology faculty. Both internal and external examiners shall evaluate each theory paper and conduct the practical including viva-voce examination.

4.13 Minimum for Pass

No candidate shall be declared to have passed the course unless he/she obtains not less than 50% of the marks in:

- i) Each of the theory paper (Group – A)
- ii) Practical and viva-voce examination (Group – A)
- iii) Submission (Group – B)

5.0 SUBJECT WISE SYLLABUS

The syllabus for each theory paper is as appended below. It is desired that each units of papers be covered with at least 4-hr. of input in the form of didactic lectures, seminars, tutorials/topic discussion as deemed fit depending on content nature of the units. Approximately 80-hr of theory teaching shall be required in the entire course (in all 20 units have been worked out from four theory papers), in addition to opportunities for learning through rehabilitation case management and work-ups.

6.0 CERTIFICATION AS A REGISTERED PROFESSIONAL

It is mandatory as per Section 13 of RCI Act for every teacher of special education to obtain a “Registered Professional Certificate” from the Rehabilitation Council of India to work in field of professional rehabilitation counseling in India. As continuous professional growth is necessary for the renewal of the certificate, the **Rehabilitation Counselors** should undergo in-service programme periodically to update their professional knowledge.

Amendments, if any, to the regulations of the course will be made periodically by the Rehabilitation Council of India. Any deviation from the above regulations should have the prior approval of the Rehabilitation Council of India. The successful students will be registered as **Rehabilitation Counselors** (Professional). The training institution/organization should ensure that all passed out students are registered with the Council.

Syllabus

Paper – I : Disability and Rehabilitation

Hours: 60 Hours

- Unit I: Introduction – Overview of the profession, history and growth of rehabilitation field, areas of specialization, current issues and trends in different areas of rehabilitation, magnitude and incidence of disability, cost of disability, major national reports and surveys
- Unit II: Concepts and theory – Impairment, disability and handicap, types and causes of impairments, realms of impairments, concept of functional capacity, coping and well-being, quality of life and its functional domains, content areas, methods of assessment, specific and global indicators of quality of life
- Unit III: Disability and Rehabilitation – Models of disability and rehabilitation, enabling–disabling processes, impact of the physical, social and psychological environments on the enabling–disabling processes, effects of disability on participation, psychosocial theories of adjustment, strategies to enhance adjustment, functional limitations and strategies to reduce and accommodate limitations
- Unit IV: Disability through life-cycle – Specific problems pertaining to each stage of life - childhood, adolescence, young adulthood, middle age, and older adulthood, and adapting strategies
- Unit V: Ethics and policy issues – Rehabilitation ethics, rehabilitation policies and Acts(Persons with Disabilities Act, The National Trust Act, Mental Health Care Act, Rehabilitation Council of India Act, UNCRPD), assistance, concessions, social benefits and support from government, and voluntary organizations; contemporary challenges, civil rights and legislation, empowerment issues

References:

Book should be of Latest Edition

Encyclopedia of Disability, Gary L. Albrecht, Vol. 1 – 5, Sage Publications, Chicago, 2006

Encyclopedia of Disability and Rehabilitation, Arthur E. Dell Orto and Robert P. Marinelli (Eds.), MacMillan Reference Books, 1995

Perspectives on Disability and Rehabilitation: Contesting Assumptions, Challenging Practice, Karen Whalley Hammell, Churchill Livingstone, 2006

Status of Disability in India – 2012, Rehabilitation Council of India, New Delhi.

Development and Disability, Lewish, Blackwell Publishers, U.K., 2003

Learning Disabilities: The interaction of students and their environments, Smith, C.R., Allyn and Bacon, Boston, 2004

The handbook of Autism: A guide for parents and professionals, Aarons, M. and Glittens, T., Routledge, New York, 1992

The Persons of Persons with Disabilities Act, Ministry of Social Justice & Empowerment, Government of India, New Delhi, 2016

The National Trust for Welfare of Persons with Autism, Cerebral Palsy, Mental Retardation and Multiple Disabilities Act, Government of India, New Delhi, 1999

Yuker, H. E. (Ed). (1988). Attitudes Toward Persons with Disabilities. New York: Springer Publishing Company.

Dell Orto, A. E., & Marinelli, R. P. (Eds.) (1995). Encyclopedia of disability and rehabilitation. NY: Simon & Schuster Macmillan.

Eisenberg, M. G., Glueckauf, R. L., & Zaretsky, H. H. (Eds.) (1999). Medical aspects of disability: A handbook for the rehabilitation professional (2nd ed.). NY: Springer.

Jena, S.P.K.(2013). Learning Disabilities: Theory to Practice, New Delhi. Sage Publication

Sagar, R. (Ed.) (2014). Specific Learning Disorder: Indian Scenario. New Delhi: Department of Science and Technology, Govt. of India

Smart, J. (2012). Disability across the Developmental Life Span: For the rehabilitation counselor. New York: Springer Publishing Company.

Paper II : Psychosocial Issues in Disability

Hours: 60 Hours

- Unit I: Stress and Coping Style – Stress due to disability, threat to life and physical well being, body image, independency, autonomy and control, self-concept, self esteem, life goals and future plan, invisible disabilities, marginalization, Denial, regression, compensation, rationalization, emotional reaction – grief, loss, guilt and fear, coping styles and strategies, stages of adaptation and adjustment, factors impeding adjustment to disability and disabling processes, psychological control
- Unit II: Mental health issues – Psychopathological reactions such as anxiety, depression, adjustment problems, other co-existing mental morbidity, emotional and behavioral disorders in children and adolescents, problems related to marital and sexual life, abuse and exploitation, substance use, interventions for mental illnesses
- Unit III: Family issues – Relationship issues with family, problems of families of disabled adults and children, impact of disability on family, family burden, needs of family and models of family adaptation, intervention to strengthening family support to disabled
- Unit IV: Social issues – Societal attitudes toward disabilities, measurement of attitude and strategies for attitude change, social environment, social participation, social interaction, social network and support, disabling factors, prejudice, stigma, discrimination, marginalization, gender disparity
- Unit V: Vocational issues - Career competency, career development issues, work related stress, economic independence, well-being, assistive devices for activities of daily living, mobility aids, at work place, sensory devices, environment modifications and universal designs, needed support system

References:

Book should be of Latest Edition

Mary Ann Bruce and Barbara Borg (2001). *Overview - Psychosocial Frames of Reference*, SLACK, Incorporated, 2001

Dunn, D. S. (2000). Social psychological issues in disability. In R. G. Frank & T. R. Elliott (Eds.), *Handbook of Rehabilitation Psychology*. Washington, D.C.: American Psychological Association.

Wright, B. A. (1983). *Physical Disability: A Psychosocial Approach*, 2nd ed. New York: Harper and Row.

Backman, M. (1989). *The Psychology of the Physically Ill Patient: A Clinician's Guide*. New York: Plenum Press.

Caplan, B., & Shechter, J. (1987). Denial and depression in disabling illness. In B. Caplan (Ed.) *Rehabilitation Psychology Desk Reference*. Aspen Systems Corp.

Cash, T. & Pruzinsky, T. (2002). *Body Image: A Handbook of Theory, Research, and Clinical Practice*. New York: Guilford Publications.

Rohe, D. E. (1998). Psychological aspects of rehabilitation. In J. A. DeLisa & B. Gans (Eds.)

Rehabilitation Medicine: Principles and Practice, 3rd Edition. Philadelphia: Lippencott-Raven, 189-212.

Snyder, C. R. (1999). *Coping: The Psychology of What Works*. London: Oxford Press.

Wortman, C. B., & Silver, R. C. (1989). The myths of coping with loss. *J Consult Clin Psychol*, 57(3), 349-57.

Devy John (1994). *Introduction to Social Psychology*

Ahuja, N. (2011). *A Short Textbook of Psychiatry*. New Delhi: Jaypee Brothers Medical Publishers Pvt. Ltd..

Jahan, M. (2016). *Manasik Rog*. Ahuja Book Company Pvt. Ltd., New Delhi

Singh, R., Yadava, A. & Sharma, N. R. (Eds) (2005). *Health Psychology*. New Delhi: Global Vision Publishing House.

Goreczny, A. J. (Ed) (1995). *Handbook of Health and Rehabilitation Psychology*. New York: Plenum Press.

Paper III : Rehabilitation Assessment and Counseling

Hours: 60 Hours

- Unit I: Assessment – Need for assessment in counseling, assessment-based model for decision making, planning, and implementing individualized interventions, various instruments used for assessing cognitive, learning, behavioral, and emotional functioning, social and emotional development, assessment of perception of the problems and potential to participate and benefit from interventions, and assessing intervention efficacy
- Unit II: Theory and concepts – Definition and goals of rehabilitation counseling, theories and techniques, counselor role, boundaries of confidentiality, ethical guidelines in counseling activities, concept of dual relationships, professional challenges in counseling and conflict resolutions, models, spiritual, culture and gender issues in counseling
- Unit III: Intervention Approaches – Individual counseling approaches viz. non-directive, existential, humanistic, person-centered, cognitive and behavioral counseling, and behavior modification, techniques of remedial training for scholastic/learning problems
- Unit IV: Specific Interventions – Specific intervention for developing social skills, academic skills, assertiveness, anger management, addressing anxiety/mood disorders, assessing family functioning, its strengths and resources, family counseling, crisis intervention
- Unit V: Vocational counseling – Assessment and components of vocational counseling viz. identifying interests, goals and plans, and counseling during the training and job placement processes, scheme related to skill development

References:

Book should be of Latest Edition

Carpener B, (2002). Families in Context, Emerging Trends in Family Support and Intervention, David Fulton Publishers Ltd., London.

Ben-Yishay, Y. & Diller, L. (1993). Cognitive remediation in traumatic brain injury: Update and issues. Archives of Physical Medicine and Rehabilitation, 74, 204-213.

Hansen, S. L., Guenther, R., Kerkhoff, T. & Liss, M. (2000). Ethics: historical foundations, basic principles and contemporary issues. In R. G. Frank & T. R. Elliott (Eds.), *Handbook of Rehabilitation Psychology*. Washington, D.C.: American Psychological Association.

Kerkhoff, T., Hanson, S., Guenther, R., & Ashkanazi, G. (1997). The foundation and application of ethical principles in rehabilitation psychology. *Rehabilitation Psychology*, 42 (1),17-30.

Shewchuk, R., & Elliott, T. (2000). Family caregiving in chronic disease and disability. In R. G. Frank & T. R. Elliott (Eds.), *Handbook of Rehabilitation Psychology*. Washington, D.C.: American Psychological Association

Goodheart, C. & Lansing, M. H. (2001). *Treating People with Chronic Disease: A Psychological Guide*. Washington, D.C.: American Psychological Association.

Meichenbaum, D., & Turk, D. (1987). *Facilitating treatment adherence: A practitioner's guidebook*. New York: Plenum Press.

Radnitz, C. L., Bockian, N., & Moran, A. I. (2000). Assessment of psychopathology and personality in people with physical disabilities. *Handbook of Rehabilitation Psychology*. Eds. Frank, R.G., Elliott, T.R. Washington, D.C.: American Psychological Association. 287-309.

Corthell, D. S. (Ed.) (1997). *Traumatic Brain Injury and Vocational Rehabilitation*. Menomonie, WI: University of Wisconsin- Stout.

Fraser, R. (1991). Vocational evaluation. *Journal of Head Trauma Rehabilitation*, 6, 46-58.

Rao, N., & Kilgore, K. U. (1992). Predicting return to work in traumatic brain injury using assessment scales. *Archives of Physical Medicine and Rehabilitation*, 73, 911-916.

Rohe, D. E., & Athelstan, G. T. (1982). Vocational interests of persons with spinal cord injury. *Journal of Counseling Psychology*, 29 (3), 283-291.

Rohe, D. E., & Athelstan, G. T. (1985). Change in vocational interests after disability. *Rehabilitation Psychology*, 30 (3), 131-143.

Rohe, D. E. & Krause, J. S. (1998). Stability of Interests After Severe Physical Disability: An 11-Year Longitudinal Study. *Journal of Vocational Behavior*, 52, 45-58.

Szymanski, E. M. (2000). Disability and vocational behavior. In R. G. Frank & T. R. Elliott (Eds.), *Handbook of Rehabilitation Psychology*. Washington, D.C.: American Psychological Association

Gladding, S. T. (2014). *Counselling: A comprehensive profession*. Pearson Education Inc. (Published by Dorling Kindersley (India) Pvt. Ltd., Noida for India).

Hough, M. (2014). *Counselling Skills and Theory*. Italy: Hodder Education.

Whiston, S. C. (2009). *Principles and Applications of Assessment in Counselling*. CA: Brooks/Cole Cengage Learning.

Paper IV : Community Based Rehabilitation

Hours: 60 Hours

- Unit I: Goals and Objectives – Definition of CBR, Goals and objectives, key principles - equality, social justice, solidarity, integration and dignity
- Unit II: Components – Creation of a positive attitude, provision of rehabilitation services, education and training opportunities, creation of micro and macro income generation opportunities, provision of long term care facilities, prevention of causes of disabilities and monitoring & evaluation
- Unit III: Role of CBR professionals – As local advocates, liaison and continuity of care, continued supervision of home programs, community initiatives to remove barriers that affect exclusion, advocacy
- Unit IV: Initiatives – Social counseling, training in mobility and daily living skills, community awareness raising, facilitating access to loans, vocational training, information for local self-help groups, contacts with different authorities, school enrolment
- Unit V: Empowerment issues – Approaches for empowering - social mobilization, political participation, communication, self help groups and organization working for persons with disabilities

References:

Book should be of Latest Edition

Helander Einar (1999). Prejudice and Dignity – An Introduction to Community Based Rehabilitation, Second Edition, United Nations Development Program, NY

Community Based Rehabilitation and the health care referral services (1994), World health Organization

Community Based rehabilitation for and with people with disabilities (1994), UNESCO (Special Education) , WHO

Jonsson Ture (1994). Inclusive Education – United Nations Development Program

David Werner. Disabled Village Children: a guide for community health workers, rehabilitation workers families, The Hesperian Foundation, USA.

Einar Helander, Padmani Mendis and Gunnel Nelson. Training disabled people in the Community — a manual on CBR for developing countries, WHO, Switzerland.

Community Based Rehabilitation —Report of a WHO International Consultation, Colombo, Lanka,

Scheme of assistance to Organizations for disabled persons, Ministry of Social Welfare, Govt. of India, New Delhi.

Govt. of India Scholarships for the disabled persons: Ministry of Social Welfare, Govt. of India, New Delhi.

Programmes and Concessions for the disabled persons: Ministry of Social Welfare, Govt. of India, New Delhi.

Einar Helander (1984). Rehabilitation For All: a guide to the management of CBR

M.C. Narasimhan and A.K. Mukherjee. Disability: a Continuing Challenge, Wiley Eastern Ltd.,

Training Manual for Village Rehabilitation Workers, District Rehabilitation Centre Scheme, Ministry of Welfare, Govt. of India published by Wiley Eastern Ltd.

Mrs.Achala Pahwa (Ed.). Manual on Community Based Rehabilitation. Ministry of Social Welfare, Govt. of India.

Pilling, A. (1991). Rehabilitation and Community Care. London: Routledge

Expert Committee of following members for the development of training programmes for the categories of professionals/personnel, namely, Clinical Psychologists and Rehabilitation Psychologists

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Dr. S. P.K Jena, Dept. of Applied Psychology, South Campus, University of Delhi New Delhi-110021
Prof. P. Jeyachandran, Vijay Human Services,4, Laxmipuram, 3rd Street, Royapeetah Chennai-600 014
Dr. Tej Bahadur Singh, 38-42/1 House No.1, Mohinikunj Colony, Mahmoorganj, Varanasi-221010
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The Head, Department of Clinical Psychology, Regional Institute of Medical Sciences (RIMS) Lamphelpat, Imphal, Manipur - 795 004
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S K Srivastava, Member Secretary, RCI- Member (Ex-Officio)
Suman Kumar, Deputy Director (Prog.), RCI-Convener (Ex-officio)

School of Regional Studies and Research

Syllabus

M.A. in Rural Development
Session: 2020-2022



Pt. Ravishankar Shukla University, Raipur -492010
Chhattisgarh, India

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Shukla

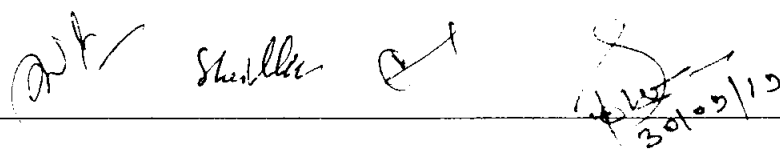
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School of Regional Studies and Research
Pt. Ravishankar Shukla University Raipur (C.G.)
M.A. in Rural Development
Syllabus
2020-2022

Session-2020-21

Sem	Course Code	Title of the Paper	Teaching Learning Methodology	External Marks		Internal Marks*		Credit
				Maxi.	Min.	Maxi.	Min.	
		2020-2021						
I	RD 101	Rural Development: Indian Context	Learning through ICT, Case Study, Group Discussion (Student Centric Approach)	80	16	20	4	4
	RD 102	Rural Development: Planning and Management	Learning through ICT, Case Study, Group Discussion (Student Centric Approach)	80	16	20	4	4
	RD 103	Rural Development Programmes and Evaluation	Learning through ICT, Case Study, Group Discussion (Student Centric Approach)	80	16	20	4	4
	RD 104	Rural Social Problem	Learning through ICT, Case Study, Group Discussion (Student Centric Approach)	80	16	20	4	4
	RD 105	Panchayati Raj and Rural Administration	Learning through ICT, Case Study, Group Discussion (Student Centric Approach)	80	16	20	4	4
		Total Sem.-I			400		100	
II	RD 201	Urban Planning	Learning through ICT, Case Study, Group Discussion (Student Centric Approach)	80	16	20	4	4
	RD 202	Rural Economy & Industrialization	Learning through ICT, Case Study, Group Discussion (Student Centric Approach)	80	16	20	4	4
	RD 203	Rural Health Care	Learning through ICT, Case Study, Group Discussion (Student Centric Approach)	80	16	20	4	4
	RD 204	Scientific Research Methodology in Rural Development	Learning through ICT, Case Study, Group Discussion (Student Centric Approach)	80	16	20	4	4
	RD 205	Tribal Development	Learning through ICT, Case Study, Group Discussion (Student Centric Approach)	80	16	20	4	4
		Total Sem.- II			400		100	
	Sub Total (Semester-I +Semester-II)			800		200		40



 30/03/20

Session-2021-22

III	Course Code	Title of the Paper	Teaching Learning Methodology	External Marks		Internal Marks*		Credit
				Maxi.	Min.	Maxi.	Min.	
		2020-2021						
	RD 301	Communication and Extension in Rural Development	Learning through ICT, Case Study, Group Discussion (Student Centric Approach)	80	16	20	4	4
	RD 302	Rural Social Development	Learning through ICT, Case Study, Group Discussion (Student Centric Approach)	80	16	20	4	4
	RD 303	Voluntary Action in Rural Development	Learning through ICT, Case Study, Group Discussion (Student Centric Approach)	80	16	20	4	4
	RD 304	Land Reforms and Rural Development	Learning through ICT, Case Study, Group Discussion (Student Centric Approach)	80	16	20	4	4
	RD 305	Dissertation: Project Report based on Rural Engagement (Field Work)	Field Work, PLA, Collection of Data, Analysis of Data, Report Writing	80	16	20	4	4
		Total Sem.-I		400		100		20
IV	RD 401	Entrepreneurship and Rural Development	Learning through ICT, Case Study, Group Discussion (Student Centric Approach)	80	16	20	4	4
	RD 402	Natural Resources & Sustainable Development	Learning through ICT, Case Study, Group Discussion (Student Centric Approach)	80	16	20	4	4
	RD 403	Resources and Livelihood Management	Learning through ICT, Case Study, Group Discussion (Student Centric Approach)	80	16	20	4	4
	RD 404	Internship	-	80	16	20	4	4
	RD 405	Presentation	-	80	16	20	4	4
			Total		400		100	
		Grand Total		1600		400		80
Choice Based Credit System (CBCS)								
II	CBCS 101	Applied Research Methodology Semester-II	Learning through ICT, Case Study, Group Discussion (Student Centric Approach)	80	16	20	4	3
III	CBCS 102	Corporate Social Responsibility Semester-III	Learning through ICT, Case Study, Group Discussion (Student Centric Approach)	80	16	20	4	3

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*Internal evaluation shall be based on following components as per Notification No: 907/acad./2019, Raipur dated 21.8.2019 and approved in EC meeting on 25.7.2019.

Out of 20 marks allocated for internal assessment for each paper:

- 10 marks are to be assigned for class test.
- 5 marks are to be assigned for assignment/ seminar presentation.
- 5 marks are to be assigned for attendance.

The marks for attendance shall be as follows:

(i)	More than 65% but less than 70%	1 Mark
(ii)	70% or more but less than 75%	2 Marks
(iii)	75% or more but less than 80%	3 Marks
(iv)	80% or more but less than 85%	4 Marks
(v)	85% and above	5 Marks

Note:

1. In M.A., 80% marks in each theory paper will have questions in four parts as follows:
Part- A - MCQ-20 questions of 1 mark each.
Part- B - Very short answer in 2-3 sentences -8 questions of 2 marks each.
Part- C - Short answer within ≤ 75 words-8 questions of 3 marks each.
Part- D - Long answer using 150 words-4 questions of 5 marks each.
2. The percentage of marks secured by a student in a particular paper shall be converted to a grade and grade point for that course by the university.
3. The Credit of the Core Subjects is mandatory based on the Course selected.
4. Papers proposed under Choice Based Credit System (CBCS) may be obtained by the students of other departments in Semesters – II & III as per the scheme.
5. CBCS papers will be run only when minimum ten students will opt it.

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M.A. in Rural Development

Session: 2020-21

Semester- I

Paper-I

Course Code: RD 101

Title: Rural Development: Indian Context

Maxi. Marks: 80

Min. Marks: 16

Credit: 4

Learning Objectives:

At the end of the course the students are expected to:

1. understand the meaning, scope and historical background of rural development
2. know the various programmes of rural development
3. gain knowledge of rural development in Indian context and Asian countries

Unit- I

Rural Development – An overview, Importance, Scope & Objectives, Traditional and Modern Concept of Development.

Programmes for Rural Development in India since Independence. Rural Development Policies during Planning Period; Administrative structure.

Indicators of Rural Development: Millennium Development Goals (MDGs), Sustainable Development Goals (SDGs), Human Development Index (HDI).

Theoretical Approaches of Development (Marx, Rostov, Myrdal and International Dependence Theory).

Unit- II

Rural Demography: Age, Sex, Ethnic and Religious Composition. Rural Social Structure: Caste System, Hierarchy of Caste, Dominant Caste.

Rural Economy Structure: Types of Rural Livelihood, Rural Poverty.

Unit- III

Policies and Strategies of Rural Development with special reference to Chhattisgarh.

Agrarian Movement, Land Reforms, Green Revolution, White Revolution, Agricultural Extension Services.

Unit- IV

Various approaches to Rural Development – Gandhian approach for Community Development, IADP, IRDP, MNREGA, Narwa, Garwa, Ghurwa, Badi (NGGB) Programme, Neo Gandhian, (PURA), Need Based and Demand based Centers. Rural Development experiences of some Asian Countries –Sri Lanka and Bangladesh.

Unit -V

Social Change, Mobility & Mobilization: Acculturation, Westernization, Urbanization and Globalization. Empowerment: Types, Impact of Education, Communication and Information Technology in Rural Development.

Recommended Readings:

1. Desai, Vasant. **Rural Development in India.** Himalaya, New Delhi, 2005.
2. IGNOU. **Rural Development: Indian Context.** IGNOU, New Delhi, 2005.
3. Narwani, G. S. **Training for Rural Development,** Rawat Publications, New Delhi, 2002.
4. Rao K. Hanumantha , **Rural Development Statistics : 2007-08,** National Institute of Rural Development Ministry of R. D., Govt. of India, Rajendra Nagar, Hyderabad – 30 July, 2008.
5. Prasad, B.K. **Rural Development: Concept, Approach and Strategy,** Sarup & Sons, New Delhi, 2003.
6. Rau, S.K. **Global Search for Rural Development,** NIRD, Hyderabad, 2001.
7. Satya Sundaram, I., **Rural Development,** Himalaya, Mumbai, 2002.
8. Thomas & Christopher. **Rural Development: Concept and Recent Approaches,** Rawat Publication, New Delhi, 2015.
9. Jana, AK. **Decentralizing Rural Governance and Development,** Rawat Publication, New Delhi, 2015.

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Paper - II
Course Code: RD 102
Title: Rural Development Planning and Management

Maxi. Marks: 80

Min. Marks: 16

Credit: 4

Learning Objectives:

At the end of the course the students are expected to:

1. identify the role of planning in rural development
2. meaning of projects and project evolution and development of planning in India
3. identify the factors affecting implementation of projects
4. understand the concept and scope of rural development management

Unit- I

Planning: Concept & Definition, Planning Process, Stages of Planning, Theories of Planning, Characteristics of Strategy in Planning, Planning for Rural Development, Multi-level Planning, District Planning.

Unit- II

Grassroots Level Planning: Approaches, Need of Grassroots Level Planning. Block Level Planning: Working Groups, Village Level Planning, Role of Panchayati Raj and Gram Sabha in Village Level Planning.

Unit- III

Management: Concept & Definition and Functions Issues in Management of Rural Development Projects, Project Dimension, Identification and Formulation of Projects.


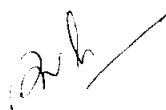
Unit- IV

Project Appraisal-I (Technical Feasibility), Project Appraisal-II (Economic Feasibility), Project Appraisal-III (Financial Feasibility)

Programme Implementation (Activity Planning and Network Analysis), Monitoring Development Projects.

Unit- V

Voluntary Effort in Rural Development, Voluntary Administration, Developing Community Based Programmes and Projects, Social Action, Formation and Strengthening of Voluntary Organizations, Role of Voluntary Organizations in Rural Development.



Recommended Readings:

1. David I Cleland, **Project Management: Strategic designed implementations** – McGraw Hill: McGraw Hill inc, 1995.
2. Gopal krishnan P, **Text book of project management**, MacMillan and V. E. Rammurthi Indu. Ltd., 1993.
3. Goudman J., **Integrated project planning and management cycle**, Ralph Ngalala Love East West Centre, Hawai, 2000.
4. Sanyal, B.M.-**India: Decentralised Planning, Themes and Issues, Concept**, New Delhi: 2001
5. Sisodia, Yatindra-**Functioning of Panchayat Raj System**. Rawat Publications, New Delhi, 2005
6. Sudhakar , V. **New Panchayati Raj System: Local Self-Government Community Development**, Mangal Deep Publications, Jaipur, 2002
7. Mohanty ,Bijoyini, **Financing The Grassroots Government**, A.P.H. Publishing, New Delhi, 2001.
8. Majumder B. **Rural Housing: Policies and Practice**, Rawat Publication, New Delhi, 2007.
9. Benni, BS. **Dairy Co-operative Management and Practice**, Rawat Publication, New Delhi, 2005.

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Paper – III
Course Code:RD 103
Title: Rural Development Programme & Evaluation

Maxi. Marks: 80

Min. Marks: 16

Credit: 4

Learning Objectives:

At the end of the course the students are expected to:

1. explain what impact the various programmes have had on the poor and the rural areas
2. outline the landmarks in educational development in rural areas
3. understand the main objectives of the Drought Prone Areas programme (DPAP) and the Desert Development Programme (DDP)

Unit-I

Background of Rural Development Programmes, Pre-Independence era, Post-Independence era, Poverty Alleviation Programmes- A Retrospect, Minimum Needs Programme, Integrated Rural Development Programme, TRYSEM and DWCRA, Jawahar Rozgar Yojana (JRY), Employment Assurance Scheme (EAS).

Unit- II

Gandhian approaches and Rural Economics, Deen Dayal Upadday – Gramin Kaushal Vikas Yojna, Pradhan Mantari Kaushal Vikas Yojna, Mukhiya Mantari Kaushal Vikas Yojna Swarnajayanti Gram Swarozgar Yojana (SGSY)-1, Swarnajayanti Gram Swarozgar Yojana (SGSY)-2, Sampoorna Grameen Rozgar Yojana (SGRY), National Social Assistance Programme(NSAP), Food Security- TPDS.

Unit- III

Prime Minister's Rozgar Yozara (PMRY), Rural Employment Generation Programme (REGP), Rashtriya Mahila Kosh, Programme of Development Finance Corporations.

Unit- IV

Elementary Education and Total Literacy Campaign, Rural Housing, Rural Health Care, Drinking Water and Rural Sanitation, Rural Electrification & Energy, Rural Connectivity.

Unit- V

Desert Development Programme, Integrated Wasteland Development Programme, Science and Technology for Rural Development, Evaluation of Rural Development Programmes through different community, and Suggestion & Recommendation of Desert Development Programme.

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Recommended Readings:

1. प्रा. डॉ. बोबडे, प्रकाश **भारतीय समाज रचना**, पारंपारिक आधुनिक श्री. मंगेश प्रकाशन, श्री शांती दुर्गा निवास, 23 नवीराम दास पेठ, नागपूर 1998.
2. डॉ. कन्हाडेबी. एम. **ग्रामीण व नागरी समाज शास्त्र**, पिंपळापुरेअॅण्ड कं. पब्लिशर्स, नागपूर 2005.
3. डॉ. झामरेजी. एन. **भारतीय अर्थव्यवस्था , विकास व पर्यावरणात्मक अर्थशास्त्र**, पिंपळापुरे अॅण्ड कं. पब्लिशर्स, नागपूर 2006.
4. प्रा. निंबाळकर, संजिव के. **समाज कल्याण**, केशव-कृष्णाप्रकाशन, 14 विदयानगर, चंद्रपूर 2005.
5. यादव, रामजी **भारत मेंग्रामीण विकास**, अर्जुन पब्लिशिंग हाउस, नई दिल्ली 2008.
6. Desai, V. **Rural Development in India**, Himalaya Publishing House, Mumbai, 2005.
7. Prakash, I. S. **Rural Development in India**, Himalaya Publishing House, New Delhi, 2005.
8. Majumdar, B. **Poverty, Food Security and Sustainability**. Rawat Publications, New Delhi, 2004.
9. Asen, R. **Visions of Poverty: Welfare Policy & Political Imagination**. Rawat Publications, New Delhi, 2004.
10. Majumder, B. **Rural Housing: Policies and Practice**. Rawat Publications, New Delhi, 2007.

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Paper - IV
Course Code: RD 104
Title: Rural Social Problem

Maxi. Marks: 80

Min. Marks: 16

Credit: 4

Learning Objectives:

At the end of the course the students are expected to:

1. understand the problems of inequality and tribal issues
2. know the role and status of women and violence against women
3. identify the problems of land and displacement

Unit - I

Inequality of Caste: Definition, Characteristics, Constructive demerits of caste inequality, Problems of lower or untouchable caste, changing pattern of Leadership (Caste base)

Unit - II

Tribal Issues and Problems: Meaning, Constitutional provisions to solve the problems, government measures for development. Problems and Remedies of the backward classes, Disabilities problems.

Unit - III

Role and Status of Women: Role of gender inequality, Status of women in different ages, nature of women disabilities in Indian society, Causes of women decline, Women's problem in present age. Dowry: Meaning, Causes, Prohibition Act, Measures to eradicate dowry.

Domestic Violence: Meaning of violence against women, Nature of violence, Major causes of harassment.

Unit - IV

Problems related to Land: Types and techniques of farm production, Problems of land owners, Landless labours and artisans, Measures to reduce rural land issues, Trends of land acquisition by Businessmen, Industrialist, Politicians and Bureaucrats.

Unit - V

Displacement and Rehabilitation: Meaning of rehabilitation, Movement related to displaced folk, Causes of displacement, Measures of displacement. Migration: Nature, Adverse effect and Measures to control migration.

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Recommended Readings:

1. डॉ. कन्हाडेबी. एम. समाज शास्त्र : प्रश्न व समस्या पिंपळापुरे अँड कं. पब्लिशर्स, नागपूर 2009.
2. डॉ. महाजन, संजिव आधुनिक भारत में समाजिक परिवर्तन अर्जुन पब्लिशिंग हाउस, अंसारी रोड, दरियागंज, नई दिल्ली 2001.
3. Sundaram, I. S. **Rural Development**. Himalaya Publishing House, Mumbai, 2002.
4. Datt and Vasant. **Fundamental of Rural Development**, Rawat Publications, New Delhi, 1991.
5. Datt and Rudra. **Growth Poverty and Equality**, Deep and Deep Publication, New Delhi, 2008.
6. Khanna, S. **Rural Development**, Sonali Publication, New Delhi, 2003.
7. Prasad, B.K. **Rural Development**, Surupand Sons, New Delhi, 2003.
8. Joshi, V. **Tribal Situation in India: Issues and Development**, Rawat Publications, New Delhi, 2017.
9. Satyanarayana, G. **Women in Grassroots Governance**, Rawat Publications, New Delhi, 2019.
10. Wainryb C. **Social Development, Social Inequalities & Social Justice**, Rawat Publications, New Delhi, 2013.

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Paper - V
Course Code: RD 105
Title: Panchayati Raj and Rural Administration

Maxi. Marks: 80

Min. Marks: 16

Credit: 4

Learning Objectives:

At the end of the course the students are expected to:

1. understand the evolution of rural development programmes, policies and acts.
2. know the thrust areas of rural development and Agricultural Extension Services
3. understand the functions of panchayat raj system

Unit - I

The Chhattisgarh Panchayat Raj Adhiniyam, 1993, Panchayati Raj (Amendment) Act, 2019 and its provisions.

Unit - II

The focus and thrust of Rural Development Programmes: Poverty alleviation, Employment generation, Social mobility, Mobilization and change.

Meaning of Empowerment: Economic, Political, Social and Cultural empowerment.

Unit - III:

Agricultural Extension Services, Emergence: People and Panchayati Raj Financial Organizations/ Institutions.

Unit - IV

Rural Development Administration and Panchayat Raj Institutions: Panchayat Raj System, Functions of Panchayat Raj System, Sources of income for Panchayats, Merits and Demerits of Panchayat system, Strengthening of Panchayat Raj System, Rural Development administration.

Unit - V

Agriculture diversification, Small holdings, Infrastructure, Role of Women in Rural Development, Marginalization of Women in Land Reform Agenda.

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Recommended Readings:

1. Desai, Vasant. **Fundamentals of Rural Development**. Rawat Publications, New Delhi, 1991.
2. Meier, Gerald (ed.). **Leading Issues in Economic Development**, Oxford Uni. Press, New Delhi, 1987.
3. Prasad, B.K. **Rural Development: Concept, Approach and Strategy**, Sarup & Sons, New Delhi, 2003.
4. Rau, S.K. **Global Search for Rural Development**, Hyderabad: NIRD, 2001.
5. Satya Sundaram, I., **Rural Development**, Mumbai: Himalaya, 2002.
6. Arora, R. **Panchayati Raj, Participation and Decentralization**, Rawat Publications, New Delhi, 2018.
7. Maddick, H. **Panchayati Raj**, Rawat Publications, New Delhi, 2018.
8. Sharma, BM. **Panchayati Raj and Reservation Policy**, Rawat Publications, New Delhi, 2018.

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Session: 2020-21
Semester-II
Paper - I
Course Code: RD 201
Title: Urban Planning

Maxi. Marks: 80
Min. Marks: 16

Credit: 4

Learning Objectives:

At the end of the course the students are expected to:

1. understand the meaning, goals and objectives of urban planning
2. know the theories of urbanization and concepts of compact city approach
3. identify methods of urban and regional problems

Unit – I

Urban Planning: Meaning and Definition, Rationales and Foundations of Planning, Various definitions of town and country planning; Goals and objectives of planning, Components of planning, Benefits of planning

Unit – II

Urbanization: Theories of Urbanization and Theories of City Development, Theories of urbanization including Concentric Zone Theory, Sector Theory, and Multiple Nuclei Theory, Land use and Land Value Theory of William Alonso, Scientific Rationalism, Advocacy Planning and Equity Planning Theory.

Unit – III

Compact city approach: Concept, Advantages and Limitations, Forms of cities in developing world, Forms of cities in the former and present socialist countries.

Unit – IV

Basics of Planning Techniques, Planning practice in India and Chhattisgarh: Town and City Planning, Concept of Smart City, Methods of identifying urban and regional problems, setting of goals, Objectives and Priorities, Performance standards, spatial standards and standards for utility.

Unit – V

Relevance of rural area for urban development, mutual dependence between urban and rural areas, industry and agriculture. Characteristics of symbiotic development and the pattern of urban development, Ecological and environmental considerations in rural development and village planning, Rural energy issues, Renewable and alternative sources of energy.

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Recommended Readings:

1. P. Healey, **Planning Theory**, Pergamon Press 1981.
2. Andrews, Richard B. **Urban growth and development: A problem approach**. Simmons Boardman, New York, 1962.
3. Ferguson, T; Benjamin, B.; Daley, Allen; Glass, D.V.; Mckeown, Thomas; Johnson, Gwendolyn Z; Mackintosh, J.M., **Public health and urban growth**, Center for Urban Studies, London, 1964
4. Adrian, Charles R, **State and local Governments: A study in the political process**, McGraw-Hill Book, New York, 1960
5. Humes, Samuel, **Structure of local governments throughout the world**, MartinusNijhoff, Hague, 1976.
6. New Delhi, IIPA; **Urbanization and urban development**, IIPA New Delhi, 1968
7. India, Ministry of Welfare & Housing, TCPO, **Project Planning Division; Report on norms and space standards for planning of public sector project towns**, Govt of India Press, Delhi.
8. McLoughlin, J. Brian. **Urban and Regional Planning**, Rawat Publication, New Delhi, 2019.
9. Mukhopadhyay, A. Saxena. HM. **Urbanization and Housing: State, Market & Consumer**, Rawat Publication, New Delhi, 2017.
10. Advani, M. **Urbanization, Displacement and Rehabilitation**, Rawat Publication, New Delhi, 2016.

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Paper - II

Course Code: RD 202

Title: Rural Economy & Industrialization

Maxi. Marks: 80

Min. Marks: 16

Credit: 4

Learning Objectives:

At the end of the course the students are expected to:

1. understand the concept and basic needs of rural economy and rural industrialization
2. know the policies & programmes for rural industrial development during planning era
3. measure the rural poverty and rural employment

Unit - I

Rural Economy: Concept and Nature of Rural Economy, Characteristic of rural economy, Factors affecting Rural Economy, Rural Industrialization: need, infrastructure and prospects.
Progress and Problem of rural industrialization with special reference to Chhattisgarh.

Unit - II

Basic Needs of Rural people in Chhattisgarh: Housing; Health, Education, Training, Drinking water, Electricity, Sanitation, Rural Transportation.
Potential areas for rural self-employment with special reference to agro industries.
Role of Co-operatives in Rural economy, Role of financial & non-financial institutions and micro-finance institutions in rural areas.

Unit - III

Policies & Programmes for rural industrial development during planning era.
Important programmes for Industrial development of rural areas, Micro, Small and Medium industries. Globalization of Rural economy, Impact of Taxation and GST on Rural Economy.

Unit - IV

Need of rural employment, Characteristics of rural employment, Type of unemployment in rural area. Rural employment programmes and its impacts & evaluation.

Unit - V

Rural poverty: Nature of Rural poverty causes, Measurement of poverty. Poverty eradication programmes and its outcomes, Need based education and training for rural youth, Development of Entrepreneurship abilities among rural students, Poverty eradication programmes and its impacts.

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Recommended Readings:

1. Satya, Sundaram. **Rural Development**, Himalaya, Mumbai, 2002.
2. Datt, Rudra & Sundharam **Indian Economy**, S. Chand, New Delhi, 2008.
3. Book by Gyanindra Dash and Rajan Kumar Sahoo, **Agriculture and Rural Economy**, 2009
4. Barun Kumar Sahu, **Rural Development in India**, 2003.
5. Harris, J. **Rural Development: Theories of Peasant Economy**, Rawat Publication, New Delhi, 2017.
6. Reddy Ratna Et al. **Political Economy of Watershed Management**, Rawat Publication, New Delhi, 2010.

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Paper - III
Course Code: RD 203
Title: Rural Health Care

Maxi. Marks: 80

Min. Marks: 16

Credit: 4

Learning Objectives:

At the end of the course the students are expected to:

1. understand the concepts and components of health and health care services in rural India
2. learn about various diseases and its prevention and controls
3. get information about planning and management of rural health care services

Unit- I

Health: Definitions, Concepts and Components, Health and Development, Types of Health Care Services, Development of Health Care Services in Rural India: A Review.

Human Development in Chhattisgarh.

Unit- II

Health and Nutrition Status in Rural India, Different Models of Health Care Delivery: An Outline

Unit- III

Communicable Diseases in India – An Overview, Prevention and Control of Communicable Diseases in Rural India.

Unit- IV

Reproductive and Child Health Programme (RCH) and Maternal and Child Health (MCH), Impact and Evaluation of RCH and MCH.

Unit- V

Planning Rural Health Care Services, Management of Rural Health Care Services, Communication and Health Education: An Outline, NGO Experience in Health Care.

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Recommended Readings:

1. **Urban–Rural Health Comparisons: Key results of the 2002/03**, Health Survey. Wellington: Ministry of Health, New Zealand.
2. Satya, Sundaram. **Rural Development**, Himalaya, Mumbai, 2002.
3. Jacob C. Warren -**Rural Public Health: Best Practices and Preventive Models**, 2014
4. Charlene A. Winters, Helen Lee, **Rural Nursing: Concepts, Theory and Practice, Third Edition**, 2005.
5. Adak, D.K., Gautam R.K., Nanda J. and Bharati, P. **People, Health and Nutrition**. Mittal Publications, New Delhi (in Press). 2011
6. Nagla, Madhu. **Sociology of Health and Medicine**, Rawat Publication, New Delhi, 2018.
7. Hanefeld, J. **Globalization and Health -2nd Edition**, Rawat Publication, New Delhi, 2018.
8. Verma, A. **Women's Health and Nutrition**, Rawat Publication, New Delhi, 2018.
9. Unisa, S. **Population Health and Environment**, Rawat Publication, New Delhi, 2018.
10. Akram, M. **Maternal Health in India**, Rawat Publication, New Delhi, 2018.

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Paper - IV

Course Code: RD 204

Title: Scientific Research Methodology in Rural Development

Maxi. Marks: 80

Min. Marks: 16

Credit: 4

Learning Objectives:

At the end of the course the students are expected to:

1. explain the meaning, importance and purpose of research
2. describe the nature of research and identify the areas of rural development in which research is being increasingly undertaken
3. describe the steps in the sampling process and the various methods of sampling and define a probability sample and describe the various types of probability sample
4. write a research report

Unit- I

Introduction to Scientific Research: Purpose, Nature and Scope, Research in Rural Development Retrospect: National and International Perspectives.

Unit- II

Research Process I: Formulation of Research Problem, Research Process II: Preparing a Research Proposal

Unit- III

Scientific Methods of Social Research, Descriptive and Experimental Research Evaluation and Action Research, Naturalistic Inquiry and Case Study. Applied Research Methodology: PRA and RRA

Unit- IV

Sampling: Methods of Sampling, Tools of Data Collection, Interview, Observation, Documents as Tools, Data Collection. Data Analysis, Elementary Statistics, Measures of central tendency: Mean, Mode, Median and Measures of Variability: Range, Average, Standard deviation, Test of Significance: t-test, Chi-square Test, Correlation, Regression and ANOVA: One-way. Computer application in Research: MS Word, MS Excel, MS PowerPoint, SPSS.

Unit- V

Research report writing: Structure, Clarity and consistency; Chapter-scheme, Review of literature, Preparation of bibliography and reference, Methods of presentation, Appendices, Qualitative Data Processing and Analysis.

Dr. S. Sankar *A. J.* *S.*

Recommended Readings:

1. Crabtree & Miller (ed.). **Doing Qualitative Research**, Sage Publications, New Delhi, 2000.
2. Denzin & Lincoln (eds.). **Handbook of Qualitative Research**, Sage Publications, New Delhi, 2000.
3. Herekar, P.M. **Research Methodology and Project Work**, Phadke Prakashan, Kolhapur, 2004.
4. Kumar, P.S.G. **Research Methods and Statistical Techniques**, B.R. Publishing Co., Delhi, 2004.
5. Kothari, C.R. & Garg, G. **Research Methodology: Methods and Techniques (Fourth Edition)**, New Age International Publishers, New Delhi, 2019.
6. Healey, J.F. **Statistics: A Tool for Social Research**, Rawat Publications, New Delhi, 2018.
7. Yesudhas, R. **Methodologies in Social Research**, Rawat Publications, New Delhi, 2017.
8. Babbie, E. **Basics of Social Research 6th Ed.**, Rawat Publications, New Delhi, 2015.

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Paper – V
Course Code: RD 205

Title: Tribal Development (With special reference to Chhattisgarh)

Maxi. Marks: 80

Min. Marks: 16

Credit:4

Learning Objectives:

At the end of the course the students are expected to:

1. know the geographical distribution of tribal population
2. understand the concept and objectives, plans, programmes of tribal development
3. critically review the forest policies of tribal and identify the problems of tribes

Unit - I

Definition of Tribe, Characteristics, Classification - Geographical, Linguistics, Economic and Racial, Difference between Schedule Caste and Scheduled Tribe Constitutional Safeguards for Scheduled Tribes.

Unit - II

Tribal Development: Concept and Objectives, Tribal Development Plans, Programmes and their Implementation, Tribal Sub-Plan, Scheduled and Tribal Area, Role of Non-Governmental Organization (NGO) in Tribal Developments.

Unit – III

Major Tribes of Chhattisgarh: Gond (Muria, Maria), Oraon, Kwar, Halba, Binjhar. Primitive Tribes of Chhattisgarh: Abujhmaria, Pahari Korwa, Kamar, Baiga, Birhor and Their Social Organization: Family, Marriage, Economic, Religious, Political, Youth Dormitories etc.

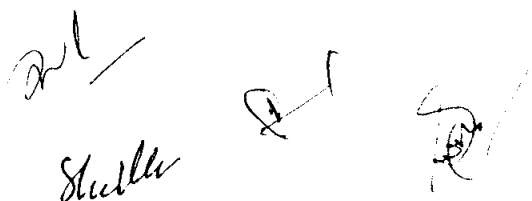
Unit – IV

Forest and Tribal's: Critical review of Forest policies, PESA Act 1996, Deforestation and Tribal, Forest Management and Tribal Welfare.

Unit – V

Tribal Problems: Different approaches to tribal problems, History of Tribal Movements in India with special reference to Chhattisgarh.

Major tribal problems: Land alienation, Displacement and Rehabilitation. Industrialization and Urbanization, Naxal problem in tribal area of Chhattisgarh.



Recommended Readings:

1. Verrier Elwin, **Muria and Their Ghotul: Kingdom of the young** (abridged edition), New Delhi: VanyaPrakashan, 1991.
2. Verrier Elwin, **The Baiga**, New Delhi: Gyan Publishing House, 2002.
3. Verrier Elwin, **Maria, Murder and Suicide**, New Delhi: Vanya Prakashan, 1991
4. Vidhyarthi & Rai, **The Tribal Culture of India**. New Delhi: Concept Publishing Company, 1985.
5. Nadeem Husnain, **Tribal India**, Delhi: Palka Prakashan, 2006,
6. Sir Wilfrid Grigson, **The Maria Gonds of Bastar**, New Delhi: Vanya Prakashan, 1991.
7. R.C. Verma, **Indian Tribes Through the Ages**,. New Delhi: Publication, Division, Govt. of India, 1995.
8. Majumdar, D.N., **Races and Cultures of India**, New Delhi: Kalyani Publishers, 1990.
9. उपाध्याय एवं शर्मा, **भारत की जनजातीय संस्कृति**, भोपाल: म.प्र. हिन्दीग्रंथअकादमी, 2004.
10. पी.आर. नायडू **भारत के आदिवासी विकास की समस्याएँ**, नईदिल्ली: राधा पब्लिकेशन, 2002.
11. Verma S. **Underdevelopment and Naxalism in India**, Rawat Publications, New, Delhi, 2018.
12. Behera MC. **Resources, Tribes and Development**, Rawat Publications, New Delhi, 2015.

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Session: 2021-22
Semester – III
Course Code: RD 301
Title: Communication and Extension in Rural Development

Maxi. Marks: 80

Min. Marks: 16

Credit: 4

Learning Objectives:

At the end of the course the students are expected to:

1. understand the meaning, concept and communication process
2. describe the principles of extension for effective execution of extension programme and list out the general and specific objectives of extension
3. describe communication support in the context of rural development

Unit– I

Communication: Meaning & Concept, Communication Process, Functions of Communication, Communication Channels and their use in Rural Development.

Unit– II

Communication-Media Mix for Rural Development, Role of mass communication in social change. Traditional and modern means of mass communication.

Unit– III

Extension: Concepts, Philosophy and Principles, Historical Development of Rural Extension in India, Types of Rural Extension, Extension Methods.

Unit– IV

Forms of Communication: Verbal, Non-verbal and Written, Development Communication, Communication in Social Work Profession.

Unit–V

Communication Support, Extension Management, Organizational Communication, Communication Strategies for Rural Development – Media Mix

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Recommended Readings:

1. Gamble, T.K. & Gamble, M, **Communication Works**, McGraw Hill. 2002.
2. Knapp, M.L. & Miller, G.R. **Handbook of Interpersonal Communication**, Sage Publications. 1985.
3. Melkote, Srinivas, **Communication for Development in the Third World**, Theory and Practice, Sage Publications. 1991.
4. Owen, Hargie, **The Handbook of Communication Skills**, Routledge, 2006.
5. Treholm, Sarah, **Thinking through Communication: An Introduction to the Study of Human Communication**. Allyn & Bacon.1993.
6. Thompson, Neil, **Communication and Language: A Handbook of Theory and Practice** Palgrave. Macmillan, 2003.
7. Morreale, Spitzberg & Barge, **Human Communication: Motivation, Knowledge and Skills**, Wadsworth: Thomson Learning, 2001.

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Paper – II
Course Code: RD 302
Title: Rural Social Development

Maxi. Marks: 80

Min. Marks: 16

Credit: 4

Learning Objectives:

At the end of the course the students are expected to:

1. understand the overall status of rural women in India
2. identify indicators that are commonly used to describe the health, nutrition and educational status of children
3. describe the constitutional status of scheduled castes and assess their social and economic status in society
4. describe the main aspects related to the development of scheduled castes and indicate their representation in services

Unit- I

Rural Women: Status and Development Strategies, Education and Training for Rural Women, Health and Nutrition of Rural Women.

Unit- II

Empowerment of Rural Women (Gender Frame Work Approach), Empowerment of Rural Women- Policies and Programmes.

Unit- III

Situation of Rural Children, Health and Nutrition of Rural Children, Education of Rural Children, Integrated Child Development Services Programme.

Unit- IV

Development of Scheduled Castes, Development of Scheduled Tribes, Bonded Labour, Development of Artisans and Landless Labourer.

Unit- V

Social Legislations on Children, Social Legislations on Women, Social Legislations on Scheduled Castes and Schedule Tribes, Other Social Legislations.



Recommended Readings:

1. Dr. Sundaram, I. Satya. **Rural Development**, Himalaya Publishing House, Mumbai, 2002.
2. Datt and Vasant. **Fundamental of Rural Development**, New Delhi: Rawat publication, 1991.
3. Datt and Rudra. **Growth Poverty and Equality**, Deep and Deep Publication, New Delhi, 2008.
4. Khanna, Sulbha. **Rural Development**, Sonali Publication, New Delhi, 2003.
5. Joshi V. **Tribal Situation in India: Issues and Development**, Rawat Publications, New Delhi, 2017.
6. Chaudhary, S.N. **Tribes, Castes and Development**, Rawat Publications, New Delhi, 2018.
7. Gangadharan, K. **Health and Development: The Millennium Perspectives**, Rawat Publications, New Delhi, 2011.

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Paper – III
Course Code: RD 303
Title: Voluntary Action in Rural Development
(With special reference to Chhattisgarh)

Maxi. Marks: 80

Min. Marks: 16

Credit: 4

Learning Objectives:

At the end of the course the students are expected to:

1. understand the essence and meaning of voluntarism and identify the theoretical assumptions of voluntarism
2. make a critical assessment of the interrelations between market economy, voluntary effort and rural development.
3. identify the global voluntary effort in rural development and case studies of voluntary organizations in India

Unit– I

Voluntarism – Theoretical Issues, Voluntary Associations in a Democratic Society, VOs, State and Development – Delicate Relationship, Philosophy and Nature of Non-Profit Organizations.

Unit–II

Organization and Structure of VOs, Voluntary Agency, Administration and Management of Voluntary Organizations, Voluntary Organizations: Issues and Agenda for Social Transformation, Voluntary Organizations: Finance and Resource Mobilization.

Unit –III

Voluntary Effort in Rural Development – A Critical Appraisal, Nature and Types of Voluntary Organizations in Rural India, Problems faced by Voluntary Organizations in Rural Areas, Voluntary Organizations and Rural Development at Cross- Roads.

Unit - IV

State Sponsored Voluntary Organizations and Rural Development; Community Based Voluntary Organizations and Rural Development.

Unit - V

Global Voluntary Effort in Rural Development, Some Successful Case Studies of Voluntary Organizations in India (with reference to Chhattisgarh). Case studies on Phulbbai Devi Voluntary Organization, Grihini Voluntary Organization etc.

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Recommended Readings:

1. G. Satyanarayana, **Voluntary Effort and Rural Development 1st Edition, 2007**
2. VimalacParthasarathy, **The Voluntary Sector in Rural Development: Lessons from Social Marketing Based on Study of NGOs in South India, 2014.**
3. **The Hindu survey of Environment 1993, 1994, 1995,1996,1997,1998.**
4. **The Hindu survey of Agriculture 1993, 1994, 1995,1996,1997,1998.**
5. Mark A Robinson, **Evaluating the impact of NGOs in Rural Poverty Alleviation: Indian country study, London: Development Institute, 2002.**

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Paper – IV
Course Code: RD 304
Title: Land Reforms and Rural Development

Maxi. Marks: 80

Min. Marks: 16

Credit: 4

Learning Objectives:

At the end of the course the students are expected to:

1. understanding the meaning of land reform, its scope and importance and understand the need of land reform in rural development
2. know the contributions of land reform in rural development and identify various issues concerning land reform
3. describe the administration of land revenue, Panchayati Raj and land reforms

Unit– I

Significance of Land Reforms in Rural Development, Origin and Development of Land Tenure Systems in India, Land Tenure Systems and Agrarian Structure – I

Land Tenure Systems and Agrarian Structure – II, Agrarian Structure and Agrarian Movements

Unit- II

Freedom Movement and Quest for Land Reforms, Concepts and Strategies, Land Reform: Constitutional Status and State Legislations – I.

Unit- III

Land Reform: Constitutional Status and State Legislations – II, Land Reforms – Non Governmental Initiatives.

Unit - IV

Land Revenue Administration –I, Land Revenue Administration –II, Impact of Land Reforms on Rural Economy and Society.

Unit - V

Land Reforms: Social, Economic and Political Limitations, Panchayati Raj and Land Reforms, Land Reforms: Indian Experiences.

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Recommended Readings:

1. Mamoria & Tripathi. **Agricultural Problems of India**, Kitab Mahal, New Delhi, 2003.
2. Purushottam, P. (ed.). **Rural Technology for Poverty Alleviation**, NIRD, Hyderabad, 2004
3. Thaplial (ed.). **Challenges of Liberalisation to Indian Agriculture**, NIRD, Hyderabad, 2002.
4. H.R. Yadav- **Village Development Planning**, 2009.
5. Reddy, K. V, **Agriculture And Rural Development Paperback**, 2012.
6. Rajora, R. **Integrated Watershed Management**, Rawat Publications, New Delhi, 2019.
7. Nayak, A.K. **Dams and Development in India**, Rawat Publications, New Delhi, 2016.
8. Pandit A. **Watershed Development Inputs and Social Change**, Rawat Publications, New Delhi, 2010.

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Paper – V
Course Code: RD 305
Title: Dissertation: Project Report based on Field Work

Maxi. Marks: 80

Min. Marks: 16

Credit: 4

Learning Objectives:

The completed dissertation should provide proof of students' understanding of:

1. research design as applicable to a specific topic
2. issues concerning sampling, quantitative and qualitative analysis of data
3. compile the analyzed data and present in the form of a report

Students are required to undertake a Dissertation/Project work consisting of approximately one-month preparatory work, approximately three –fourth weeks of field investigation, approximately two months for Lab work and / or data analysis and completion of the Dissertation/Project work.

The Dissertation will be selected in consultation with the faculty members decided by Head of the department, according to their specialization. Dissertations/Project work will typically be a document of about 100-150 pages with sections in the following sequence: Introduction, Objectives, Hypothesis (if necessary), Research design/ Methodology, Results, Discussion, Conclusion and Suggestions, Literature cited etc.

Presentation and Viva-Voce of the Dissertation/Project work will be in the presence of External examiner and faculty of the department

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Session: 2021-22
Semester – IV
Paper – I
Course Code: RD 401

Title: Entrepreneurship and Rural Development

Maxi. Marks: 80

Min. Marks: 16

Credit: 4

Learning Objectives:

At the end of the course the students are expected to:

1. identify and respond to rural entrepreneurship needs.
2. learn about broader rural socio-economic issues and its impact on rural communities.
3. understand strategies incorporated in various plans to promote entrepreneurship in rural areas
4. analyze the outcomes of the policies and strategies for promoting entrepreneurship in rural areas

Unit- I

Rural Entrepreneur and Rural Entrepreneurship: Characteristics of an Entrepreneur, Distinction between Entrepreneur and Manager, Functions of an Entrepreneur, Theories of Entrepreneurship, Concept of Entrepreneurship, Growth of Entrepreneurship in India, Role of Entrepreneurship in Economic Development.

Unit- II

Women Entrepreneurship-Problems and Prospects Rural Entrepreneurship., Development and Entrepreneurship, Market Economy and Entrepreneurship, Unleashing Rural Entrepreneurship, Problems faced by Rural Entrepreneur.

Unit- III

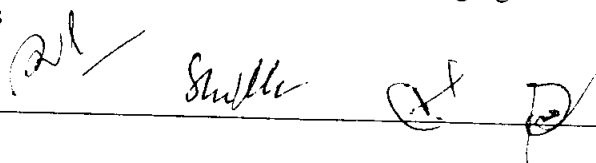
Entrepreneurship-Policies and Strategies, Types of Rural Entrepreneurship, Financial organizations for Rural Entrepreneur. Introduction to Micro & Small Enterprises, Role of Small Enterprises in Rural Development.

Unit- IV

Rural Entrepreneurship-Successful Experiences, Rural Entrepreneurship-International Experiences, Domains of Rural Entrepreneurship, Environmental scanning - Political, Economical, Sociological, Technological and Analogical Environment (PESTE) – MSME Act

Unit- V

Planning a Rural Enterprise, Human Resources and Infrastructure, Arrangement of Fund and Financial Management. Commercial Banks – Financial Institutions: IDBI, IFCL, IIBI, UTI, LIC, NABARD, SFCs, SIDCs, SIDBI, AND EXIM Bank, - Role of NSIC, SSIB SSICs, MSMEDI, DICs, Industrial Estates, Specialized Institutions, and TCO, Microfinance institutions – Venture Capital – Private equity – crowd funding. Managing a Rural Enterprise, Marketing Rural Products and Services



Recommended Readings:

1. Battacharya, S.N., **Rural Industrialization in India**, Delhi: Vikas Press, 2002.
2. Desai, Vasant. **Rural Development in India**. New Delhi: Himalaya, 2005.
3. IGNOU. **Rural Development: Indian Context**. New Delhi: IGNOU, 2005.
4. Narwani, G. S. **Training for Rural Development**, New Delhi: Rawat Publications, 2002.
5. Vijay Sathe, **“Corporate Entrepreneurship”** 1st edition, 2006, Canbrudge.
6. S.s. Khanka, **“Entrepreneurial Development”**, 2007, S. Chand & Co. ltd.
7. Vasanth Desai, **“dynamics of Entrepreneurial Development and Management”**, 2007, HPH,
8. Dr. Vasant Desai, **“Small Scale Industries and Entrepreneurship”** 2006, HPH.
9. P. Narayana Reddy, **“Entrepreneurship – Test and Cases”**, 2010, 1st Ed. Cengage Learning.
10. S.R. Bhowmik and M.Bhowmik, **“Entrepreneurship 2007”** New Age International.

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Paper – II
Course Code: RD 402

Title: Natural Resources and Sustainable Development

Maxi. Marks: 80

Min. Marks: 16

Credit: 4

Learning Objectives:

At the end of the course the students are expected to:

1. identify the meaning and types, importance of natural resources of natural resources
2. understand the meaning and conceptsustainable development.
3. know the forest resources and distribution, major forest types and water resources and its traditional management

Unit-I

Natural Resources: Meaning and Types, Importance of Natural Resources, Concept of ESP: Equality, Sustainability and Peace. Natural Resources in Chhattisgarh: Land, Forest and Minerals.

Unit-II

Sustainable Development: Meaning and Concept, Sustainable Development Goals (SDGs) and Millennium Development Goals (MDGs). Role and need of sustainable Development in Natural and Social surrounding, Role of traditional knowledge for sustainable development.

Unit-III

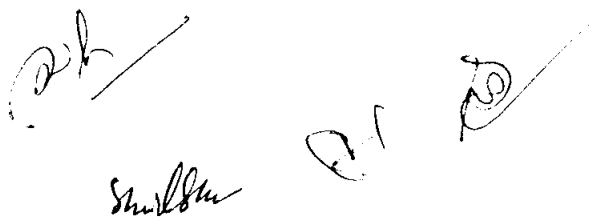
Energy and Sustainability. New-renewable Energy Sources. Global Climate Change, Energy from Coal, Petroleum, Gas, Wind and Solar Power, Bio-Gas.

Unit-IV

Forest resources and distribution, Major forest types, Use and over-exploitation of Forest, Deforestation and their effects on forest and tribal life,Forest Policy, Joint Forest Management, Eco-development Plan.

Unit-V

Water Resources and its traditional management with special reference to Chhattisgarh. Global Warming and Sustainable use of Natural Resources,Pollution: Meaning and Type. Water Pollution, Air Pollution, Noise Pollution, Soil Pollution.



Recommended Readings:

1. Agyeman, Juliann, Robert D. Bullard and Bob Evans (Eds.), **Just Sustainability: Development in Unequal World**, Earth scan, London, 2004.
2. Brulle, R. J., Carmichael, J., & Jenkins, J. C., **Shifting public opinion on climate change: an empirical assessment of factors influencing concern over climate change in the US, 2002-2010**, US: US press. 2012.
3. Marothia, D.K. and Nandi, D. 1994. **Degraded Lands, Agroforestry and Energy Needs: Issues and Development Strategies**. In Punjab Singh, P.S. Pathak and M.M. Roy (Editors) (1994) **Agro forestry Systems for Sustainable Land Use**, New Delhi, Oxford & IBH. Pp. 250-262
4. Marothia., D.K. 1993. Property Regimes and Institutional Arrangements: Concepts and their Relevance in Managing the Village Commons, *Indian Journal of Agricultural Economics*, 48(3) 557-565.
5. Marothia, D.K. 1993. **Rapporteur's Report on Tribal and Hill Economy**. *Indian Journal of Agricultural Economics*, 47(3)567-578.
6. Marothia, D.K. 1992. **Village Irrigation Tanks: Institutional Design for Sustainable Resource Use**. *Agricultural Situation in India*, 47 (6) 479-487.

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Paper – III
Course Code: RD 403
Title: Resources and Livelihood Management

Maxi. Marks: 80

Min. Marks: 16

Credit: 4

Learning Objectives:

At the end of the course the students are expected to:

1. understand the resources and rural livelihood management
2. know the various government scheme for rural livelihood
3. identify the resources and utilize it for sustainable livelihood

UNIT – I

Livelihood: Meaning and Definition, Rural Livelihood: Nature and Scope, Indian Farmer and Role of Rural Economics for Indian Farmer, Green Revolution, White Revolution, Agricultural Mechanization, Animal Husbandry and effect on Rural Livelihood.

UNIT – II

Various Government Scheme -National Rural Livelihood Mission- Introduction, Objectives, Benefits and Role of Entrepreneurship in Livelihood.

UNIT – III

Organizational Development- SHGs, Types of SHGs, Procedure of Formation, Project Management for Livelihood-Cooperation and Meeting Arrangements

UNIT – IV

Rural Livelihood Management, Market- Definition, Types, Structure of Local Market, Types of Rural Livelihood, Interference and Methods, Value-addition and Marketing.

UNIT– V

Livestock Resources and Livelihood Management, Forest Resources, Farm based Livelihood and Non-Farm based Livelihood and Sustainable Livelihood.

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Recommended Readings:

1. Bhattacharjee, M., **Sustainable Livelihood**, 2015
2. Akangoa Raphael Abora- **Local Livelihoods and Rural Poverty Reduction: A Study of the Bolgatanga Handicraft Industry in the Upper East Region of Ghana**, 2010.
3. **Narasimhan Srinivasan** Girija, Srinivasan- **State of India's Livelihood Report-2016**
4. Aradom Gebrekidan Abbay - **Emerging Towns and Rural Livelihoods**—2010
5. Ian Scoones Sustainable- **Livelihoods and Rural Development**, 2015
6. Nora McNamara and Stephen Mors Sustainable- **Livelihood Approach: A Critique of Theory and Practice**, 2013

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Paper – IV
Course Code: RD 403
Title: Internship

Maxi. Marks: 80

Min. Marks: 16

Credit:4

Learning Objectives:

Through internship students will –

1. Get experience in actual work situation.
2. Practice skills of guidance and counseling already learned during the course.
3. Develop an insight into the causal relationships in the problems of students, regarding school environment.
4. Develop the ability to co-ordinate at work place.

Duration of Internship will be 1.5-3 months.

During the internship period students will identify the problems, identify strengths and weaknesses, develop and execute programme for enhancing the abilities motivation etc. They will also handle the problem cases of varied types as referred to them. The students will maintain the record of their work during internship; get it signed by their supervisor from time to time. In the end, they will have to produce a certificate of successful completion of internship signed by the Head of the Institution/ Principal and the authorities where internship has been done and also by the Head of the department.

RD 404: Presentation based on Internship

Credit: 4

Learning Objectives:

At the end of the course the students are expected to:

1. learn public speaking and good presentation skills

RD 405: Viva based on Internship

Credit:4

Learning Objectives:

At the end of the course the students are expected to:

1. learn how to face interview

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**School of Regional Studies and Research
Pt. Ravishankar Shukla University, Raipur (C.G.)**

Choice Based Credit System for students of other department

Session: 2020-21

**Course Code: CBCS101
Research Methodology**

Title: Applied

Credit: 03

Learning Objectives:

At the end of the course the students are expected to:

1. explain the meaning, importance and purpose of research
2. describe the nature of research and identify the areas of rural development in which research is being increasingly undertaken
3. describe the steps in the sampling process and the various methods of sampling and define a probability sample and describe the various types of probability sample
4. The course will help to provide field training write a research report

Unit-I

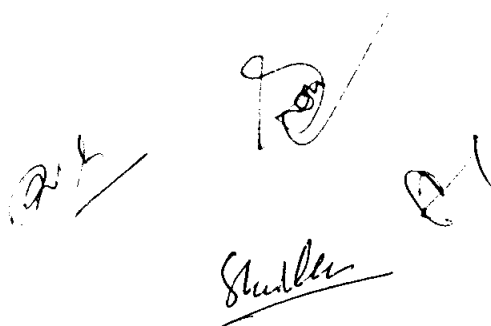
Social Research: Concept, Objectives, Types, Importance, Scope, Selection of Research problem, Hypothesis. Social Survey Method, Role of Social Scientist in Rural development, (participate observation, field work, cultural relativism) and holistic study.

Unit-II

Tools and Techniques of data Collection-Observation, Interview, Questionnaire and Schedule, and Content Analysis, PRA & RRA, Sample and Sampling techniques. Measures of Central Tendency.

Unit-III

Qualitative and Quantitative research, Research Design and its types, Preparation of a research design. Sampling method and its types, Writing a research proposal, Research report writing: Structure, Clarity and consistency; Chapter-scheme, Preparation of bibliography and reference. Methods of presentation, Appendices, Review of literature, Computer application in research.



Recommended Readings:

1. Crabtree & Miller (ed.). **Doing Qualitative Research**, Sage Publications, New Delhi, 2000.
2. Denzin & Lincoln (eds.). **Handbook of Qualitative Research**, Sage Publications, New Delhi, 2000.
3. Herekar, P.M. **Research Methodology and Project Work**, Phadke Prakashan, Kolhapur, 2004.
4. Kumar, P.S.G. **Research Methods and Statistical Techniques**. Delhi: B.R. Publishing Co., 2004.
5. Marshall & Rosaman, **Designing Qualitative Research**, Sage Publications, New Delhi, 1999.

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**School of Regional Studies and Research
Pt. Ravishankar Shukla University, Raipur (C.G.)**

Choice Based Credit System for students of other department

Course Code: CBCS 102

Title: Corporate Social Responsibility

Credit: 03

Indian entrepreneurs and business enterprises have a long tradition of working within the values that have defined our nation's character for millennia. India's ancient wisdom, which is still relevant today, inspires people to work for the larger objective of the well-being of all stakeholders. These sound and all-encompassing values are even more relevant in current times, as organizations grapple with the challenges of modern-day enterprise, the aspirations of stakeholders.

Learning Objectives:

At the end of the course the students are expected to:

1. understand the meaning and definition of corporate social responsibility
2. know the implementation and impact of CSR practices on development
3. understand the act, policies and laws of corporate social responsibility

Unit-I

Corporate Social Responsibility: Meaning and Definition, Concept, Historical Evolution of CSR, Developmental Phases of CSR, Benefits and Criticisms, CSR and Strategic Branding in Rural India, CSR Practices in India, Impact of CSR Practices on Sustainable development, Generation of Employment.

Unit-II

Corporate and Rural Development, Public Private Partnerships, Stakeholder Engagement, Social Marketing, Environmental responsibility, National voluntary Guidelines on Social, Environmental and Economic Responsibilities of Business, Impact of CSR Practices on Promotion of Education, Gender Equality and women empowerment, Improvement of Health services.

Unit-III

SEBI Guidelines for Corporate Social Responsibility Reporting, Provisions for CSR in Companies Act 2013: Definition, CSR Activities, CSR Committees, CSR Policy, CSR Expenditure, CSR Reporting, Display of CSR activities on its website.

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Recommended Readings:

1. Jeremy, M. **Corporate Social Responsibility: A Very Short Introduction**, 2014
2. Waddock, S. **Making a difference. Corporate responsibility as a social movement. Journal of Corporate Citizenship**, 33, 35-46, 2009.
3. Agarwal, S. **Corporate Social Responsibility in India**, 2008
4. Mishra and Puri, **Growth and Development**, Himalaya publishing house, 2004.
5. Nancy Lee and Philip Kotler -**Corporate Social Responsibility: Doing the Most Good for Your Company and Your Cause**, 2004

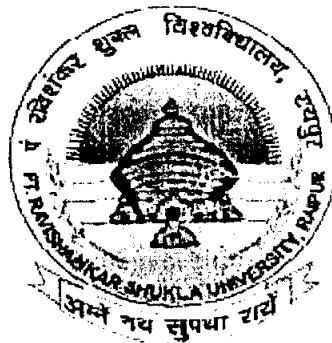
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School of Regional Studies and Research

Syllabus

Post Graduate Diploma in Regional Planning and Development
Session: 2020-2021



Pt. Ravishankar Shukla University, Raipur -492010
Chhattisgarh, India

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School of Regional Studies and Research
Pt. Ravishankar Shukla University, Raipur (C.G.)
Post Graduate Diploma in Regional Planning and Development

Syllabus
2020-2021

Scheme of Examination

Sem	Course Code	Title of the Paper	Teaching Learning Methodology	External Marks		Internal Marks*		Credit
				Max i.	Min.	Max i.	Min.	
I		2019-2020						
	PGDR PD 101	Regional Planning and Development	Learning through ICT, Case Study, Group Discussion (Student Centric Approach)	80	16	20	4	4
	PGDR PD 102	Research method and Computer Applications	Learning through ICT, Case Study, Group Discussion (Student Centric Approach)	80	16	20	4	4
	PGDR PD 103	Tribal Development	Learning through ICT, Case Study, Group Discussion (Student Centric Approach)	80	16	20	4	4
	PGDR PD 104	Field based Minor project on Urban Planning	Field Work, PLA, Collection of Data, Analysis of Data, Report Writing	80	16	20	4	4
		Total Sem.-I		320		80		20
II	PGDR PD 201	Research and Development Based Regional Needs	Learning through ICT, Case Study, Group Discussion (Student Centric Approach)	80	16	20	4	4
	PGDR PD 202	Rural Marketing & Finance	Learning through ICT, Case Study, Group Discussion (Student Centric Approach)	80	16	20	4	4
	PGDR PD 203	Dissertation / Field Report	Field Work, PLA, Collection of Data, Analysis of Data, Report Writing	80	16	20	4	4
	PGDR PD 204	Viva		80	16	20	4	4
			Total Sem.- II		320		80	
		Sub Total(Sem.-I +Sem.-II)		640		160		40
		Grand Total				800		40

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*Internal evaluation shall be based on following components as per notification no. 907/acad./2019. Raipur dated- 21.8.2019 and approved in EC meeting on 25.7.2019.

Out of 20 marks allocated for internal assessment for each paper:

- 10 marks are to be assigned for class test.
- 5 marks are to be assigned for assignment/ seminar presentation.
- 5 marks are to be assigned for attendance.

The marks for attendance shall be as follows:

(i)	More than 65% but less than 70%	1 Mark
(ii)	70% or more but less than 75%	2 Marks
(iii)	75% or more but less than 80%	3 Marks
(iv)	80% or more but less than 85%	4 Marks
(v)	85% and above	5 Marks

Note:

1. In PG Diploma, 80% marks in each theory paper will have equal marks for 4 questions.
2. The percentage of marks secured by a student in a particular paper shall be converted to a grade and grade point for that course by the university.
3. The Credit of the Core Subject is mandatory based on the Course selected.

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Post Graduate Diploma in Regional Planning and Development

Session: 2020-21

Semester- I

Paper-I

Course Code: PGDRPD 101

Title: Regional Planning and Development

Maxi. Marks: 80

Min. Marks: 16

Credit: 4

Learning Objectives:

At the end of the course the students are expected to:

1. understand the concept, scope and objectives of regional planning
2. know the theories, approaches and strategies of regional planning
3. understand the five year plans of regional policies and 12th five year plan

Unit - I

Regional Planning: Concept, Scope and Objectives, Types of Regional Planning, Failure of Regional Planning, Concept of Sustainable Development. Regional Planning in India, Regional Imbalances and Inequalities, Indicators of Regional Development and Regional Imbalance

Unit - II

Theories of Regional Planning, Development Models, Environmental Pollution: Concept, Types and Strategies of prevention, Environmental laws and their implementation, Policy instruments for controlling water and air pollution, The environment protection Act, Social forestry in India: Rationale and Benefits.

Unit - III

Approaches and Strategies of Regional Development: Growth Model - Meaning and Objectives, Types of Model, Rural Development Planning, Metropolitan planning (with reference to India and Chhattisgarh) Balanced and unbalanced Growth.

Unit - IV

Regional Policies in Five Year Plans, NITI Ayog: An Overview, Objectives, Initiatives, Globalization and its impact on India and Chhattisgarh, Role of Regional Planning in National Development, Regional Planning in different fields: Irrigation and Regional Planning, Energy resources and Regional Planning.

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Books Recommended:

1. Desai, V. **Rural Development in India**, Himalaya, New Delhi, 2005.
2. IGNOU. **Rural Development: Indian Context**. IGNOU, New Delhi, 2005.
3. Narwani, G. S. **Training for Rural Development**, Rawat Publications, New Delhi, 2002.
4. Rao, K. H. **Rural Development Statistics**, National Institute of Rural Development Ministry of R. D., Govt. of India, Rajendra Nagar, Hyderabad, 2008.

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Paper-II
Course Code: PGDRPD 102
Title: Research methods and Computer Application

Maxi. Marks: 80
Min. Marks: 16

Credit: 4

Learning Objectives:

At the end of the course the students are expected to:

1. understand the meaning, importance and purpose of research
2. describe the nature of research and identify the areas of rural development in which research is being increasingly undertaken
3. know the uses of computer application for research work
4. write a research report

Unit - I

Social Research: Concept, Objectives, Types, Importance, Scope, Selection of Research problem, Hypothesis
Social Survey Method. PRA, RRA.

Unit - II

Tools and Techniques of Data Collection-Observation, Interview, Questionnaire and Schedule, and Content Analysis, Sample and Sampling techniques. Measures of Central Tendency.

Unit - III

Introduction to Computers: Types of Computers, Computer hardware and software.
DOS, Windows: Features, Desktop, Taskbar, Start Menu, My Computer, Recycle bin.

Unit - IV

MS Office: MS Word, MS Excel, Power Point, Outlook Express. SPSS (Evolution version).
Uses of Computer Applications in Research.

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Recommended Readings:

1. Crabtree & Miller (ed.). **Doing Qualitative Research**, Sage Publications, New Delhi, 2000.
2. Denzin & Lincoln (eds.). **Handbook of Qualitative Research**, Sage Publications, New Delhi, 2000.
3. Herekar, P.M. **Research Methodology and Project Work**, Phadke Prakashan, Kolhapur, 2004.
4. Kumar, P.S.G. **Research Methods and Statistical Techniques**, B.R. Publishing Co., Delhi, 2004.
5. Kothari, C.R. & Garg, G. **Research Methodology: Methods and Techniques (Fourth Edition)**, New Age International Publishers, New Delhi, 2019.
6. Healey, J.F. **Statistics: A Tool for Social Research**, Rawat Publications, New Delhi, 2018.
7. Yesudhas, R. **Methodologies in Social Research**, Rawat Publications, New Delhi, 2017.
8. Babbie, E. **Basics of Social Research 6th Ed.**, Rawat Publications, New Delhi, 2015.

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Paper-III
Course Code: PGDRPD 103
Title: Tribal Development(with special reference to Chhattisgarh)

Maxi. Marks: 80

Min. Marks: 16

Credit: 4

Learning Objectives:

At the end of the course the students are expected to:

1. know the geographical distribution of tribal population
2. understand the concept and objectives, plans, programmes of tribal development
3. critically review the forest policies of tribal and identify the problems of tribes

Unit - I

Definition of Tribe, Characteristics, Classification – Geographical, Linguistics, Economic and Racial, Difference between Tribe and Scheduled Tribe, Constitutional Safeguards for Scheduled Tribes.

Unit - II

Tribal Development: Concept and Objectives, Tribal Development Plans, Programmes and their Implementation, Tribal Sub-Plan, Scheduled and Tribal Area, PESA Act 1996, Role of Non-Governmental Organization (NGO) in Tribal Developments.

Unit - III

Major Tribes of Chhattisgarh: Gond (Muria, Maria), Oraon, Kavar, Halba, Binjhar. Primitive Tribes of Chhattisgarh: Abujhmaria, Pahari Korwa, Kamar, Baiga, Birhor. Their Social Organization: Family, Marriage Economic, Religious, Political, Youth Dormitories etc.

Unit - IV

Forest and Tribals, Critical review of Forest policies, Deforestation and Tribal Forest, Forest Management Tribal Problems: Different approaches to Tribal problems, Major Tribal Problems: Land alienation Displacement and Rehabilitation. Industrialization and Urbanization, Naxal Problem in Tribal Area.

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Recommended Readings:

1. Verrier Elwin, **Muria and Their Ghotul: Kingdom of the young** (abridged edition), New Delhi: Vanya Prakashan, 1991.
2. Verrier Elwin, **The Baiga**, New Delhi: Gyan Publishing House, 2002.
3. Verrier Elwin, **Maria, Murder and Suicide**, New Delhi: Vanya Prakashan, 1991
4. Vidhyarthi & Rai, **The Tribal Culture of India**. New Delhi: Concept Publishing Company, 1985.
5. Nadeem Husnain, **Tribal India**, Delhi: Palka Prakashan, 2006,
6. Sir Wilfrid Grigson, **The Maria Gonds of Bastar**, New Delhi: Vanya Prakashan, 1991.
7. R.C. Verma, **Indian Tribes Through the Ages**, New Delhi: Publication, Division, Govt. of India, 1995.
8. Majumdar, D.N., **Races and Cultures of India**, New Delhi: Kalyani Publishers, 1990.
9. Verma S. **Underdevelopment and Naxalism in India**, Rawat Publications, New, Delhi, 2018.
10. Behera MC. **Resources, Tribes and Development**, Rawat Publications, New Delhi, 2015.

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Paper-IV
Course Code: PGDRPD 104
Title: Dissertation: Field based Minor project on Urban Planning

Maxi. Marks: 80

Min. Marks: 16


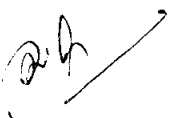
Credit: 8

Learning Objectives:

The completed dissertation should provide proof of students' understanding of:

1. research design as applicable to urban planning
2. issues concerning sampling, quantitative and qualitative analysis of data
3. compile the analyzed data and present in the form of a report

The course is designed to make the student carry out field work in the Urban Planning of project proposal, data collection, data analysis and report writing under the guidance of teacher assigned by the Head of the department using conventional and scientific methods at various stages of the field dissertation. The course aims at capacity building of the student in taking up independent research programmes. The students are required to work with the community for a period of 7-10 days. Two typed copies of analyzed data is to be submitted in the department in the form of a Field work Report.



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Post Graduate Diploma in Regional Planning and Development

Session: 2020-21

Semester- II

Paper-I

Course Code: PGDRPD 201

Title: Research and Development based Regional Needs

Maxi. Marks: 80

Min. Marks: 16

Credit: 4

Learning Objectives:

At the end of the course the students are expected to:

1. understand the meaning, importance and purpose of human resources
2. describe the nature of research and identify the areas of rural development in which research is being increasingly undertaken
3. know the Role and Importance of Statistics in Research

Unit I

Human Resources: Meaning, Importance in Regional Development.

Health in Rural Area: Problems and Solution, Role of Research in Health Problem.

Unit II

Applied and Action Research: Concept, Definition, Merits and Demerits.

Differences between Applied and Action Research.

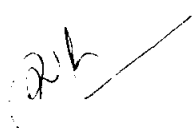
Use of Applied and Action Research in Regional Development.

Unit III

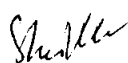
Data Analysis: Definition of Data, Types of Data, Tabulation and Graphical Presentation of Data, Report Writing.

Unit IV

Role and Importance of Statistics in Research, Measures of Central Tendency: Mean, Mode, Median.









Recommended Readings:

1. Crabtree & Miller (ed.). **Doing Qualitative Research**, Sage Publications, New Delhi, 2000.
2. Denzin & Lincoln (eds.). **Handbook of Qualitative Research**, Sage Publications, New Delhi, 2000.
3. Herekar, P.M. **Research Methodology and Project Work**, Phadke Prakashan, Kolhapur, 2004.
4. Kumar, P.S.G. **Research Methods and Statistical Techniques**, B.R. Publishing Co., Delhi, 2004.
5. Kothari, C.R. & Garg, G. **Research Methodology: Methods and Techniques (Fourth Edition)**, New Age International Publishers, New Delhi, 2019.
6. Healey, J.F. **Statistics: A Tool for Social Research**, Rawat Publications, New Delhi, 2018.
7. Yesudhas, R. **Methodologies in Social Research**, Rawat Publications, New Delhi, 2017.
8. Babbie, E. **Basics of Social Research 6th Ed.**, Rawat Publications, New Delhi, 2015.

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Paper-II
Course Code: PGDRPD 202
Title: Rural Marketing & Finance

Maxi. Marks: 80
Min. Marks: 16

Credit: 4

Learning Objectives:

At the end of the course the students are expected to:

1. understand the concept, characteristics and scope of rural marketing and agriculture marketing
2. know the agencies, mediators of rural marketing and agriculture marketing
3. identify the rural finance institutions and agencies

Unit-I

Rural Marketing: Concept, characteristics and scope of Rural Marketing, Factors of Rural Markets, Problem of Rural Marketing and Remedies.

Unit-II

Agriculture Marketing, Concept, Nature & types of Agricultural Marketing, Factors of Agricultural Marketing, Significance & Problems of Agricultural Marketing.

Unit-III

Agencies in Agriculture Marketing, Marketing Inter –mediators, Commission on Agriculture costs & prices (CACP), Agricultural Agencies:-

1. FCI (Food Corporation of India)
2. APMC (Agriculture Price & Marketing Council)
3. NAFED (National Federation)
4. NABARD

Unit-IV

Rural Finance: Concept of Rural Finance, Basic Economic Problem, Deductive and Inductive Positive and Normative Economics Static and Dynamic Equilibrium, Concept of Equilibrium: General Equilibrium v/s Partial Equilibrium Walrasian theory of General Equilibrium, Role of financial & non-financial institutions and micro-finance institutions in rural areas.

Recommended Readings:

1. Badi, V. Narayan, Badi, V. Narayan, **Rural Marketing**, Himalaya Publishing, 2014.
2. Hasnain, Nadeem, **Janjatiya Bharat (in hindi)**, Jawahar publishers and Distribution, New Delhi, 2005
3. Kashyap, P., **Rural Marketing**, Pearson Publication. 2016.
4. Rabi N. Misra, **Marketing of Tribal Products**, Discover Publishing Pvt. Ltd. 2002.
5. T.P. Gopaldaswamy, **Rural Marketing: Environment, Problems and Strategies**, Vikas Publication. 2014.

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21/11

Paper-III
Course Code: PGDRPD 203
Title: Dissertation /Field Report

Maxi. Marks: 80
Min. Marks: 16
Credit: 8

Learning Objectives:

The completed dissertation should provide proof of students' understanding of:

1. research design as applicable to a specific topic
2. issues concerning sampling, quantitative and qualitative analysis of data
3. compile the analyzed data and present in the form of a report

The course is designed to make the student carry out field work and research in the planning of the projects proposal, data collection, data analysis and report writing under the guidance of teacher assigned by the Head of the department in the area of Regional Planning and Development. The course aims at capacity building of the student in taking up independent research programmes to create a pool of professionals who could provide services to the local governments and NGOs working in the rural and urban areas for development of the region. Presentation and Viva of the Dissertation in the presence of External examiner and Head of the department consists of 40 marks (20+20).

Paper – IV
Course Code: (PGDRPD 204)
Title: Seminar & Viva

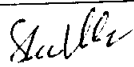
Maxi. Marks: 80
Min. Marks: 16

Credit: 4

Learning Objectives:

At the end of the course the students are expected to:

1. learn public speaking and good presentation skills
2. learn how to face interview



School of Regional Studies and Research

Syllabus

Ph. D. Course Work 2017



Pt. Ravishankar Shukla University, Raipur -492010
Chhattisgarh, India

(Dr. Mitashree Mitra)
Professor & Head
School of Regional Studies and Research
Pt. Ravishankar Shukla University

Dr. Mitashree Mitra
5/12/2016

School of Regional Studies and Research
Pt. Ravishankar Shukla University, Raipur (C.G.)
Ph.D. Course Work Syllabus

Ph. D. Course Work 2017

DURATION: SIX MONTHS

M.M. 200

	COURSE	MARKS
COURSE I	Research Methodology & Fundamental of Computer	100
COURSE II	Project Based on Review of Research work	50
	Seminar	50
	TOTAL	200

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School of Regional Studies and Research
Pt. Ravishankar Shukla University, Raipur (C.G.)
Ph.D. Course Work Syllabus
Course-I Research Methodology & Fundamental of Computer

Max Mark-100

UNIT-I

Social Research: Concept & Objectives, Types of Research, Interdisciplinary Research Approach, Social Survey and Field Work (Tribal, Rural & Urban Area) Selection of Research problem & formulation of Hypothesis, Research Design

UNIT-II

Nature & Types of Data- Primary & Secondary data, Quantitative & Qualitative data, Use of Secondary Sources: Census, Survey Report of different Govt. Dept/Agency and Non-Govt. Organization,(NGO) Documents & Records, Sampling techniques: Meaning & significance of sampling, Types of Sampling, Merits & demerits of different sampling methods.

UNIT-III

Tools & Techniques of Data Collection observation, Interview, Questionnaire & Schedule, Case study.

UNIT-IV

Qualitative data analysis methods: Content analysis, Tabulation & Interpretation of Data, Report writing, Basic Knowledge of computer Application.

UNIT-V

Elementary Statistics

Measures of central tendency: Mean, Mode, Median

Measures of Variability: Range, Average deviation, standard deviation

Test of Significance: t-test, Chi-square Test.

Karl Pearson's Correlation Coefficient

Recommended Readings :

1. Goode & Hall (1983). Methods in Social Research, Mcgrew Hill, International Japan.
2. Young, P.V.(1984) Scientific Social Survey and Research Prentice Hall of Indian, New Delhi
3. MacConuik,L., Elementray Social Statistics
4. Raja Raman,V. (1996) Fundamental of Coputer Prentice Hall of India, New Delhi
5. Kenneth D. Bailey, 1982, Methods of Social Research, The free Press, London
6. Piergiorgio earbetta – 2003, Social Research: Theory, Methods & Techniques sage Publication, New Delhi.

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COURSE – II

M.M. 100

1. PROJECT BASED ON REVIEW OF RESEARCH WORK: Use of Literature, Knowledge of National and International Journals, Impact Factor, Citation Index, SCI Journals. (To be Supervised and evaluated by Guide Concerned). Literature search by SCOPUS, Google Scholar and Web of Science.
2. SEMINARS: Open Seminar, evaluation will be done by member of DRC.

Prasanna
5/12/2016

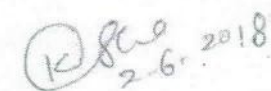
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**COURSE OF STUDIES FOR M.A. EXAMINATION IN SOCIOLOGY
(UNDER SEMESTER SYSTEM IN UNIVERSITY TEACHING
DEPARTMENT AND AFFILETED COLLEGES OF PT.
RAVISHANKAR SHUKLA UNIVERSITY, RAIPUR (C.G.)
ACADEMIC SESSION (2018- 19)**

M.A. Examination in Sociology shall be conducted in four semesters, each having 500 hundred marks, totaling to 2000 marks. The detailed Course Structure Semester wise is mentioned be.ow.

Sl. No.	Paper No.	Title	Marks			
A. FIRST SEMESTER:						
S. No.	Paper	Subject	I	T	Total	CC
1	Paper-I/CC1	Classical Sociological Tradition	20	80	100	
2	Paper-II/CC2	Philosophical and Conceptual Foundation of Research Methodology	20	80	100	
3	Paper-III/CC3	Social Change in India	20	80	100	
4	Paper-IV/CC4	Rural Sociology	20	80	100	
5	Paper-V/P 1	Practical-I			100	
B. SECOND SEMESTER (effective from Jan 2018)						
6.	Paper-VI/CC5	Classical Sociological Thinkers	20	80	100	04
7.	Paper-VII/CC6	Quantitative Research Techniques in Sociology	20	80	100	04
8.	Paper-VIII/CC7	Sociology of Development	20	80	100	04
9.	Paper-IX/CC8	Indian Rural Society	20	80	100	04
10.	Paper-X/P2	Practical-II			100	04
C. THIRD SEMESTER (effective from Jun 2018)						
11.	Paper-XI/CC9	Classical Sociological Theories	20	80	100	04
12.	Paper-XII/CC10	Social Movements in India	20	80	100	04
13.	Paper-XIII/CC11	Perspectives of Study to Indian Society	20	80	100	04
14.	Paper-XIV/CC12	Industry and Society in India	20	80	100	04
15.	Paper-XV/CC13	Criminology	20	80	100	04
D. FOURTH SEMESTER (effective from Jan 2019)						
16	Paper-XVI/CC14	Modern Sociological Theories	20	80	100	04
17	Paper-XVII/CC15	Comparative Sociology	20	80	100	04
18	Paper-XVIII/CC16	Contemporary Issues in Industry	20	80	100	04
19	Paper-XIX/CC17	Criminology: Correctional administration	20	80	100	04
20	Paper-XX/P3	Project Report	-	-	100	04




 2-6-2018
 Head,
 S.O.S. in Sociology & Social Work,
 Pt. Ravishankar Shukla University,
 Raipur. (C.G.)

FIRST SEMESTER

Paper No. I/CC1

Marks-80

CLASSICAL SOCIOLOGICAL TRADITION

Unit-I: Historical Background of The Emergence of Sociology

- a. Traditional Feudal Economy and Social Structure
- b. Impact of Industrial Revolution and New Mode of Production on Society and Economy.
- c. Emergence of Capitalist Mode of Production- Nature and Feature of Capitalism
- d. Enlightenment and It's Impact on Thinking and Reasoning

Unit-II: Auguste Comte

- a. Social Statics and Dynamics
- b. Law of Three Stages
- c. Hierarchy of Sciences
- d. Positivism

Unit-III: Emile Durkheim

- a. Social Facts
- b. Division of Labour, Mechanical and Organic Solidarity
- c. Religion
- d. Theory of Suicide

Unit-IV: Vilfredo Pareto

- a. Logical and Non- Logical Action
- b. Residues and Derivations
- c. Theory of Social Change
- d. Contributions to Methodology

Unit-V: Herbert Spencer

- a. Social Darwinism
- b. Evolution
- c. Organic Analogy
- d. Militant and Industrial Societies

References:

1. Abraham, F and Morgan, J.H. 1985 Sociological Thought from Comte to Sorokin
Macmillan, New Delhi.
2. Adams, B.N. and Sydie, R.A. 2002 Sociological Theory
Vistaar Publications, New Delhi
3. Aron, R. 1965 Main Currents in Sociological Thought
Vol. I and Vol.II Penguin, New Delhi.
4. Coser, L.A. 2001 Masters of Sociological Thought
Rawat Publishers, Jaipur
5. Rex, John 1973 Discovering Sociology Routledge and Kegan
Paul, London
6. Turner, J.H. 2001 The Structure of Sociological Theory
Rawat Publishers, Jaipur.

7. Zeitlin, I.M. 1981 Ideology and the Development of Sociological Theory, Prentice Hall, London.
8. _____ 1998 Rethinking Sociology: A Critique of Contemporary Theory. Rawat Publishers, Jaipur.

Paper-II/CC2

Marks-80

PHILOSOPHICAL AND CONCEPTUAL FOUNDATION OF RESEARCH METHODOLOGY

Unit-I: Philosophical Roots of Social Research

- Issues in the Theory of Epistemology: Forms and Types of knowledge, Validation of knowledge
- Positivism and It's Critique: Contributions of Comte, Durkheim and Popper.
- Methodological perspectives in Sociology.

Unit-II: Social Research and Scientific Method

- Concept and Importance of Social Research.
- Types of Social Research
- Concept and Characteristics of Scientific method.
- Social Phenomeno of Scientific method

Unit-III: Nature of Social Reality and Approaches to It

- Research Design: Steps and Processes of It's Formulation
- Type of Research Design: Exploratory, Descriptive, Explanatory, Diagnostic and Experimental
- Role of concepts and Hypotheses
- Problems of Objectivity

Unit-IV: Qualitative Methods in Social Research

- Techniques and methods of Qualitative Research: Observation and Interview Guide
- Case study, Content Analysis
- Participatory Rural Appraisal (PRA)
- Encounters and Experiences in Field work

Unit-V: Issues in Social Research

- Inter disciplinary Research
- Issues in Qualitative Research
- Theoretical Vs. Applied Research
- Processing of Data: Classification, Tabulation and Interpretation.

References:

- Bailey, K.D. 1979 Methodology of Social Research Macmillan, Free Press- London
- Barnes, J.A. 1979 Who should know what? Social Science, Privacy and Ethics, Penguin, London.
- Beteille, A Madan, T.N. 1975 Encounter and Experience: Personal Accounts of field work, Vikas, new Delhi

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4. Bose, P.K. 1995 Research methodology, ICSSR, New Delhi.
5. Bryman, A 1988 Quality and Quantity in Social Research Unwin Hyman, London.
6. Madge, J 1970 The Origins of Scientific sociology Tavistock, London
7. Mukherjee, P.N. 2000 Methodology in Social Research: Dilemmas and perspectives Essays in Honour of Ramakrishna Mukherjee Sage, New Delhi.
8. Mukherjee, R.K. 1979 What will it be? Explorations in Inductive Sociology Allied, Bombay.
9. _____ 1993 Systemic Sociology Sage, New Delhi.
10. Popper, K 1999 The Logic of Scientific Discovery Routledge and Kegan Paul London
11. Punch, K 1986 Introduction to Social Research Sage, New Delhi
12. Sjoberg, G and Roger, N., 1997 Methodology of Social research Rawat, Jaipur
13. Srinivas, M.N. and Shah, A.M., 1979 Field worker and the Field Oxford, New Delhi.
14. Weber, M 1974 The Methodology of Social Sciences Free Press, Chicago
15. Young, P.V. 1977 Scientific Social Surveys and Research Prentice Hall, New Delhi.

Paper No. III/CC3

Marks-80

SOCIAL CHANGE IN INDIA

Unit-I: Conceptual and Theoretical Frame work

- a. Concept, Meaning, Definition, Characteristic of social Change.
- b. Forms of Social change- Evolution, Progress, Development, Transformation, Revolution
- c. Linear Theory of Social Change- August Comte, Herbert Spencer, Morgan
- d. Cyclic Theory of Social Change- Vilifred Pareto, P. Sorokin

Unit-II: Factors of Social change

- a. Techno- Economic
- b. Socio- Psychological
- c. Cultural and Religious
- d. Media

Unit-III: Trends and Processes of Change in Modern India

- a. Sanskritization- Concept, Characteristics and means of Social Change.

- b. Secularization -Concept, Characteristics and importance
- c. Gandhian- Swalamban, Sarvodaya, Trustiship and importance
- d. Globalization- Concept, Characteristic and a process of Social change

Unit- IV: Changes in Tribal and Rural India

- a. Tribal Economy- Concept, Characteristics of Tribal Economy, base of Tribal Economy and recent changes in Tribal Economy
- b. Rural Economy- Concept, Characteristics of Rural Community, base of Rural Economy and recent changes in Rural Economy
- c. Changes in Socio Cultural Spheres
- d. Land Alienation- Concept and Cause of Land Alienation, Land Alienation in Rural and Tribal Area.

Unit-V:-Changes in Urban and Industrial India

- a. Migration - Concept, Characteristics and types of Migration, In Migration and Growth of informal sector.
- b. Slums - Concept, Characteristics of Slums , causes of development of Slums in Urban and Industrial India.
- c. Crime - Concept, Characteristics of Crime and causes of development of criminal Activities in Urban and Industrial India.
- d. Welfare- Concept, Characteristics of Welfare Programme,Welfare measures and Consequent Changes.

References:

1. Beteille, A. 2003 The Idea of natural inequality and other essays. Oxford, New Delhi.
2. Desai, AR 2001 Rural Sociology in India. Popular, Bombay
3. Jhingan, M.L. 2003 The economics of Development and Planning. Vrinda Publications, New Delhi
4. Kanungo, S. 2002 Making Information Technology Work, Sage, new Delhi
5. Mathur, H.M. (ed) 1994 Development, Displacement and Resettlement: focus on Asian experiences Vikas, New Delhi.
6. Preston, P. 2001 Reshaping communications, Technology Information and Social Change. Sage, New Delhi.
7. Ramachandran, P.S. et al (ed) 2002 Traditional Ecological Knowledge for managing Bio-sphere reserves in south and central Asia. Oxford, New Delhi.
- 8 Reid, Suctitus 1976 Crime and Criminology, Illiois: Deyen Press
9. Schuurman, F.J. 1999 Globalization and Development, Vistaar, new Delhi.
10. Parekh, B 1999 Colonialism, Tradition and Reform: An analysis of Gandhi's Political Discourse Sage, New Delhi.
11. Sharma, K.L. 1997 Social Stratification in India: Issues and Themes. Sage, New Delhi.
12. Shiva, V. and Bedi, Sustainable Agriculture and food scarcity Sage,

- G. 2002 New Delhi.
13. Singh, Y. 1999 Modernization of Indian tradition Rawat, Jaipur.
14. _____ 2003 Culture Change in India Rawat, Jaipur
15. Singharoy, D.K. et al (ed) 2000 Social Development and Empowerment of Marginalised groups, Sage, New Delhi.
16. Srinivas, M.N. 1998 Social Change in Modern India. Orient and Longman, New Delhi.
17. Vidyarthi, L.P. and Rai, B.K., 1977 Tribal culture in India Concept Publication Company New Delhi.

Paper No. IV/CC 4

Marks-80

RURAL SOCIOLOGY

Unit-I: Characteristics and Approaches

- a. Concept and Characteristics of Peasant Society
- b. Concept and Characteristics of Agrarian Society
- c. Caste and Jajmani Approach
- d. Sub- Altern Approach

Unit-II: Agrarian Institutions

- a. Land Ownership and Its Types: After Independence
- b. Agrarian Relations and Modes of Production
- c. Agrarian Social Structure

Unit- III: Planned Change

- a. Rural leadership
- b. Factionalism
- c. Panchayati Raj before and after 73rd Amendment
- d. Five Year's Plans in India

Unit-IV: Rural Development and Change

- a. Green Revolution
- b. Land Reform
- c. Globalization and its Impact on Agriculture

Unit-V: Welfare measures and consequent Changes

- a. Self-help Group (SHG)
- b. MNREGA
- c. SSA

References:

1. Basu, K. (ed) 2000 Agrarian Questions Oxford, New Delhi.
2. Bergerglu, B. (ed) 1992 Class, State and Development in India sage, New Delhi.
3. Beteille, A. Six essays in comparative sociology oxford, New

4. 1974 _____ Delhi.
Studies in Agrarian social structure oxford, New Delhi.
5. 1974 Breman, J. Patronage and Exploitation oxford, New Delhi.
6. 1974 Desai, A.R. (ed) Rural sociology in India popular, Mumbai.
7. 1977 _____ (ed) Rural society in transition Popular, Mumbai.
8. 1973 Gough, K and Sharma, H.P.(Ed) Imperialism and Revolution in South Asia, Monthly Reviewed Press, New York.
9. 1999 Guha, r (ed) Subaltern Studies Oxford, New Delhi.
10. 1976 Joshi, P.C. (ed) Land Reforms in India Allied, New Delhi.
11. 1982 Long, N. An Introduction to the sociology of Rural development, Tavistock, London.
12. 1983 Mencher, J.P. (ed) Social Anthropology of peasantry Somaiya Publications New Delhi
13. 1990 Patnaik, U. Agrarian Relations and Accumulation: the Mode of production debate in India.
14. 1971 Shanin, T. (ed) Peasants and Peasant Societies, Penguin, London.
15. 1956 Thorner, D. The Agrarian prospects in India University press, New Delhi.
16. 1962 _____ Land and labour in India, Asia publications, Mumbai.

Paper No. V/P1
PRACTICAL-I

Marks-100

Practical based on Field Work & Preparation of tools
Interview Guide and case study

Scheme of Evaluation- 50% by Internal Examiner and rest 50%
by Viva-Voce Examination evaluated both by the Internal and
External Examiner.

SECOND SEMESTER

Paper No. -VI/CC 5

Marks-80

CLASSICAL SOCIOLOGICAL THINKERS

Unit-I: Karl Marx

- a. Materialistic Interpretation of History
- b. Class and Class Struggle
- c. Alienation.
- d. Surplus Value and Exploitation.

Unit-II: Thurstein Veblen

- a. Theory of Leisure class
- b. Concepts of Social Change
- c. Comparison of Marx and Veblen's theories.

Unit-III: Max Weber

- a. Theory of Social Action
- b. Concepts of Status, Class and power
- c. Sociology of Religion and Economic Development
- d. Ideal Type

Unit-IV Talcott Parsons

- a. Social Action
- b. Pattern variables
- c. Social System
- d. Mechanisms of social Control.

Unit-V: Robert K. Merton

- a. Reference Group
- b. Social structure and Anomie
- c. Paradigms of Functionalism
- d. . Bureaucracy

References:

1. Abraham, F and Sociological Thought from Comte to Sorokin
Morgan, J.H. Macmillan, New Delhi.
1985
2. Aron, R. Main Currents in Sociological Thought Vol. I
1965 and II
Penguin, London.
3. Adams, B.N. and Sociological theory Vistaar, New Delhi.
Sydie, R.A. 2001
4. Collins, R. Theoretical Sociology
1997 Rawat, Jaipur
5. Coser, L.A. Masters of Sociological Thought
2001 Rawat, Jaipur
6. Giddens, A. Capitalism and Modern Social Theory: An
1977 Analysis of Writings of Marx., Durkeheim and
Weber Cambridge University press. London.
7. Rex, J. Discovering Sociology
1973 Routledge and Kegan Paul London.
8. Simmel George and The Sociology of George Simmel, Glancoe,

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| 9. | Kurt H. Wdfff, 1950
Simmel George and Kurt H. Wdfff, 1922 | III Free Press
Conflict and the web of Group Glancee, IL, Freepress. |
| 10 | -----1972 | On Individuality and Social Forms, Chicago, University of Chicago Press. |
| 11. | Turner, J.H.
2001 | The Structure of Sociological Theory
Rawat, Jaipur |
| 12. | Zeitlin, I.M.
1981 | Ideology and the Development of Sociology
Prentice Hall, London. |
| 13. | -----
1996 | Rethinking Sociology
Rawat, Jaipur. |

Paper No.-VII/CC6

Marks-80

QUANTITATIVE RESEARCH TECHNIQUES IN SOCIOLOGY

Unit-I: Sampling

- a. Rational
- b. Types
- c. Sampling error
- d. Survey Vs. Sampling based study in sociology

Unit-II: Quantitative method and survey Research

- a. Techniques of Survey Research: Interview
- b. Tools of Research; Preparation of Questionnaire and Interview Schedule
- c. Processing of Data: Editing, Classification, Tabulation and Interpretation
- d. Use of Computer in Data Processing

Unit-III: Measurement and Scaling Techniques

- a. Levels of Measurements: Types of Scales- Nominal and Ordinal
- b. Reliability and Validity of Scaling
- c. Measures of Social Distance: Thurstein, Lickert and Bogardus Scale
- d. Sociometry

Unit-IV: Statistics in Social Research

- a. Measures of Central Tendency: Mean, Median and Mode
- b. Measures of Dispersion- Standard Deviation
- c. Correlation Analysis- Chi Square Test
- d. Quantitative Vs. Qualitative research in sociology

Unit-V: Qualitative and Quantitative research method

- a. Triangulation; mixing Qualitative and Quantitative methodologies
- b. Social Research, Action research and Participatory research
- c. Application of computers in Social research; MS office.
- d. Ethical issues in social research.

References:

1. Bailey, K.D. 1979 Methodology of social Research Macmillan, Free Press.
2. Bryman, Allan 1988 Quality and Quantity in Social Research Unwin,

- | | |
|----------------------------|---|
| | Hyman, London. |
| 3. Ethance, D.M. | Fundamental of Statistics |
| 4. Irvine, J. M et al (ed) | Demystifying social statistic, Pluto Press, London. |
| 1979 | |
| 5. Lutz, G, M | Understanding Social Statistics, |
| 1983 | Macmillan Publishing co., Inc., New York. |
| 6. Mukharjee, R, | What will it be? Explorations in inductive |
| 1979 | sociology, Allied Publishers, Bombay. |
| 7. Mukherjee, P.N, | Methodology in Social Research Dilemmas and |
| 2000 | Perspectives, Essays in honour of Ramakrishna |
| | Mukharjee, Sage Publication, New Delhi. |
| 8. Wilkinson, T.S. and | Methodology and Techniques of Social Research: |
| Bhandarkar, P.L. | Himalaya Publication House, Bombay, |
| 9. Young, P.V. | Scientific Social Surveys and Research. |
| 1977 | Prentice Hall of India, New Delhi. |

Paper No. -VIII/CC7

Marks-80

SOCIOLOGY OF DEVELOPMENT

Unit-I: Perspectives on Development

- a. Concept and Defining development
- b. Element of Development
- c. Path and Agency of Development: Capitalist, Mixed Economy, Gandhian
- d. Theories; Modernization , Marxist, Dependency.

Unit-II: Changing Concept of Human Development

- a. Mainstream vs. Indigenous Model of Development
- b. Human Indicator Index
- c. Sustainable Development: Socio- Cultural, environmental and economic.
- d. Impact of Bio-Technology and Information Technology on Development.

Unit-III: Indian Experience of Development

- a. Sociological Appraisal of Five Year Plans
- b. Social Consequences of Economic Reforms
- c. Socio- Cultural Impact of Globalization
- d. Social Implication of InfoTech and Bio-Tech Revolution

Unit-IV: Consequences of Development

- a. Development and Displacement- concept, causes and consequences of Displacement
- b. Development and Socio- Economic Disparities: health, Education , Per capita Income
- c. Ecological Degradation: concept, causes and consequences of Degradation

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d. Development and Migration: concept, causes and consequences of Migration.

Unit-V: Issues in development in Contemporary India.

a. Social Exclusion

b. Gender Discrimination

c. Privatization and un favourable Service condition.

d. Sustainability and development

References:

1. Alavi, H. and Shanin, T., 1982 Introduction to the study of Developing societies
Macmillan, London
2. Amin, Samir-1979 Unequal Development, New Delhi
3. Apter, D.C. 1987 Rethinking development
Sage, New Delhi
4. Appadurai, A. 1997 Modernity at Large: Cultural Dimensions of Globalisation, Oxford, New Delhi
5. Berberglu, B. (ed) 1992 Class, State and Development in India, Sage, New Delhi
6. Bhatnagar, S., 2000 Information and Communication: Technology in Development, Sage, New Delhi.
7. Carmen, R 1996 Autonomous Development Vistaar, New Delhi
8. Desai, A.R 1985 India's path of development: A Marxist Approach, Bombay, popular Prakashan.
9. Dreze, J and Sen, A. 1996 India: Economic Development and social Opportunity Oxford, New Delhi
10. Encyclopaedia of Social Sciences (Relevant Portions), Macmillan
11. Frank, A 2002 Reorient
Vistaar, New Delhi
12. Haq, M.V. 1991 Reflections on Human Development
Oxford, New Delhi
13. Melkote, S.R. 1991 Communications for Development in Third World Sage, New Delhi
15. Naidu, R. 1971 Values in Models of Modernisation
Vikas, New Delhi
16. Pieterse, N.J. 2001 Development Theory: Deconstruction/ Reconstruction, Sage, New Delhi
17. Preston, P.W, 1996 Development Theory- An Introduction Oxford Blackwell.
18. Rege, S. (ed) 2003 Sociology of Gender
Sage, New Delhi
19. Sachs, I 2000 Understanding Development
Oxford, New Delhi
20. Saha, G et al (ed) Development and Deprivation in Gujarat

- 2002 Sage, New Delhi
21. Schuurman, F.J. Globalisation and Development
2003 Vistaar, New Delhi
22. Singharoy, D (ed) Social Development and Empowerment of
2001 Marginalised Groups Sage, New Delhi.
23. Sings, C.C. The Underdevelopment of Development
And Denemark, R.A. Sage, New Delhi.
24. Sharma ,S.L1986 Development: socio-Cultural Dimensions,
Jaipur,Rawat Publications.
- 25 -----1994 Perspective on Sustainable Development in
South Asia, KualaLumpur, ADIPA

Paper No. IX/CC8

Marks-80

INDIAN RURAL SOCIETY

Unit-I: Tribal Society as Agrarian Society

- Tribe Concept and Characteristic
- Tribe class
- Changing problems of Tribal Land

Unit-II: Social Issues

- Migration
- Land Alienation
- Loss of Livelihood

Unit-III: Contemporary Issues

- Health
- Education
- Changing status of Rural Women
- Inequality

Unit-IV: Peasant Movement

- Causes
- Types
- Tebhaga
- Telengana

Unit-V: Naxlite movement in Contemporary India.

- Origin and affected area
- Causes
- Present status; Governments measures and peoples response.

References:

- Beteille, A. Inequality and Social Change
1986 Oxford, New Delhi.
- Bardhan, p. Poverty, Agrarian Structure and Political
Economy in India.
- Desai, A.R. Rural Society in Transition
1979 Popular, Mumbai

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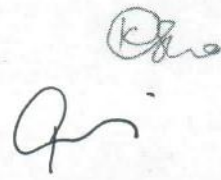
4. _____ 1979 Peasant Struggle in India
Oxford, New Delhi
5. _____ (ed) 2003 Rural Sociology in India
Popular, Mumbai
6. Dreze, J and Sen A. 2002 India : Development and Participation, Oxford
New Delhi.
7. Gough, K and Sharma, H.P. (ed) 1973 Imperialism and Revolution in South Asia.
Monthly Reviewed Press, New York.
8. Gulati, A and Narayanan, S. 2003 The Subsidy Syndrome in Indian Agriculture
Oxford, New Delhi.
9. Joshi, P.C. 2003 Land Reforms in India
Allied, New Delhi.
10. Leiten, G.K. 2002 Power, Politics and Rural Development
Manohar, New Delhi
11. Patel, M.L. 1974 Changing land Problems of Tribal India, Progress
Publisher, Bhopal.
12. Prakash Singh 2007 The Naxalite Movement in India, Rupa
Publication
13. Rao, M.S.A. (ed) 1978 Social Movements In India, Manohar, New Delhi.
14. Schuurman, F.J. 2003 Globalization and Development Vistaar, New
Delhi.
15. Singhroy, D et al 2001 Social development and the empowerment of
marginalised groups, Sage New Delhi.
16. Thorner, A. 2002 Daniel Thorner, Memorial Lecturers,
Manohar, New Delhi.
17. Vidyarthi, L.P. and Rai, B.K. 1977 Tribal Culture in India, Concept Publishing
Company, New Delhi.

Paper No. X/P2
PRACTICAL-II

Marks-100

Practical based on Field Work & Preparation of tools
Questionnaire, Interview Schedule Preparation and Tabulation.

Scheme of Evaluation- 50% by Internal Examiner and rest
50% by Viva-Voce Examination evaluated both by the Internal and
External Examiner.



THIRD SEMESTER

Paper No. XI/CC9

Marks-80

CLASSICAL SOCIOLOGICAL THEORIES

Unit-I: Positivism

- a. Concept and Characteristics of positivism
- b. Contributions of Comte
- c. Contributions of Durkheim
- d. Criticism

Unit-II: Functionalism

- a. Concept and Characteristics of functionalism
- b. Contributions of Parsons
- c. Contribution of Merton
- d. Criticism

Unit-III: Conflict theory

- a. Concept and Characteristics of Conflict theory
- b Contributions of Karl Marx
- c Contribution of Dahrendorf
- d Randell Collins

Unit-IV: Structuralism

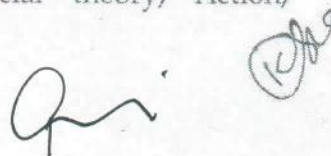
- a. Concept and Characteristics of Structuralism
- b Contribution of Red Cliff Brown
- c Contribution of Levistrauss
- d Criticism

Unit-V: Exchange Theory

- a. Concept and Characteristics of Exchange Theory
- b. Contribution of Peter Blau
- c. Contribution of George Homans.
- d. Criticism

References:

1. Abraham, M.F. 2001 Modern Sociological Theory: An Introduction Oxford, New Delhi.
2. Alexander, J.C. 1987. Twenty Lectures; Sociological theories since World War- II Columbia University press- New York.
3. Coser, L.A. 2001 Masters of Sociological thoughts Rawat, Jaipur
4. Collins, R. 1997 Sociological theory Rawat, jaipur
5. Craib, I 1992 Modern Social Theory: From parsons to Habermas, Harvester, London.
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 9. Sturrock, J (ed) 1979 Structuralism and since: from Levisitrance to Derrida Oxford, London.
 10. Turner, B.S. 1999 Classical sociology sage, New Delhi
 11. Turner, J.H. 2001 The structure of sociological theory Rawat, Jaipur
 12. Zeitlin, I.M. 1998 Rethinking sociology: A critique of contemporary Theory Rawat, Jaipur.

Paper No.XII/CC10

Marks-80

SOCIAL MOVEMENTS IN INDIA

Unit-I: Nature and Types

- a. Characteristics
- b. Types
- c. Reasons
- d. Power Structure and Social Movements

Unit -II: Basis of Social Movement

- a. Class, Caste, Ethnicity and Gender
- b. Types of leadership and relationship between leaders and masses
- c. Political institution and social movement.
- d. Role of media in social movement.

Unit-III: Theoretical Perspectives

- a. Marxian and Post-Marxian
- b. Structural-Functional
- c. Postmodernist
- d. Post-Structuralist

Unit-IV: Traditional Social Movements

- a. Labour and Trade Union
- b. Tribal
- c. Peasant
- d. Nationalist

Unit-V: New Social Movements

- a. Dalit
- b. Women
- c. Ethnic
- d. Environmental
- e. student movements.

References:

1. Banks, J.A., 1972; The Sociology of Social Movements (London : Macmillan)
2. Desai, A.R., Ed., 1979; Peasant Struggles in India (Bombay : Oxford University Press)
3. Danagare, D.N., 1983; Peasant Movements in Indian 1920-1950 (Delhi : Oxford University Press.
4. Gore, M.S., 1993; The Social Context of an Ideology : Ambedkar's Political and Social Thoughts (New Delhi : Sage)
5. Oomen, T.K., 1990 : Protest and Change : Studies in Social Movements (Delhi : Sage).

Paper No.XIII/CC11

Marks-80

PERSPECTIVES OF STUDY TO INDIAN SOCIETY**Unit-I: Indological / Textual**

- a. G.S. Ghurye;- Origin, Theory and Characteristics of caste , caste and Race.
- b. Louis Dumont:- Homohierarchius in caste system in India
- c. Criticism of Ghurye and Dumont.

Unit-II: Structural Functionlism

- a. M.N.Srinivas:- Dominant Caste, Sanskritization , Secularization and Social Change.
- b. S.C.Dube:-Social Change and Modernization
- c. Criticism of M.N. Srinivas and S.C.Dube

Unit-III: Marxism

- a.D.P.Mukharjee:- Approach to study Indian Economy and Society
- b.A.R. Desai:- Approach to study rural society and Economy in India.
- c.Criticism of D.P.Mukherjee and A.R.Desai

Unit-IV: Subaltern Perspective

- a. B.R. Ambedkar :- Characteristics of Caste, Demerits of Caste, Annihilation of Caste
- b. David Hardiman:- Characteristics of Indian Society, Subaltern Approach to study Indian Society.
- c. Comparision between Ambedkar and Hardiman's Subaltern Approach

Unit-V: Civilizational Approach

- a. N.K.Bose
- b. Surjeet Sinha
- c. Criticism of N.K. Bose and Surjeet Sinha

References:

1. Das, V.
1982
Structure and Cognition aspects of Hindu caste and rituals Oxford, New Delhi.
2. Desouza, P.R. (ed)
2000
Contemporary India Transitions. Sage, New Delhi.
3. Dhanagare, D.N.
1993
Themes and Perspectives in Indian Sociology Rawat, Jaipur
4. Dube, S.C.
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The Indian village Routledge, London
5. _____
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6. Dumont, L.
1970
Homo Hierarchicus: the caste system and its implications Vikas, New Delhi.
7. Hardiman, D
1987
The coming of the Devi: Adivasi Assertion in western India Oxford, New Delhi
8. _____
1996
Feeding the Bania: Peasants and usurers in western India. Oxford, New Delhi.
9. Momin, A.R.
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The legacy of G.S. Ghurye Popular, Mumbai
10. Mukharjee, D.P.
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11. Oommen, T.K. and
Mukharjee, P.N.
1986
Indian Sociology: Reflection and Introspection popular, Mumbai.
12. Singh, y.
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Indian Sociology: Social conditioning and Emerging concerns, Vistaar, New Delhi.
13. Srinivas, M.N.
1960
India's Villages Asia publishing House, Bombay.

Paper No.XIV/CC12

Marks-80

INDUSTRY AND SOCIETY IN INDIA

Unit-I: Industrial Sociology and Classical Sociological Tradition

- a. Scientific Management
- b. Division of Labour
- c. Bureaucracy and Rationality
- d. Production Relations and Alienation

Unit-II: Industrial Organizations

- a. Formal and Informal Organizations: Structure and Functions
- b. Line and Staff Organization
- c. Contemporary Organization Realities

Unit-III: Impact of Industrialization on:

- a. Family
- b. Stratification
- c. Habitat and Settlement
- d. Environmental

Unit-IV: Subjective Experience of Work

- a. Work Ethics, Work Value, Work Attitude and Work Process
- b. Motivation to Work,
- c. Work Satisfaction, Incentives and Its Effects

Unit-V: Technological Change and Automation

- a. Technology and Social Structure in Industry
- b. Organizational Choice and Technological Change
- c. Resistance to Automation and Change

References:

1. Agrawal R.D. 1972 Dynamics of Indian labour relations in India (A Book regarding Mc-Graw Hill, Bombay)
2. Aziz Abdul 1984 Labour problems of developing economy Ashis Publishing house, New Delhi
3. Gilbert S.J. 1985 Fundamentals of Industrial Sociology Tata Mc-Graw hill Bombay
4. Karnik V.B. 1990 Indian trade Union A survey, Popular Prakashan-Bombay
5. Laxmana, C et al 1990 Workers Participation and industrial democracy: Global perspectives: Ajanta publication, New Delhi.
6. Memoria, C.B. and Memoria 1992 Dynamics of Indian Relations in India Himalaya publishing house: Mumbai
7. Miller, D.c. and Farm W.M. 1964 The Sociology of Industry George Allen and Onwin, London
8. Philip H and Mellissa T 2001 Work Post Modernism and organization Sage, New Delhi
9. Ramaswamy E.A. 1977 The worker and His union, Allied New Delhi
10. _____ 1978 Industrial Relations in India OUP, new Delhi
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12. Watson K. Tony 1995 Sociology, work and industry Routledge and Kagan Paul, London.

Paper No.XV/CC13

Marks-80

CRIMINOLOGY

Unit-I: Conceptual and Theoretical Approaches

- a. Legal, and Sociological concept of Crime
- b. Crime Causes prevention and Control
- c. Theories on Crime Causation; Sociological and Geographical

Unit-II: Type of Criminals and Crime

- a. Juvenile delinquency
- b. Women and Crime
- c. White collar crime

Unit-III: Changing Profile of Crime and Criminals;

- a. Corruption: Types, Causes, and Consequences.
- b. Cyber Crime: Causes, Prevention and Control
- c. Crime Against Women: Causes, Prevention and Control

Unit-IV: Theories of Punishment

- a. Retributive, Deterrent: Theories and Criticism
- b. Reformatory Theory: Probation and Parole
- c. Open Prison- Its Success and Failure

Unit-V: Terrorism

- a. Concept of Terrorism and Its Characteristics
- b. Terrorism in India
- c. Social and Legal Measures for Its Prevention and Control

References:

1. Ahuja, R. 1969 Female offenders in India Meenakshi Prakashan, Meerut
2. Madan, G.R. 1985 Indian social problems-I Allied Publishers, New Delhi
3. Mahapatra, S. 2002 Rays of Hope: Forum for fact finding documentation and Advocacy Raipur.
4. Mishra, R and Mohanty, S. 1992 Police and Social change in India Ashish publishing House, New Delhi.
5. National Crime records Bureau 2000 Crime in India, New Delhi.
6. National human rights commission 2000-2001 Annual Report Sardar Patel Bhawan. New Delhi.
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8. Singh, S. and Srivastava, S.P. (ed) 2001 Gender equity through women's empowerment. Bharat book center, Lucknow.
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10. Vadackumchery, J. 1996 The police and Delinquency in India. APH Publishing corporation, New Delhi.

FOURTH SEMESTER

Paper No. XVI/CC14

Marks-80

MODERN SOCIOLOGICAL THEORIES

Unit-I: Symbolic Interactionism

- a. Concept and Characteristics of Symbolic Interactionism
- b. Contributions of G.H. Mead
- c. Contribution of H. Blumer
- d. Criticism

Unit-II: Phenomenology

- a. Concept and Characteristics of Phenomenology
- b. Contributions of Alfred Schutz
- c. Contributions of Peter Berger
- d. Criticism

Unit-III: Ethnomethodology

- a. Concept and Characteristics of Ethnomethodology
- b. Contribution of Harold Garfinkel
- c. Contribution of Irving Goffman
- d. Criticism

Unit-IV: Critical Theory

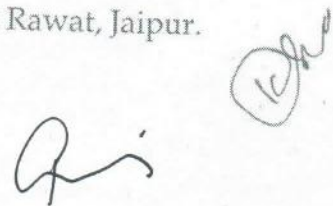
- a. Concept and Characteristics of Critical Theory
- b. Contributions of Adorno
- c. Contributions of Habermas
- d. Criticism

Unit-V: Post Modernism

- a. Concept and Characteristics of Post Modernism
- b. Contributions of Michel Foucault
- c. Contributions of Jacques Derrida
- d. Criticism

References:

1. Abraham, M.F. 2001 Modern Sociological Theory: An introduction Oxford, New Delhi
2. Adams, B.N. and Sydie, R.A. 2001 Sociological Theory, Vistaar, New Delhi
3. Alexander, J.C. 1987 Twenty lectures: Sociological theories since world war-II Columbia Univ. Press New York
4. Apadurai, A. 1996 Modernity at large: Cultural Dimensions of Globalisation University of Minnesota Press, Minneapolis
5. Bottomore, T. 1984 The Frankfurt School, Tavistock, London
6. Bourdieu, P. 1995 Sociology in Question, Sage, London.
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 13. Lash, S. Sociology of Post Modernism Routledge and
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 14. Podogorecki, A and Multi Dimensional Sociology Routledge and
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2001 Rawat, Jaipur
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1998 Theory. Rawat, Jaipur.

Paper No. XVII/CC15

Marks-80

COMPARATIVE SOCIOLOGY

Unit-I: Historical and Social Context of Emergence of Sociology in the West

- a. Emergence of Sociology in West
- b. Eurocentric base of western Sociological Tradition
- c. Americanization of Sociology
- d. National Tradition in Sociology

Unit-II: Central Themes in Comparative sociology

- a. Modernity and Development:- Concept, Characteristics and issues
- b. Diversity and multi Culturalism:- Concept, Characteristics and issues
- c. Environment:- Concept, Characteristics and issues
- d. Globalization; Concept, Characteristics and issues

Unit-III: Theoretical Concerns in Comparative sociology

- a. Problems of theoring in sociology
- b. Theoretical and Methodological approaches in sociology
- c. Policy issues: Formulation and Evaluation

Unit IV: Current Debates

- a. Contextitualization- Iravati Karve

- b. Indianization- G.S.Ghurye, K.M.Kapadia
- c. Use of Native Categories- M.N.Srinivas , A.Beteille
- d. Criticism and present status

Unit-V: Debate on "For Sociology of India"

- a. Sociology of India- D.P.Mukherjee,R.K.Mukherjee
- b. Sociology in India-School of Sociology in Bombay, Lucknow and Delhi
- c. Sociology For India- Louis Dumont,Pocock,Yogendra Singh and Indra Deva
- d. Criticism and present status

References:

- 1 Anderski, S 1961: Elements of Comparative Sociology(London , Widenfeld and Nicolson)
- 2 Beteille, Andre 1987: Essays in Comparative Sociology(New Delhi: Oxford University Press)
- 3 Beteille, Andre 1992: Society and Policies in India: Essays in Comparative Sociology(New Delhi: Oxford University Press)
- 4 Berremen, G.D 1981: The Politocs of Truth : essays in Critical Anthopology, New Delhi: South. Asian Publishers)
- 5 Dube, S. C. 1973: Modernization and Development: The search for alternative paradigm (New Delhi: Vistar)
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- 7 Ferreira, J.V. and A.R.Momineds: 1983: Nemesis-CulturalPerspectives on modernization (Bombay, Ramkrishna Publication)
8. Genov, Nikolai, 1989: National Traditions in Sociology (Delhi: Sage)
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- 10 Kothari,Rajan1988 : Rethinking Development: In search of Human Alternatives Delhi: Ajanta.
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- 14 Parekh, Bhikhu 2000 Rethinking Multiculturalism: Cultural Diversity and Political Theory(London: Macmillian)
- 15 Saraswati B.N.1994: Interface of Cultural Identity and Development (New Delhi: Indira Gandhi National Centre of the Arts)
- 16 World Commission on environment and (New Delhi: Oxford University Press)

- Development, 1987:
17 Wallerstein, Modern World System (New York: Oxford
Immanuel 1974: University Press)

Paper No.XVIII/CC16

Marks-80

CONTEMPORARY ISSUES IN INDUSTRY

Unit-I: Industrial Relation

- Importance of Human Relations at work
- Conflict: Causes and Types, Resolution of Conflict
- Conciliation and Collective Bargaining
- Worker's Participation in Management

Unit-II: Trade Union and Industrialization

- History of Trade Unionism in India
- Objectives and Functions
- ILO and Trade Unions in India
- Trade Unionism in Globalization

Unit-III: Industry and Society

- Impact of Industry on Family
- Impact of Industry on Stratification
- Industrialization and Migration
- Industrialization and Religion

**Unit-IV: Industrilization in Third world Countries in the Era of
Globlization**

- FDI and Third World
- International Agencies: World Bank and Third world countries
- Status of Industries in Third World Countries

Unit-V: Contemporary Issues

- Industrialization and Women Labour
- Industrialization and Child Labour
- Industrialization and Environment
- Problem of Industrialization in Developing Countries

References:

- Agrawal R.D. Dynamics of Indian labour relations in India (A
1972 Book regarding Mc-Graw Hill, Bombay)
- Aziz Abdul Labour problems of developing economy Ashis
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11. Thiwait, P.K. 1987 Social Structure of a Planned Town, Institute of Social Research and Applied Anthropology, Calcutta.
12. Watson K. Tony 1995 Sociology, work and industry Routlodge and Kagan Paul, London.

Paper No.-XIX/CC17

Marks-80

CRIMINOLOGY: CORRECTIONAL AND ADMINISTRATION

Unit-I: Roots of Correction to prevent Crime

- a. Socialization
- b. Family values: Truth, Obedience, honesty, integrity, morality, ethics.
- c. Role of education

Unit-II: Correction and It's Forms

- a. Meaning and Significance of Correction; Prison Based and Community Based
- b. Correctional Programmes in Prison; History of Prison Reforms in India
- c. After Care and Rehabilitation Programme.

Unit-III: Problem of Correctional Administration

- a. Overcrowding; Lack of Inter Agency Co-Ordination among Police Prosecution, Judiciary and Prison
- b. Prison Offences
- c. Problem of Criminal Justice Administration

Unit-IV: Victimological Perspective

- a. Victim's Responsibility in Crime
- b. Violation of Prisoner's Human Rights
- c. Problems of Women Offenders.

Unit-V: Community Policing

- a. Concept and Objectives
- b. Types
- c. Significance

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References:

1. Ahuja, R. 1981 The Prison System Sahitya Bhawan, Agra
2. _____ 1997 Contemporary Social problems in India Rawat, Jaipur.
3. Advani, NH, 1978 Perspectives on Adult Crime and correction. Abhinav Publication, New Delhi.
4. Bedi, K. 1998 It is always possible sterling, New Delhi.
5. Devasia, L and Devasia, V.V. (ed) 1989 Female criminals and Female Victims: An Indian Perspective Dattsons, Nagpur.
6. Gosmami, B.K. 1983 Criminology and Penology Allahabad
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11. William, H.E. 1990 The correction Profession Sage, New Delhi.

Paper No.-XX/P3

Marks-100

PROJECT REPORT

On Rural and Urban Problems

Scheme of Evaluation- 50% by Internal Examiner and rest 50% by Viva-Voce Examination evaluated both by the Internal and External Examiner.



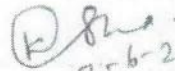

SYLLABUS OF ANNUAL EXAM
ORDINANCE NO. 13
Master of Arts Examination

1. The Examination for the degree of master of Arts shall consists of two parts
 - (a) The Previous Examination, and
 - (b) The Final Examination.
2. A candidate who after taking his Bachelor's degree of the University or an examination of any statutory University in India which has been recognised by the University and has completed a regular course of study in the teaching department of the University or in a College in the subject in which he offers himself for examination for one academic year shall be admitted to the Previous Examination for the degree of Master of Arts.

A candidate after passing a graduate examination under 11 +3 scheme or any other examination recognised by the University as equivalent there to shall be eligible for admission to a post-graduate course of studies where graduation is minimum qualification only after passing one year Bridge Course prescribed for the purpose. This shall apply to students graduation in 1991 main examination.
3. A candidate who after passing the M. A. Previous Examination of the University, has Completed a regular course of study for one academic year in a teaching department of the University or in a colleges shall be admitted to the Final Examination for the degree of master of Arts in the subject in which he/she passed the Previous Examination.

A candidate who has passed the Previous Examination for the degree of Master of Arts of another University may also be admitted to the Final Examination for the degree of Master of Arts after obtaining necessary permission from the Kulpati, provided that he offered for his Previous Examination a course of study of an equivalent standard with almost identical syllabus as required for one Previous Examination of the University and has attended a regular course of study for one academic year in a College affiliated to the University or a teaching department of the University.
4. Besides regular students and subject to other compliance with this Ordinance, ex-collegiate students and non-collegiate candidates shall be eligible for admission to the Examination as per provisions of Ordinance No.6 relating to Examination (General). Provided that in the subject where field work or practical work is prescribed only such candidates will be permitted to appear as non-collegiate candidates as have obtained permission of the Head of the University Teaching Department or Principal of the College teaching such subject.

Provided that non-collegiate candidates shall be permitted to offer only such subjects/ papers as are thought to be the regular students at any of the University Teaching Department or College.
5. The subject of the examination shall be one of the following:
 - (i) English
 - (ii) Hindi.
 - (iii) Economics
 - (iv) Political Science


2-6-2018

Head,
S.O.S. in Sociology & Social Work,
Pt. Ravishankar Shukla University,
Raipur. (C.G.)



- (v) History
 - (vi) Philosophy
 - (vii) Sanskrit
 - (viii) Mathematics
 - (ix) Linguistics
 - (x) Geography
 - (xi) Sociology
 - (xii) Anthropology
 - (xiii) Classics
 - (xiv) Ancient Indian History, Culture and Archeology
 - (xv) Public Administration
 - (xvi) Defence Studies
 - (xvii) Statistics

A candidate securing 60% or more marks in the M.A./M.Com. Previous Examination will be eligible to offer dissertation in lieu of one of the optional papers for the Final. A regular candidate can offer dissertation with the permission of the Professor and the Head of Department of his Institution, while a private candidate will have to secure the prior permission in writing of anyone of the Professors of the subject working in an institution within the jurisdiction of the University and will work under supervision of that Professor after obtaining prior permission of the University to that effect.

6. A candidate who has passed the M. A. Examination of the University in any subject shall be allowed to present himself for the M.A. Examination in any one or more of the optional papers in that subject not taken by him at the said examination and is successful will be given a certificate to that effect.
No Candidate shall be allowed to offer more than two additional papers in any one year.
7. For both the Previous and Final Examination a candidate will be declared successful if he/she obtains atleast 36% of the aggregate marks in the subject. In subject, in which both Theory and Practical Examinations are held the examinee must pass separately- in the Practical Examination obtaining not less than 36% marks.
8. No division will be assigned on the result of the Previous Examination, The division in which a candidate is placed shall be determined on the basis of aggregate of marks obtained in both the M. A. Previous and the M.A. Final Examination.
9. Successful candidate who obtain 60% or more of the aggregate marks shall be placed in the First Division, those obtaining less than 60% but not less than 48% in the Second Division and all other successful candidates obtaining less than 48% in the Third Division.
10. Candidates who have passed the M.A. Examination of the University in any subject in Third or Second Division and desire to appear at the M.A. Examination in the same subject for improving division without attending a regular course of study in a college affiliated to the University or in a teaching Department of the University be allowed to appear at the aforesaid examination as non-collegiate student on the following Conditions:-
 - (i) There shall be only two Divisions for such candidates the First Division and Second Division. The marks required for obtaining these divisions shall be same as



prescribed in the Ordinance i. e. examinees who are successful in Final of the Examination and have obtained 60% or more aggregate of the marks in Previous and Final Examination taken together shall be placed in the First Division and examinees who are successful in Final Examination and have obtained less than 60% but not less than 48% of aggregate marks Previous and Final Examinations taken together shall be placed in the Second Division.

- (ii) The result of the candidates obtaining less than 48% of the aggregate marks in Previous and Final of the examination taken together shall not be declared.
 - (iii) Candidates shall be option to appear at both the Previous and Final Examinations in one and the same year and for being successful at the examination, the candidates shall obtain 48% of the aggregate marks. Provided that such candidates who up to appear in Previous and Final Examinations separately shall have to obtain minimum aggregate required for the Previous Examination but he will have to obtain atleast 48% in the aggregate of Previous and Final Examinations taken together or else his result will be cancelled.
 - (iv) The syllabus for the examination shall be the same as prescribed for the year in which the examination is held.
 - (v) Not more than two attempts shall be allowed to such a candidate. Failure or non-appearance at the examination after permission has been accorded by the University, shall be counted as an attempt. Provided however such candidates who up to appear at the Previous and Final examination separately will be allowed only one attempt at the previous examination and two attempts at the Final Examination.
 - (vi) Candidates who wish to avail the opportunity given in foregoing paras will have to apply for permission as required in the Ordinance relating to admission of Non-collegiate students to the University examinations, alongwith requisite registration fee.
 - (vii) In case, a student improves his division under provision of this para, the fresh Degree will be issued after canceling his first Degree.
11. Transitory Provision II; The replaced Ordinance relating to Master of Arts Examination shall remain effecting till the examination of 1991, and this new Ordinance shall be Applicable from the examination 1992.

USE OF CALCULATORS

The students of Degree/P.G. classes will be permitted to use Calculator in the examination-hall on the following conditions as per decision of the standing Committee of the Academic Council at its meeting held on 31-1-1986.

1. Student will bring their own Calculators.
2. Calculators will not be provided either by the University or examination centres.
3. Calculators with memory and following variables be permitted; +, square, reciprocal, exponential log, square root, trigonometric functions viz. sine, cosine tangent etc. factorial summation, xy, yx and in the light of objective approval of merits and demerits of the viva only Will be allowed.

Ar *Ed*

Academic Year 2018-2019

**M.A. PREVIOUS (Code-021)
SOCIOLOGY**

एम.ए.पूर्व समाजशास्त्र में निम्नलिखित पांच प्रश्न-पत्र होंगे

क्रमांक	प्रश्न-पत्र	प्रश्न-पत्र का नाम	कोड	पूर्णांक	
1.	Paper - I	Classical Sociological Tradition	(0323)	100	
2.	Paper - II	Methodology of Social Research	(0324)	100	
3.	Paper - III	Sociology of Change and Development	(0325)	100	
4.	Paper - IV	Rural Society in India	(0326)	100	
5.	Paper - V	Urban Society in India	(0327)	100	

PAPER - I

CLASSICAL SOCIOLOGICAL TRADITION

(Paper Code - 0323)

UNIT-1 Historical Socio- Economical background of the emergence of Sociology.

Traditional feudal economy and social structure.

Impact of Industrial revolution and of new mode of production on society and economy.

The emergence of capitalistic mode of production nature and features of capitalism.

August Comte positivism, Law of three stages, Hierarchy of Science.

UNIT-2 Karl Marx;

Marxian Dialectical materialism as a philosophical perspective of change and its laws Materialistic interpretation of history; As a perspective of explaining transformation of human society through different stages.

Mode of Production and social structure.

Basic structure and super structure.

Concept of surplus value and exploitation.

Emergence of classes and class conflict.

Proletariat revolution and future of capitalism classless society.

Alienation in the capitalist society- Factors responsible for alienation and its social implications.

Views on political power. The state in relation to social classes.

Future of the state after proletariat revolution.

Marx and sociology of Knowledge.

UNIT-3 Emile Durkheim ;

Intellectual background. His preoccupation with the order and disintegration of society. Social disintegration as a legacy of industrial revolution. Increasing division of labour in the capitalist.

Mechanical and organic solidarities. Explanation of increasing division of labour.

Pathological forms of division of labour.

Theory of suicide; Review of earlier theories of suicide, Suicide rate.

Types of suicide, Problem of integration of the individual with society.

4

Theory of religion; Earlier theories of the emergence and role of religion, structure of religion, sacred and profane, source of sacredness of the sacred things as symbols of ultimate values. Society as a supreme God. Religious rituals-their types. Social role of religious beliefs and rituals.
Contribution to the methodology of sociology- Sociology as a science. Concept of social facts.

UNIT-4 Max Weber;- Intellectual background. Theory of social action. Types of social action.

Views on the role of ideas and values in social change with reference to the relationship

between protestant ethic and emergence of capitalism.

Theory of Authority. Authority and power. Types of authority Theory of Bureaucracy. Capitalism and growing rationalism and emergence of modern bureaucracy.

Relationship between political leaders and bureaucracy.

Contribution to the methodology of social science. Concepts of Verstehen and ideal type.

UNIT-5 Vilfredo Pareto

Intellectual background

Contribution to the methodology - his logico-experimental method.

Classification of logical and non-logical actions.

Explanation of non-logical actions in terms of his theory of Residues and Derivatives. Classification of Residues and Derivations.

Theory of social change, Elites and masses. Types of elites, their classification, Circulation of Elites.

BOOKS RECOMMENDED :

1. Parsons, Talcott : The structure of social action Vol. I & II, McGraw Hill, New York, 1937-1949.
2. Nisbet : The Sociological Tradition. Heinemann Educational Book Ltd. London, 1966.
3. Zeitlin, Irvin : Ideology and the Development Sociological theory, Prentice Hall, 1981.
4. Dahrendorf, Ralph : Class and class conflict in an Industrial Society, Stanford University Press 1959.
5. Bendix, Rinehard : Max Weber : An Intellectual portrait, Double Day, 1960.
6. Popper, Karl : Open Society and its Enemis, Routledge, London, 1945.
7. Aron, Reymond : Main Currents in Sociological Thought, Vol. I & II, Penguin, 1965-1967.
8. Coser, L.A. : Masters of Sociological thought, Harcourt Brace, New York 1977.
9. Giddens, Anthony : Capitalism and Modern Social theory - An Analysis of writings of marx, Durkheim and Weber, Cambridge University Press, 1997.
10. Hughes John A. : Martin Peter, J. and Sharrock, W.W. : Understanding Classical Sociology- Marx Weber and Durkheim, Sage Publication, London, 1995.

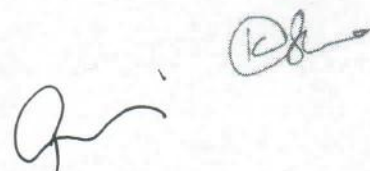
PAPER -II

METHODOLOGY OF SOCIAL RESEARCH

(Paper Code - 0324)

UNIT-1 Philosophy of social science; Enlightenment, reason and science, Cartesian philosophy, structure of scientific revolution (Kulin). Positivism and its critique; contribution of Comte, Durkheim and popper positivism, Critique of positivism;

5



Fayerband and Giddens

UNIT-2 Logic of Inquiry in social science research

Inductive and Deductive

Theory building Scientific method in social research

Objectivity/value neutrality. Hypothesis

UNIT-3 Quantitative methods and survey research;

Survey techniques. Limitations of survey. Operationalization and research design.

Sampling design. Questionnaire Construction, Interview schedule.

Measurement and scaling. Reliability and Validity.

UNIT-4 Qualitative Research Techniques.

Techniques and methods of qualitative research.

Participant observation ethnography, interview Guide.

Case study method. Content analysis. Oral history, narratives.

Life history, genealogy.

Encounters and experiences in field work.

Data processing.

Reliability and validity in qualitative research.

UNIT-5 Statistics in Social Research;

Measures of central tendency; Mean, Median, Mode.

Measures of Dispersion; Standard Deviation.

Correlational Analysis; Tests of Significance and covariance.

Social Research, Action Research, Participatory Research.

Ethical issues in Social Research.

BOOKS RECOMMENDED :

1. Barnes, John A. ; Who Should know what ? Social Science, Privacy and Ethics, Harmondsworth : Penguin, 1979.
2. Bose, Pradip Kumar, ; Research Methodology. ICSSR, New Delhi, 1995.
3. Bryman, Alan ; Quality and Quantity in Social Research, Unwin Hyman, London, 1988.
4. D.A. De vaus : Surveys in Social Research, George Relen and Unwin, London, 1986.
5. Irvine, J., I. Miles and J. Erveans (Eds.); Demystifying Social Statistics, Pluto Press, London, 1979.
6. Madge, John ; The Origins of Scientific Sociology, Tavistock, London, 1970.
7. Marsh, Catherine ; Exploring Data, Polity Press, Cambridge, 1988.
8. Punch, Keith : Introduction to Sociol Research, Sage Publication, London, 1986.
9. Srinivas, M.N. and A.M. Shah : Field Worker and the Field, Oxford University Press, New Delhi, 1979.
10. Beteille A. and T.N. Madan : Encounter and Experience : Personal Accounts of Field work, Vikas Publishing House Pvt. Ltd., New Delhi, 1975.
11. Kuhn, T.S., The Structure of Scientific Revolutions, The University of Chicago Press, London, 1970.
12. Mukherjee, P.N. (ed.) : Methodology in Social Research ; Dilemmas and Perspectives, Sage, New Delhi, 2000.
13. Popper, K. : The Logic of Scientific Discovery , Routledge, London, 1999.
14. Shipman, Martin : The Limitations of Social Research, Longman, London, 1988.
15. Sjoberg, Gideon and Roger Nett : Methodology for social research, Rawat, Jaipur, 1997.
16. Smelser, Neil J. : Comparative Methods in Social Science.

PAPER-III
SOCIOLOGY OF CHANGE AND DEVELOPMENT
(Paper Code - 0325)

- UNIT-1** Meaning and forms of social change; Evolution, Progress, transformations
Theories of social change; Linear, Cyclical
Factors of social change ; Demographic economic, religious, infotech and media.
- UNIT-2** Social Change in contemporary India; Trends of change, processes of change
Sanskritization, Westernization, Modernization, Secularization.
Changing Conceptions of Development; Economic growth, human development, social development; Sustainable development, the question of sustainability.
- UNIT-3** Theories of Development and underdevelopment; modernization theories, centre-peripheri, world systems, unequal exchange.
Paths and Agencies of Development; Capitalist, socialist, mixed economy, Gandhian; state, market, non- governmental organizations.
- UNIT-4** Social Structure and Development; structure as a facilitator/ inhibitor, development and socio-economic disparities, gender and development.
Culture and development; Culture as an aid, development and displacement of tradition.
- UNIT-5** Indian Experience of development; sociological appraisal of Five-Year plans, social consequences of economic reforms, socio- cultural repercussions of globalization, social implications of info-tech revolution.
Formulating social policies and programmers; policy & project planning, implementations.

BOOKS RECOMMENDED :

1. Abraham, M.F. : Modern Sociological Theory : An Introduction, OUP, New Delhi, 1990.
2. Agarwal B. : A Field of One's Own : Gender and Land Rights in South Asia, Cambridge University Press, Cambridge, 1994.
3. Appadurai, Arjun : Modernity at Large : Cultural Dismensions of Globalization. OUP, New Delhi, 1997.
4. Dereze, Jean and Amartya Sen : India : Economic Development and Social Opportunity, OUP, New Delhi, 1996.
5. Desai, A.R. : India's Path of Development : A Marxist Approach, Popular Prakashan Bombay, 1985.
6. Giddens, Anthony : Introduction to Sociology IIInd Ed., W.W. Norton & Co. New york, 1996.
7. Harrison D. : The Sociology of Modernization and Development, Sage, New Delhi, 1989.
8. Haq, Mahbub ul : Reflections on Human Development, OUP, New Delhi, 1991.
9. Moore, Wilbert and Robert Cook : Social Change, Prentice Hall, New Delhi, 1967.
10. Sharma S.L. : Development Socio-Cultural Dimensions, Rawat, Jaipur, 1986.
11. Srinivas, M.N. : Social Change in Modern India, University of Berkley, 1966.
12. Amin, Samir : Unequal Development OUP, New Delhi, 1979.
13. Giddens, Anthony : The Consequences of modernity, Polity Press, Combridge, 1990.
14. Kiely, Ray and Phil Marfleet (eds) : Globalization and the third World, Routledge, London, 1998.



15. UNDP : Human Development Report, Oxford University Press, New York, 1997.
16. UNDP : Sustainable Development, OUP, New York.
17. Wallerstein Immanuel : The Modern World System, OUP, New York, 1974.
18. World Bank : World Development Report, New York, 1995.

PAPER- IV
RURAL SOCIETY IN INDIA
(Paper Code - 0326)

- UNIT-1** Rural society in India as agrarian and peasant social structure.
Basic characteristics of peasant and agrarian society.
- UNIT-2** Family, caste, religions, habitat and settlement, in rural society in India.
Debates of mode of production and agrarian relation-tenancy lands and labour.
- UNIT-3** Agrarian legislation and rural social structure.
Rural poverty, emigration, landless labour.
- UNIT-4** Planned change for rural society.
Panchayati Raj Role of women in panchayati Raj. Rural development strategies (I R D P). Integrated Rural Development Programme.
- UNIT-5** Major agrarian movements in India-a critical analysis.
Globalisation and its impact on agriculture.
Water and agriculture; Irrigation management practices.

BOOKS RECOMMENDED :

1. Berch, Berberogue Ed : Class State and Development in India, sage, New Delhi, 1992.
2. Desai A.R. : Rural Sociology in India, Popular Prakashan, Bombay, 1977.
3. Mencher J.P. : Social Anthropology of Peasantry Part - III, OUP, 1983.
4. P. Radhakrishnan, : Peasant Struggles : Land Reforms and Social Change in malabar 1836-1982, Sage Publications, New Delhi, 1989.
5. Thorner, Daniel and Thorner Alice : Land and Labour in India, Asia Publications Bombay, 1962.
6. Andre Beteille : Six Essays in Comparative Sociology, OUP New Delhi, 1974.
7. Dharagare D.N. : Peasant Movements in India, OUP New Delhi, 1988.
8. Ashish Nandy : Ambiguous Journey to the City, New Delhi, OUP, 1999.

PAPER - V
URBAN SOCIETY IN INDIA
(Paper Code - 0327)

- UNIT-I** Classical sociological traditions as urban and city dimensions, Emile Durkhiem, Karl Marx, Max Weber and Tonnie.

Urban community and spatial dimensions. Park, Burgers and Mc Kenzie.

R. D.

George Simmel : Metropolis, Louis - Wirth Urbanism and Redfield Rural-Urban continuum as cultural form.

- UNIT-II** Urban sociology in India ; Emerging trends in urbanisation, Factors of urbanisation, sociological dimensions of urbanisation, Social consequences of urbanisation.
- UNIT-III** Classification of urban centres, cities and towns, City industrial urban-base, its growth and special features, Industry centered developments.
- UNIT-IV** Changing occupational structure, and its impact on social stratification - class, caste Gender, family Indian city and its growth, migration, problems of housing, slum development, urban environmental problems, urban poverty,
- UNIT-V** Urban planning and problems of urban management of India. Urban institutions, Factors affecting planning, regional planning and the links between social and spatial theory.

BOOKS RECOMMENDED :

1. Quinn J.A., Urban Sociology, S Chand & Co., New Delhi 1955.
2. Pickwance C.G. (ed), Urban Sociology ; Critical Essays, Methuen 1976.
3. Saunders peter, Social Theory and Urban Question, Hutuchionson 1981.
4. Bose Ashish, Studies in India urbanisation 1901-1971, Tata McGraw Hill 1978.
5. Abrahamson M., Urban Sociology, Englewood, Prentice Hall 1976.
6. Ronnan, Paddison, Handbook of Urban Studies, Sage : India 2001.
7. Bharadwaj, R.K. : Urban Development in India. National Publishing House 1974.
8. Gold, Harry, : Sociology of Urban life. Prentice Hall, Englewood Cliff 1982.
9. Colling Worth, J.b. : Problems of Urban Society VOL. 2 George and Unwin Ltd 1972.
10. Alfred de Souza. The Indian City ; Poverty, ecology and urban development Manohar, Delhi 1979.
11. Desai A.R. and Pillai S.D. (ed) Slums and Urbanisation, Popular Prakashan, Bombay 1970.
12. Castells M, : The Urban Question, Edward Arnold, London 1977.
13. Ramachandran R. ; Urbanisation and Urban Systems in India, OUP, Delhi 1991.
14. Ellin Nan Post Modern Urbanisim, Oxford UK 1996.
15. Edward W. Soja, Post Metropolis ; Critical Studies of cites and regions. Oxford Blakcwell 2000.
16. Fawa F. Sylvia, : New Urbanism in World Perspectives - a Reader. T.Y. Cowell, New York 1968.



एम.ए. अंतिम समाजशास्त्र

एम.ए. अंतिम समाजशास्त्र में निम्नलिखित पांच प्रश्न-पत्र होंगे

क्रमांक	प्रश्न-पत्र	प्रश्न-पत्र का नाम	कोड	पूर्णांक
1.	Papar I	Theoretical Perspectives in sociology	(0329)	100
2.	Papar II	Perspectives on Indian Society	(0330)	100
3.	Papar III	Industry and Society in India.	(0332)	100
4.	Papar IV	Criminology	(0333)	100
5.	Papar V	Political Sociology.	(0334)	100

PAPER - I
THEORETICAL PERSPECTIVES IN SOCIOLOGY
(Paper Code - Code-0329)

UNIT-I Introduction

Nature of sociological theory- Levels of theorisation in sociology- Relationship between theory and research.

Structural-Functionalism

The idea of social structure : A.R. Radcliffe-Brown- The problems of role analysis
S.F. Nadel- Functional dimensions of social system : T. Parsons - Codification,
critique and reformulation of functional analysis : R.K. Merton - Neofunctionalism :
J. Alexander.

UNIT-II Conflict Theory

Marx critique and dialectics of conflict : R. Dahrendorf - Functional analysis of
conflict L. Coser- Conflict and social change : R. Collins

UNIT-III Neo Marxism :

Structuralism Marxism : L. Althusser : Action Theory. Pareto, Max Weber and
Parsons.

UNIT-IV Interactionist perspective

Symbolic Interactionism : G.H. Mead and H. Blumer - Phenomenological Sociology
: A. Schutz - Social construction of reality : P. Berger and T.G. Luckmann,
Ethnomethodology : H. Garflinkel

UNIT-V Recent trends in sociological theorizing

Structuration : Anthony Giddens - Habitus and field : Bourdieu - Postmodernism-
Focault and Botrilard.

BOOKS RECOMMENDED :

1. Alexander, Jaffery C., Twenty lectures : Sociological theory since world war II. New York, Columbia University Press 1987.
2. Bottmore, Tom. : The Frankfurt school, Chester, Sussex : Ellis Horwood and London : Tavistock Publications 1984.
3. Craib, Ian. : Modern social theory : From Parsons to Haberman (2nd edition). London : Harvester Press 1992.

Ri-Edo

4. Collins, Randall, (Indian edition) : Sociological theory, Jaipur and New Delhi. Rawat 1997.
5. Giddens, Anthony, : Central problems in social theory : Action, structure and contradiction in social analysis, London, Macmillan 1983.
6. Kuper, Adam. : Anthropologists and anthropology : The British school, 1922-72 Harmondsworth, Middlesex : Penguin Books 1975.
7. Kuper, Adam and Jessica Kuper (eds.). (2nd edition) : The social science encyclopaedia, London and New York : Routledge 1996
8. Ritzer, George. (3rd edition) : Sociological theory, New York : Mc Graw-Hill 1992.
9. Sturrock, John (ed.) : Structuralism and since : From Levi Strauss to Derrida. Oxford : Oxford University Press 1979.
10. Turner, Jonathan H. (4th edition) : The Structure of sociological theory, Jaipur and New Delhi : Rawat 1995.
11. Zeitlin, Irving M. (Indian edition) : Rethinking sociology : A critique of contemporary theory, Jaipur and New Delhi : Rawat 1988.

PAPER - II
PERSPECTIVES ON INDIAN SOCIETY
(Paper Code - 0330)

THEORETICAL PERSPECTIVES

UNIT-I Indological/Textual (G.S. Ghure)

Conceptualizing Indian Society in terms of certain distinctive characteristics and configuration Dharma, Varna, Ashrama, Karma, Rhen and Purushartha.

UNIT-II Synthesis of Textual and Field views (Irawati Karve, K.M. Kapadia)

Linkage and Network building reasons group and community family, marriage, kinship system and Indian social organization.

UNIT-III Structural functionalism (M.N. Srinivas, S.C. Dube)

The village as a nucleus of Indian Society, Social Hierarchy, Caste System, Caste and Class in Contemporary India.

UNIT-IV Civilizational View (N.K. Bose)

The scale of magnitude of culture; religions, Institutionals and Linguistic, Diversity in India. Tradition and modernity as a continuity between past and present institutions.

UNIT-V Subaltern perspectives (B.R. Ambedkar)

Elites, Backward classes, Minorities and Tribes, Problems of Scheduled caste and scheduled tribe, Indian society and Legislation, Casteism, Untouchability communalism, Regionalism and National integration.

ESSENTIAL READINGS :

1. DeSouza, P.R. ed. Contemporary India - Transitions (New Delhi : Sage) 2000.
2. Dhanagare, D.N. : Themes and Perspectives in India Sociology (Jaipur Rawat) 1993.
3. Dube, S.C. : Social Sciences in a Changing Society (Lucknow University Press) 1973.
4. Dube, S.C. : The Indian Village (London : Routledge, 1955) 1967.
5. Durnont, Louis : Homo Hierarchicus : The Caste System and its implications (New Delhi:

Vikas) 1970.

6. Karve, Irawati : Hindu Society : An Interpretation (Poona : Deccan College) 1961.
7. Momin, A.R. : The Legacy of G.S. Ghurye : A Centennial estschrift Popular Prakashan, Bombay) 1996.
8. Mukherjee : D.P. : Divesities People's Publishing House, Delhi 1958.
9. Oommen, T.K. and P.M. Mukherjee, eds. : Indian Sociology : Reflections and Introspections, Popular Prakashan, Bombay 1986.

(R/S)


10. Singh, K.S. : The People of India : An Introduction, Seagull books, Calcutta 1992.
11. Singh, Y. : Indian Sociology : Social Conditioning and Emerging Concerns, Delhi Vistaar 1986.
12. Singh, Y. : Modernisation of Indian Tradition, Delhi, Thomson Press 1973.
13. Srinivas, M.N. : India's Villages Asia Publishing House, Bombay 1960.
14. Tylor, Stephen : India : An Anthropological Perspective.
15. Hardiman, David : Feeding the Bania : Peasants and Usurers in Western India Oxford University Press 1996.
16. Hardiman, David : The coming of the Devi : Adivasi Assertion in Western India, Oxford University Press 1987.
17. Lannoy, Richard : The Speaking Tree, A Study of Indian Culture and Society, London, Oxford University Press 1971.
18. Marriott, McKim : India through Hindu Categories Sage, Delhi 1990.
19. Mohan, McKim : India through Hindu Categories Sage, Delhi 1990.
20. Mohan, R.P. and A.S. Wilke, eds. : International Handbook of Contemporary Developments in Sociology London, Mansell 1994.
21. Singer, Milton and Bernard Cohn, eds. : Structure and Change in Indian Society, Chicago : Aldine Publishing Company 1968.
22. Singer, Milton : When A Great Tradition Modernizes, Delhi, Vikas 1972.

**PAPER-III
INDUSTRY AND SOCIETY IN INDIA
(Paper Code - 0332)**

COURSE OUTLINE :

- UNIT-I** Classical sociological tradition on industrial dimensions of society, Division of labour, Anomie, Bureaucracy, rationality, production relations surplus value and alienation. E. Durkheim KMarx and M Weber
- UNIT-II** Family, religion, stratification, habitat, settlement and environmental problems through industrialisation process.
- UNIT-III** Work, work process, technology and labour, work culture work ethics and human relation work.
The concept of organisation (formal and informal organisation) its structure and functions, personnel management scope and function.
- UNIT-IV** Industrial relations, conflicts, causes and types Resolution of conflict, conciliation, collective bargaining.
Trade union, their growth, functions and their role in industrial organisation.
- UNIT-V** Participatory management - varieties of such management, Industrial community labour migration, Women and child labour, family, Industrial city, social and environmental issues.

BOOK RECOMMENDED :

1. Zetlin Irwing, : Ideology and the development of Sociological theory VOL 1 & VOL 2. Basic Books, New York 1969.
2. Watson, k Tony, : Sociology work and industry, Routeledge Kegan, paul 1995.
3. Ramaswamy E.A. : Industry and Labour OUP 1988.
4. Ramaswamy E.A. : Industrial relations in India, New Delhi 1978.
5. Karnik V B : Indian trade union, A survey, Popular Prakashan, Mumbai 1970.

6. Mamoria C B and Mamoria : Dynamics of Industrial Relation in India, Himalay Publishing House, Mumbai 1992.
7. Ramaswamy E.A. : The worker and his Union, Allied, New Delhi 1977.
8. Ramaswamy E.A. : The worker and Trade Union Allied, New Delhi 1977.
9. Agarwal R.D : Dynamics of Labour Relations in India, A book readings, Tata Mc Graw Hill 1972.
10. Laxmanna, C et all : Workers Participation and industrial democracy. Global perspective Ajantha Publications 1990.
11. Philip Hancock, Melissa Taylor : Work Post Modernism and Organisation Sage India 2001.
12. Aziz Abdul : Labour problems or developing Economy Ashish publishing house 1984.
13. Miller and Form : Industrial Sociology, Harper and Row, New York 1964.
14. Parker S.R Brown K Child and Smith, M.A. : The Sociology of Industry, George Allen and Urwin Ltd. London 1964.
15. Gilbert S.J. : Fundamentals of Industrial Sociology Tata Mc Graw Hill Publishing co. Ltd. New Delhi 1985.

CRIMINOLOGY-IV (Paper Code - 0333)

- UNIT-I** Conceptual Approaches to Crime : legal, behavioral and sociological ; deviance, crime and delinquency ; types of crime - economic, violent, white-collar.
- UNIT-II** Perspectives on Crime Causation : classical, positivist, psychological, sociological, marxian, geographical ; recent theoretical advances - the criminal personality, labelling theory
- UNIT-III** Changing Profile of Crime and Criminals : organized crimes, crimes against women and children, cyber crimes, corruption, changing socio-economic profile of criminals in contemporary India.
Theories of punishment : retributive, deterrent, reformative, futility and cost of punishment
- UNIT-IV** Correction and its Forms : meaning and significance of correction : forms of correction-prison-based, community-based
Correctional Programmes in prisons : history of prison reforms in India, national policy on prisons : scientific classification of prisoners ; modernization of prison industry and involvement of private sector ; correctional programmes - educational, vocational, psychiatric, meditation, recreation, etc. New Delhi Model of Correction
- UNIT-V** Problems of Correctional Administration : antiquated jail manual and prison act, overcrowding, custodial mindset : lack of inter-agency coordination among police, prosecution, judiciary and prison ; human rights and prison management, limitations and prospects of correction . Alternatives to Imprisonment : probation, parole, open prisons, after-care and rehabilitation

BOOKS RECOMMENDED :

1. Bedi, Kiran It Is Always Possible. New Delhi : Sterling Publications Pvt. Ltd. 1998.
2. Gill, S.S. : The Pathology of Corruption. New Delhi : Harper Collins Publishers (India) 1998.
3. Goel, Rakesh M. and Manohar S. Powar, Computer Crime : Concept, Control and Prevention. Bombay : Sysman Computers Pvt. Ltd. 1994.



4. Lilly, J. Robert, Francis T. Wallen and Richard Ball A. Criminological Theory, Context and Consequences. New Delhi : Sage Publications 1995.
5. Makkar, S.P. Singh and Paul C. Friday, Global perspectives in Criminology, Jalandhar : ABC Publications 1993
6. Ministry of Home Affairs, Crime in India. New Delhi : Government of India 1998.
7. Reid, Suetitus. Crime and Criminology, Ikkinayse : Deydan Press 1976.
8. Shankardas, Rani Dhavan, Punishment and the Prison : India and International Perspective. New Delhi : Sage Publications 2000.
9. Sutherland, Edwin H. and Konald R. Cressey. Principles of Criminology. Bombay : The Times of India Press 1968.
10. Walklete, Sandra, Understanding Criminology. Philadelphia : Open University Press 1998.
11. Williamsan, harald E. Criminological Theory. New Jersey : Prentice-Hall 1990.
12. Williamsan, Harald E. The Correction profession, New Delhi : Sage Publications 1990.
13. Bequai, August. Computer Crime. Tononto : Lesington Books 1978.
14. Buckland, John. Combating Computer Crime : Prevention, Detection and Investigation, New Delhi : McGraw Hill 1992.
15. Drapkin, Ismail and Viano, Emilio. Victimology : A New Focus. London, Lesington press 1975.
16. Hallman, Taryl A. The Economics of Crime. New York : St. Martin's Press 1950.
17. Inciarti James A. and Pottieger Anne E. 1978. Violent Crime : Historical and Contemporary Issues. London : Sage Publications.
18. Ministry of Home Affairs. Report of the All India Committee on Jail Reforms. 1980-83, New Delhi : Government of India.
19. Pace, Denay F. Concept of Vice, Narcotics and Organised Crime. London Prentice - Hall 1991.
20. Revid, Jorathan. Economic Crime. London, Kegan Paul 1995.
21. Ryan, Ptrick J. and George Rush. Understanding Organized Crime in Global Perspective. London : Sage Publications 1997.
22. Weisburd, Dand and Kip Schlegal. White Collar Crime Reconsidered. Boston Northeastern University Press 1990.

PAPER -V
POLITICAL SOCIOLOGY
(Paper Code - 0334)

- UNIT-I** Definition and subject matter of Political Sociology, distinctive approach of Political Sociology, Interrelationship between political system and society. Democratic and totalitarian systems : socio-economic conditions conducive for their emergence and stability.
- UNIT-II** Political Culture : meaning and significance, political socialization-meaning, significance and agencies. Elite theories of distribution of power in society (with reference to Mosca, Pareto, R. Mitchels and C.W. Mills and Others) Intellectuals : Political role of intellectuals - significance.
- UNIT-III** Pressure groups and interests groups - Nature, bases, political significance. Bureaucracy, its characteristics, its types, its significance in political development with special reference to India.
- UNIT-IV** Political Parties : Characteristics, social composition of parties, recruitment, mass participation, political apathy, its causes and consequences (with special reference to India.)
- UNIT-V** Political Process in India : Role of caste, Religion, Regionalism and language in Indian Politics.

Public Opinion : Role of mass media, problems of communication in illiterate societies ; its reference on parties and polity, politicization of social life.

ESSENTIAL READINGS :

1. Dowse, R.E. & Hughes : Political Sociology, New York, Basic Book 1971.
2. Horowitz, Irving L. : Foundation of Political Sociology, New York, Harper and Row 1972.
3. Ruciman W.G. : Social Sciences and Political Theory, Cambridge University Press, London 1965.
4. Eisenstadi, S.N. (ed.) : Political Sociology, New York, Basic Book 1971.
5. Krrnhauser, W. : The Politics of Mass Society, Penguin 1971.
6. Kothari R. : Politics in India, Orient Longmans Ltd 1979.
7. Merton, R.K. (ed.) : Reader in Bureaucracy : Gienco The Free Press 1952.
8. Key V.O. : Politics, Parties and Pressure Groups, Crowell, New York 1964.
9. Mills C.W. & Hans Gerth : Essays in Sociology, Oxford, New York 1946.
10. Samuel P., Huntington: Political Order in Changing Societies, Yale University Press, New Haven 1969.
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Examination Scheme for Master of Social work

ACADEMIC SESSION (2019-2020)

MSW (MASTER of SOCIAL WORK) 1st SEMESTER

Paper/CC	Title of the Paper	I	T	Total
I/CC1	Social work History and Ideology- Indian Perspective	20	80	100
II/ CC2	Population and Environment	20	80	100
III/ CC 3	Working with Groups / Group Work	20	80	100
IV/ CC 4	Social work Research – Qualitative Method	20	80	100
V/ CC5	Human Growth and Development	20	80	100

MSW (MASTER of SOCIAL WORK) II SEMESTER

Paper/ CC	Title of the Paper	I	T	Total
VI/ CC 6	Social work History and Ideology- Western Perspective	20	80	100
VII/ CC 7	Political Economy of Development	20	80	100
VIII/ CC 8	Process and Evaluation of Group Formation	20	80	100
IX/ CC 9	Social work Research –Quantitative Method	20	80	100
X/P 1	Social Work Practicum	-	-	100

MSW (MASTER of SOCIAL WORK) III SEMESTER

Paper/ CC	Title of the Paper	I	T	Total
XI/ CC 10	Sociology for Social Work in India	20	80	100
XII/ CC 11	Social Work Personal, Training and Development	20	80	100
XIII/ CC 12	Family Social Work	20	80	100
XIV/ CC 13	Social Policy in India	20	80	100
XV/ CC14	Legal System in India	20	80	100

MSW (MASTER of SOCIAL WORK) IV SEMESTER

Paper/ CC	Title of the Paper	I	T	Total
XVI/ CC 15	Social Control and Change in India	20	80	100
XVII/ CC 16	Social Development	20	80	100
XVIII/ CC 17	Social Planning in India	20	80	100
XIX/ CC 18	Integrated Social Work Practice	20	80	100
XX/ P 2	Research Project With Block Placement and Field Work Report	-	-	100

MSW (MASTER of SOCIAL WORK) Ist SEMESTER

Paper/CC	Title of the Paper	I	T	Total
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I/CC1	Social work History and Ideology- Indian Perspective	20	80	100
II/ CC2	Population and Environment	20	80	100
III/ CC 3	Working with Groups / Group Work	20	80	100
IV/ CC 4	Social work Research – Qualitative Method	20	80	100
V/ CC5	Human Growth and Development	20	80	100

Paper I/CC 1 Social work History and Ideology- Indian Perspective

- UNIT -I Indian History of Social Work Education
a)Concept of Social work education b)Beginning of Social work education: History
c)Welfare orientation in social work
d)Development orientation in Social Work.
- UNIT-II Professionalization of:-
a)Social work values b)Social work Education c) Social work Knowledge
d)Professional Association of social work in India.
- UNIT-III Social Work
a)Goals and values of social work
b)function/ role of social work
c) process of social work
d)interface between professional and voluntary social work
- UNIT-IV Indian history of Ideology for social change
a)Social change: Concept Causes and theory
b) Social Change in Ancient period.
c) Social Change in medieval period
d) Social Change in modern Period
- UNIT-V Ideology of Social Change

- a) Gandhian ideology and Sarvodaya movement
- b) Nationalism and Social Change
- c) Ideology of Indian Constitution and Social Change
- d) Ideology of Voluntary organization and voluntary action

REFERENCES:-

- 1 Agrawal, M.M 1998 Ethics and Spirituality, Shimla: Indian Institute of Advanced Study
- 2 Chatterjee, P. 1996 Approaches to the welfare State, Washington D.C: National Association of Social workers
- 3 Desai M, 2000 Curriculum development on history of ideologies for Social Change and Social work, Mumbai: Social work education and Practice Cell
- 4 Diwakar, V.d (Ed) 1991 Social Reform Movement in India: A historical Perspective, Bombay Popular Prakashan.
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- 13 The Cultural Heritage.... The Cultural Heritage of India (Vol 1-6), Calcutta: The Ramkrishna Mission
- 14 Encyclopedia of Social Work 1987 Encyclopedia of Social Work in India, New delhi: Ministry of welfare.

Paper II/CC 2 Population and Environment

- UNIT-I Characteristics of Population & population Policy
Population growth, Determinants of population growth
Population policy, Family size, Family Planning, Family Planning methods
World Action plan, Population policy and programme implementation.
- UNIT-II Population & Environment: A Global Challenge
Human population and its impact on environment
Concept of Environment : Social and Physical environment
Lifestyle, degradation. Environment management and maintaining life style.
Current issues of environment.
- UNIT-III Organizations & Their roles
Role of Govt and NGO for environmental protection.
International treaties and agreements legislation in India.
Environment movement in India.
- UNIT-IV Natural resources and diversity
Forest, Land, Water, Air, energy and human resources.
Treatment and Prevention of natural resources
Waste material- Recycling and Renewal.
Waste material –disposal technique and methods.
- UNIT-V Population and Environment protection Laws
Environment Protection laws: water ,land, forest, noise, air
Unplanned urbanization and its impact on society.

REFERENCES

- 1 Kaplan P S 1988 The Human Odyssey: life Span development , St . Paul West publishing Company.
- 2 Kapur M 1955 Mental Health of Indian Children, Delhi : Sage Publication.
- 3 Le. François G.R 1990 The Life Span 3rd EDS. University of Alberta.
- 4 Magmesson D and Allen VC 1983 Human development : An International Perspectives, New-York, Academic Press.
- 5 Maier HW 1965 Three Theories of child development, N.Y Haper & Row
- 6 Misra G 1990 Social Psychology in India , N.D Sage Publication.
- 7 Rapoport Rhona 1980 Growing through Life , Life cycle book , N.Y Haper & Row
- 8 Rogers D 1977 Child Psychology, Monterey C.A Brooks / Cole Publishing Co.
- 9 Schiamberg L.B 1985 Human development , N.Y l mac Millian Publishing
- 10 Seifert K Hoffnung R.J 2000 Life Span Development (2nd Eds) N.Y Hoghton Miffin Co.
- 11 Sharma N 1999 Adolescent Girl Child in India , News Bulletin of the Indian Council of Child welfare.
- 12 Sheehy G 1976 Passages : Predictable Crises of Adult Child Life, New-York Bantam Books.
- 13 Sigelman C.K and Shaffer, Life Span human development 2nd ed. Pacific grove, CA Brooks / Cole Publishing Co.

Paper III /CC3 Working with Groups/ Group Work

UNIT-I Introduction of Social Group

- a) a)understanding of groups
- b)Characteristics & Significance of Groups

- c) Definition of Social Group work d) Purpose of Social Group work
- Unit-II Theories of Social Group
 - a) a) Historical Evolution of social group with special emphasis on the Indian context
 - b) b) Theories applicable to group work
 - c) Models in group work
- UNIT-III Types , Characteristics of Group/ group work
 - a) a) Types, objectives and purpose of group work.
 - b) b) Type of membership
 - c) Analysis of group process
- UNIT-IV Principles of Group/ group work
 - a) a) Principles in group work b) Values in Social Group work
 - c) Factors of group formation d) Formulation of goals.
 - e) Identification of problem for work
- Unit- V Initial phase of group work
 - a) Planning Model
 - b) Characteristics of pre-Group Phase
 - c) Characteristics of Initial Phase
 - d) Group Structure

REFERENCES:-

- 1 Alissi, A.S. 1980 Perspectives on social group work practice; A book of reading, New York: The free press.
- 2 Balgopal, P.R. and Vassil 1983 Groups in social work- An ecological perspectives, New T.V. York: Macmillan Publishing Co. Inc.
- 3 Bradler ,S and Roman C.P 1991 Group work Skills and strategies for effective Interventions New York: The Howorth Press.
- 4 Garland, J.A (Ed) 1992 Group work reaching out: people, places and power , New York: The Howorth Press

- 5 Garwin , C.1987 Contemporary group work, New York: Prentice- Hall inc.
- 6 Kemp C.G.1970 Perspectives of the group process, Boston: Houghton Mifflin C.
- 7 Klein ,A.F.1970 Social Group work : A helping process , Prentice Hall Inc
- 8 Konopka ,G. 1963 Social Group work : A helping process, School of social welfare- Albany: State University of New –York.
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10. Middleman, R.R 1968 The Non- Verbal method in working with groups.
- 11 Northern ,H.1969 Social work with group, New-York: The Howorth Press
- 12 Pepell, C.P and Rothman, Social work with group, New-York:: Columbia University
- 13 Toselane, R.W.1984 An Introduction to group work Practice, New-York: MacMillan Publication Co.
14. Treker, Harleigh b 1990 Social Group Work: Principles and Practice, New-York: Association Press
- 15 Wilson, G. Ryland G 1949 Social Group Work Practice, Boston: Houghton Mifflin .Co.

Paper IV/CC 4 Social work Research – Qualitative Method

Unit-I Scientific Inquiry

Scientific meaning and assumption. Scientific approach to inquiry in Comparisons to the native or common sense approach : Science and the study of social phenomena

UNIT-II Hypotheses and theories.

a) Hypothesis : Meaning , attributes of a sound hypothesis, role in explanatory research.

b)Theory –Meaning: Inductive and deductive theory, construction.

UNIT-III Social work research- meaning, purpose, the research process, scope and importance

Qualitative research- General characteristics, use of Qualitative methods in inquiry,. Case study and content analysis.

UNIT-IV Research design:

Meaning, process, types and significance.

UNIT V Sampling Technique

Sampling : Meaning, types, Characteristics and utility; General coordination in the determination of sample size.

REFERENCES:-

- 1 Ackoff, R.L.1962 Scientific Method: Optimising Applied, research designs, New-York: John Wiley and Sons.
- 2 Anderson J1970 Thesis and Assignment writing, New-Delhi: Wiley Eastern limited.
- 3 Bailey, Kenneth ,D 1987 Methods of social Research, New-York, The free Press.
- 4 Blaikle, Norman, 1993 Approaches in social enquiry, Cambribge: Policy Press
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- 7 Crabtres, B.F and Miller Doing Qualitative Research, New-Delhi: Sage W.L.(EDS) 2000 Publications.
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- 10 Forster, J.J1998 Data Analysis using SPSS for windows: A beginners guide, New-Delhi :Sage Publications.

- 11 Reid, William J and Smith Andry D 1981 Research in social Work, New-York : Columbia University Press.
- 12 Rosenberg M 1968 The Logic of Survey Analysis , New-York Basic Books.
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15. Shaw, Lan and Lisman Joyce (eds) 1999 Evaluation and social work Practice, New-Delhi Sage Publication.
- 16 Silver David (eds) 1997 Qualitative research , New-Delhi: Sage publication
- 17 Society for Participatory research in Asia 1995. Participatory research: an Introduction, Participatory research Network Series No.3 New-Delhi PRIA.
- 18 Stewart, Alex 1998 The ethnographer'sMethod, New-Delhi: sage Publication
- 19 Yin Robert K 1994 Case study Research: Design And Methods, New-Delhi: sage Publication

Paper-V /CC5 Human Growth and Development

UNIT-I Life Span Heredity and environment

- a) Stages of Life Span, life span perspectives and the systems approach.
- b) Principles of Growth and Development.

UNIT-II Theories of Human Development.

A critical look at the theories of Human development like those of Freud's Psycho-sexual theory, Erikson's Psycho-Social theory, Learning Theories and Piaget's Theory Maslow.

UNIT-III A) Indian Concept:

- a)Prenatal stage and genetic factors, infancy and adjustment to immediate world.

- b) Early child hood, growth Play , relationship with family .
- c) Indian Youth and Hazards life –style effects.

UNIT-IV a)Adulthood: -growth, personal and social adjustment, health, sexuality
 b) vocational and mental adjustment.
 c)Aging:- Aging Characteristics, Adjustment to physical and mental health, and aging problems.

UNIT-V Relevance to social work Practice , across the stages of development, and Method of assessment.

REFERENCES:-

- 1 Baltes, P.B 1978 Life Span development and Behaviour, New-york: Academic Press Inc.
- 2 Bronfenbrenner, U 1979 The ecology Human Development, Cambridge, Harward University Press.
- 3 Chowdary D.P 1992 Aging and the Aged, New-Delhi: Inter-India Publication.
- 4 Clarke- Stewart, A Child development : A topical Approach (for FriedmanS and Koch J UNIT-I)
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- 5 Dash and Dash The Psychology of Poverty.
- 6 Garg, P and Parikh I Indian Youth at the Cross Road; profiles in Identity.
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- 7 Gore, M.S 1978 Changes in the Family and the process of Socialization in India in Anthony E.J. & Colette C .The child in his Family , Wiley, 365-574
- 8 Kail, R.V and Cavanagh, Human Development, Pacific Grove, CA Books/ Core Publishing Company.
- 9 Kakar S 1979 Indian Child Hood, Cultural Ideals and social reality, Delhi Oxford University Press.
- 10 Kakar S 1982 Identity and Adulthood, Delhi Oxford University

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- 11 Kakar S 1970 Conflict & choice-Indian Youth in a Changing Society, Bombay: Somaiya Publications
 - 12 Kakar Sudhir 1978 Images of the life cycle and adulthood in Anthony E.J. & Colette C .The child in his Family , Wiley, 319-332
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 - 15 Le. Francois G.R 1990 The Life Span 3rd EDS. University of Alberta.
 - 16 Magmesson D and Allen VC 1983 Human development: An International Perspectives, New-York, Academic Press.
 - 17 Maier HW 1965 Three Theories of child development, N.Y Haper & Row
 - 18 Misra G 1990 Social Psychology in India , N.D Sage Publication.
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 - 21 Schiamberg L.B 1985 Human development , N.Y 1 mac Millian Publishing
 - 22 Seifert K Hoffnung R.J 2000 Life Span Development (2nd Eds) N.Y Hoghton Miffin Co.
 - 23 Sharma N 1999 Adolescent Girl Child in India , News Bulletin of the Indian Council of Child welfare.
 - 24 Sheehy G 1976 Passages : Predictable Crises of Adult Child Life, New-York Bantam Books.
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MSW (MASTER of SOCIAL WORK) II SEMESTER

Paper/ CC	Title of the Paper	I	T	Total
VI/ CC 6	Social work History and Ideology- Western Perspective	20	80	100
VII/ CC 7	Political Economy of Development	20	80	100
VIII/ CC 8	Process and Evaluation of Group Formation	20	80	100
IX/ CC 9	Social work Research –Quantitive Method	20	80	100
X/P 1	Social Work Practicum	-	-	100

Paper VI/CC6 Social work History and Ideology- Western Perspective

UNIT- I Western history of Ideology for Social Change

- a) Beginning of Social work education in Western Country
- b)Charity Organization
- c)Clinical social work d) Ecological Social work

UNIT-II a)Attributes of profession & Professionalization

- b)Social work education , Knowledge and Professional association
- c) Goals ,values, function/ role and process of Social work

UNIT-III Western history of Social work Profession

- a) History of social work in America
- b) History of social work in England
- c)Secular humanism and Protestantism

UNIT-IV Modern period -I

- a)Rationalism and welfarism
- b)Liberalism and Democracy

UNIT-V Modern period -II

- a)Utilitarianism and social Darwinism
- b)Socialism and human rights

REFERENCES:-

- 1 Agrawal, M.M 1998 Ethics and Spirituality, Shimal: Indian Institute of Advanced Study
- 2 Chatterjee, P. 1996 Approaches to the welfare State, Washington D.C: National Association of Social workers
- 3 Desai M,2000 Curriculum development on history of ideologies for Social Change and Social work, Mumbai: Social work education and Practice Cell
- 4 Diwakar, V.d(Ed) 1991 Social Reform Movement in India: A historical Perspective, Bombay Popular Prakashan.
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- 13 The Cultural Heritage.... The Cultural Heritage of India (Vol 1-6) ,Calcutta: The Ramkrishna Mission
- 14 Encyclopedia of Social Work 1987 Encyclopedia of Social Work in India, New Delhi: Ministry of welfare.
- 15 Economic and Political weekly Human scrape, The Indian Journal of Social work, Lokayan

Paper VII/CC7 Political Economy of Development

UNIT -I Introduction to Political Economy

Meaning of Political Economy

Significance of the study of Political Economy

- Meaning and Characteristics of development and under development
- UNIT-II Development –A human Right Perspective
 Social ideals of Indian Constitution
 Fundamental rights
 Human rights
- UNIT-III Socio economic order and Comparative economic system,
 Capitalism, Socialism and Mixed economy, their features, merits and demerits.
- UNIT-IV Poverty in India – A Structural Problem its Causes , effects and implications.
 Entitlement approach to understanding poverty.
- UNIT-V Approaches to development
 Modernization, Capitalist, Socialist and Gandhian approaches to development.

REFERENCES

- 1 Agrawal A.N Lal Economics and development and planning , New-Delhi: Vikas publishing house private limited.
- 2 Augushine, John S 1989 Strategies for third world development, New-Delhi: Sage Publication.
- 3 Chakraborty Bimal The united nations and the third world, New-Delhi: Tata Mac Graw Hill Publishing Co.
- 4 Descrochers , John 1977 Methods of Social Analysis, Bangalore: Centre for Social Action.
- 5 Elsenhans, Hartmut 1991 Development and Under Development: the History , economics and politics of North –South Relations, New-Delhi, Sage Publication.
- 6 Nagarda , S.P 1994 Development and Change , New-Delhi: Concept publishing Company.
- 7 Nana Poku Lioyd Rebuilds up the third world, London, Mac Millian Press Limited.
- 8 Rao, V Lakshmana 1994 Essays on Indian economy, New-Delhi, Asian Publishing House.

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- 11 Seltz John L 1990 The political of development, Bombay, Popular Prakashan.
- 12 Sharma S.L 1986 Development : Socio Cultural Dimensions, Jaipur: Rawat publication
- 13 Tandon BB KK Tandon Indian Economy, New-Delhi Tata MacGraw Hill Publishing Co.

Paper –VIII/CC8 Process and Evaluation of Group Formation

UNIT-I Group Process-I

- a)Importance of group Process
- b)Typical pattern
- c)process in different types of group
- d)workers skills in identifying and understanding process

UNIT-II Group Process-II

- a)Bond, Subgroup Role
- b)Leadership c) Isolation
- d)Decision making e) Contagion f) Conflict
- g)Communication h) relationship

Unit -III Middle Phase

- a)Characteristics of middle phase
- b)Group structure c) Group dynamics
- d)Role of group workers e) facilitation skills
- a) comparison across phases

UNIT-IV Use of Programme

- a)Concept and principle b) Programme Planning
- c)principle of recording d) type of recording

UNIT-V Evaluation of Group/ Termination Phase

- a) Method of Evaluation b) Importance and types of Evaluation
- c) Need of termination
- d) Type of termination and Characteristics of termination phase

REFERENCES:-

- 1 Alissi, A.S. 1980 Perspectives on social group work practice; A book of reading, New York: The free press.
- 2 Balgopal, P.R. and Vassil 1983 Groups in social work- An ecological perspectives, New T.V. York: Macmillan Publishing Co. Inc.
- 3 Bradler, S and Roman C.P 1991 Group work Skills and strategies for effective Interventions New York: The Howorth Press.
- 4 Garland, J.A (Ed) 1992 Group work reaching out: people, places and power , New York: The Howorth Press
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- 6 Kemp C.G. 1970 Perspectives of the group process, Boston: Houghton Mifflin C.
- 7 Klein ,A.F. 1970 Social Group work : A helping process , Prentice Hall Inc
- 8 Konopka ,G. 1963 Social Group work : A helping process, School of social welfare- Albany: State University of New –York.
- 9 Kurland R and Salmon R 1998 Teaching a method course in social work with group. Alexandria; Council of social work education.
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- 11 Northern ,H. 1969 Social work with group, New-York: The Howorth Press
- 12 Pepell, C.P and Rothman, Social work with group, New-York:: Columbia University
- 13 Toselane, R.W. 1984 An Introduction to group work Practice, New-York: MacMillan Publication Co.
14. Treker, Harleigh b 1990 Social Group Work: Principles and Practice, New-York: Association Press

- 15 Wilson, G. Ryland G 1949 Social Group Work Practice, Boston: Houghton Mifflin .Co.

Paper IX /CC9 Social Work Research –Quantitative Methods

UNIT -I Data and its sources-

Source of data: primary and secondary, Methods and instruments of Data collection. Qualitative and Quantitative observation; Participant observation life histories, Group Interview (Including telephonic interview)

UNIT-II Measurement

Participatory and rapid Appraisal technique; triangulation levels of measurement

Scales: Need for scales, Some prominent scaling procedures(Thrustone-type, Likert- type, Bogurdus –type, Semantic differentials

UNIT-III Data processing , presentation and research Report

Graphical, tabular: Analysis and interpretation, use of computers.

Participatory and Evaluatory Research.- Conducting participatory Research: Monitoring and research

Research Report: writing research Abstracts, Research proposals

Ethics- Ethics in research

UNIT-IV Statistical Tools and their use

Use of statistical tools and techniques - Descriptive and inferential uses and limitations of statistics

Proportion of Percentage, Ratio

Measurement of central tendency:- Mean, Mode, Median

Unit -V Measures of dispersion

Range, Quartile Deviations, Mean Deviations

Standard Deviations. The index of qualitative variation

REFERENCES:-

- 1 Ackoff, R.L.1962 Scientific Method: Optimising Applied, research designs, New-York: John Wiley and Sons.
- 2 Anderson J1970 Thesis and Assignment writing, New-Delhi: Wiley Eastern limited.
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- 6 Collidge, Frederick L 2000 Statistics: A gentle introduction, New-delhi: Sage Publications.
- 7 Crabtres, B.F and Miller Doing Qualitative Research, New-Delhi: Sage W.L.(EDS) 2000 Publications.
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- 10 Forster, J.J1998 Data Analysis using SPSS for windows: A beginners guide, New-Delhi:Sage Publications.
- 11 Reid, William J and Smith Andry D 1981 Research in social Work, New-York : Columbia University Press.
- 12 Rosenberg M 1968 The Logic of Survey Analysis , New-York Basic Books.
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- 18 Stewart, Alex 1998 The ethnographer's Method, New-Delhi: sage Publication
- 19 Yin Robert K 1994 Case study Research: Design And Methods, New-Delhi: sage Publication

Paper X /P1

Social Work Practicum

	Social work Practicum	Comprises of Maximum Marks (Internal)
i.	Agency Placement (to develop the knowledge of Administration, Management, Training)	15
ii	Rural Camp	05
iii	Visits	15
iv.	Social work in Communities	15
		Total: 50(internal)
*	Valuation of Complete Report & Viva-Voce	50(external)
		Total : 100

In social work practicum, each student must prepare a complete "Report" valuation of Social work practicum "Report" & Viva voice by External Examiner appointed by university.

Examination Scheme for Master of Social work
ACADEMIC SESSION (2018- 19)
MSW (MASTER of SOCIAL WORK) III SEMESTER

Paper/ CC	Title of the Paper	I	T	Total
XI/ CC 10	Sociology for Social Work in India	20	80	100
XII/ CC 11	Social Work Personal, Training and Development	20	80	100
XIII/ CC 12	Family Social Work	20	80	100
XIV/ CC 13	Social Policy in India	20	80	100
XV/ CC14	Legal System in India	20	80	100

Paper XI/CC 10 Sociology for Social Work in India

- UNIT -I a) Meaning, Scope and significance
 b) Sociology- its relationship to other disciplines such as history, Economics, Political science, psychology, anthropology and social work

UNIT-II Society and Culture:-

- a) Society-meaning, Characteristic, society as a system of

relationship

b) Social status and role: meaning and importance.

c) Culture – Meaning and content: Traditions, Customs, norms Folk-ways and mores

d) Socialization- Meaning, Process and agencies

UNIT-III Indian Society

a) Composition of Indian society

c) The Concept of unity in Diversity

d) Social Classification in India- tribal, rural and Urban Division

UNIT-IV Social Group

a) Social Stratification in India- Meaning and bases of stratification Caste, Class and gender.

b) Meaning characteristics and types of primary and Secondary groups.

Unit-V Institution

a) Concept of Institution: Characteristics, functions, significance.

b) Type of Social Institution: Marriage, Family, religion, state and Law.

REFERENCES

- 1 Bert N Adams. 1975 A sociological Interpretation, Chicago: Rand McNally College.
- 2 Bharadwaj, A.N. 1979 Problems of SC/ST in India, New-Delhi Light and Life publication.
- 3 Broom, Leonard Charles; M. Bonjean, Dorothy, H. Broom, 1990 Sociology, Wadsworth Publication Co, Belmont
- 4 Deshpandey, Shrinivasan narain, 1978 Society economy of Polity in India, Mumbai: University of Mumbai
- 5 Ely Chinoy. 1967 Society- An Introduction to Sociology, New-York: Randon House
- 6 Haralombos, Michael, 1980 Sociology, Delhi: Oxford University Press
- 7 Jain, P.C. 1991 Social Movements among tribal's, New Delhi Rawat

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 - 22 Social Change, Issues and Perspectives (Journal of the council for social Deelopment

Paper- XII/CC11 Social Work Personnel- Training and Development

UNIT-I Training for Personnel

Training- meaning and concept

Need for personnel training

Social work educational curriculum ,Role of Social Work-educational curriculum in changing society.

- Levels of Social work ,and levels of Training, Role of training for Social Workers.
- UNIT-II **Principles of learning**
 Concept of learning and adult learner
 The adult learner and principles of adult learning.
 Practice learning: Instructional Process, educational and supportive aspects:
 Orientation: Role of Orientation for adult learner.
- UNIT-III **Curriculum Designing**
 Concept of Curriculum Designing
 Principles and process of Curriculum Designing
 Education Technology: Methods and tools
 Social work practice learning instruction
- UNIT-IV **Traning Programme Design and Training Effectiveness.**
 Training Designing- Concept and steps.
 Implementing and evaluating training programmes for social work personnel.
 Training and its Characteristics.
 Enhancing trainer, Effectiveness: Facilitation Skills.
 Assessment of Training- Tool, method and technique.
- UNIT-V **Staff Development**
 Staff development –concepts and needs
 Process of staff development, Short term services .
 Technique and methods of Staff development, Role of motivation for staff development.

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A Manual for participatory training methodology in Development, New-Delhi:
Society for Participatory Research

**Paper-
XIII/CC12**

Family Social Work

UNIT-I

Theoretical and conceptual frame work to study family.

Concept and Characteristics of Family

Concept and objective of Marriage.

Origin and evolution of family and marriages.

Ideology of family rights and responsibilities.

UNIT-II

Normative Family Functions And Structure, And Changes

Normative Family Functions and structure, ethnicity and socio-economic background.

Social change and changes in family and marriage functions and structure.

Implications for the family and its members.

UNIT-III

Alternative family and Marriage patterns and structure.

Dual earner/ Career families , Single parent Families

Female headed house holds , Childless families

UNIT-IV

Family socialization of child, Family

Socialization- Concept, Characteristics ,Stages, Agencies and theories

Family interactions

Family development/ Family life Cycle.

UNIT-V

Family assessment and creating public awareness for promoting family rights and Responsibility

Some methods and its implications

Modes of awareness building- workshop, seminar, value education in school.

REFERENCES:-

- 1 Desai M 1994 Family and Intervention: A Course Compendium, Bombay: Tata Institute of Social Sciences.
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- 11 Uberoi P 2000 The family in India: Beyond Nuclear V/s Joint debate. Occational paper in sociology , Delhi: Institute of social Growth
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**Paper-
XIV/CC13**

Social Policy In India

UNIT-I

Concept of social policy, sectoral policies and social services

- a) Evolution of social policy in India in a historical Perspective.
- b) Relationship between social policy & social development.

UNIT- II

Social policy and planning on the constitutional provisions ie. The directive Principles of the state policy and Fundamental Rights and the Human Rights.

UNIT-III

Policy formulation

- a) Approaches to social policy unified , integrated
- b) Different models of social policy and their applicability to the Indian situation.
- c) The process of social policy formulation, the contribution of research, the role of interest groups , the problem of conflict of interest and it's solution.

Uni

UNIT- IV

Different Sectoral Policies -I

Different sectoral policies and their implementation eg. Policies concerning education, health, social welfare, women, children , welfare of backward classes,

UNIT-V

Different Sectoral Policies –II

Social security, housing, youth, population an family welfare, environment and ecology , urban and rural development, tribal development and poverty alleviation.

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- 1 Bhanti,R 1993 Social policy and development in

- Rajastan, Udaipur, Himanshu Publication.
- 2 Blumer, M 1989 The Goals of social policy, London, Unwin Hyman.
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- 24 Yadav C.S 1986 Urban planning and politics Part A New-Delhi Concept publishing Co.

Paper –XV/ CC 14 Legal System in India

UNIT -I Rights and Role of Social workers

Concept of rights, Legal rights, Civil rights

Rights of children, women and Schedule Caste and Schedule Tribes.

Role of Social worker, Social work interventions,

UNIT-II Defines the rights and duties of each individual, criminal code (Penal

code)

Procedure law; when a crime is committed , the procedure law is activated (Cr.Pc.Evidence Act etc)

Civil Law (Private wrongs) like those for inheritance, divorce, juvenile justice laws

UNIT-III Criminal Justice System

Criminal justice system in the country, police, prosecution, judiciary & correction.

Courts: Structure and Functions District Court, Session Court, High Court, supreme Court.

UNIT-IV The components

Police; Structure, reporting registration, investigation, arrest (how and what can be done) power of the police, bail and critique.

Correction: structure, Functions, Treatments, Rehabilitation and critique.

UNIT-V Legal aid , public interest litigation

History of legal Aid, concept of legal aid, need for legal aid, who needs legal aid schemes and problems.

History of public interest litigation with special reference to India, meaning and concept of public interest litigation process & problems of public interest litigation

REFERENCES:-

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Paper/ CC	Title of the Paper	I	T	Total
XVI/ CC 15	Social Control and Change in India	20	80	100
XVII/ CC 16	Social Development	20	80	100
XVIII/ CC 17	Social Planning in India	20	80	100
XIX/ CC 18	Integrated Social Work Practice	20	80	100
XX/ P 2	Research Project With Block Placement and Field Work Report	-	-	100

Paper XVI /CC 15 Social Control and Change in India

UNIT-I Social Control

- a) a)Meaning b)functions

Unit-II Theories of Society

- a)Significance of a theoretical understanding of society

UNIT-III Social Change

- a)Concept of Social Change b) Characteristics

- c)Factors of social change :Demographic, Cultural, Technological and Mass Media.

UNIT-IV Social Movement in India

- a) Concept of social movement

- b) b)Factors of social movement

- c)Social reform movement and Contribution of social reformers

UNIT- V Type of Movement and Change

- a)Peasant Movement b) Trade Union Movement

- c) c)Social Movement and Social Change in India

REFERENCES

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- McNally College.
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 - 18 Sharma.K.L(ed)1999 Caste and Race in India, Mumbai, Popular Prakashan.
 - 19 Sharma , R.K.1997 Indian Society institution and change , New-Delhi

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- 22 Social Change, Issues and Perspectives (Journal of the council for social Deelopment

Paper XVII/CC 16 Social Development

Unit I Th

UNIT-I Concept of Social Development

- a) Defining social Development.
- b)Theory of Development
- c) Development Indicators
- d). Current debates on Social Development

UNIT-II Social Development Around the World And in India-I

- a) Historical Experience of development process
- b)Social and economic transformation in India.
- c)The Historical and social context- Development in Indian Sub-Continent in pre Independence Phase.

UNIT-III Social Development in India-II

- a) The post Independence Phase: Government measures and five year plans.
- b) Political economy and social structural change.
- c) Demographic Transition.

Unit-IV Development Sectors and understanding of nature of Intervention themes-I

- a) Rural Development: Agrarian and Land reforms Green Revolution
- b) Industrialization and Urban development

UNIT-V Development Sectors and understanding of nature of Intervention

themes-II

- a) Labour Relations in organized sector.
- b) Gender Issues
- c) Environmental Issues (Land, water, Forest)
- d) Education and Health

References;-

- 1 Bagchi, A.K 1982 Political economy of Underdevelopment, Cambridge; Cambridge University Press.
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- Encyclopedia of Social Sciences
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Paper- XVIII /CC17 Social Planning in India

UNIT-I Planning-

- a) Concept of Social and Development planning.
- b) Scope of Social planning
- c) Linkage between social policy and planning- planning as an instrument and source of policy making in India.
- d) Role of Ideology.

UNIT-II Planning Process I

- a) Indian planning in a historical Perspective
- b) Federal political system and the planning process
- c) The Constitutional position of planning in India. The legal Status of the planning commission.

UNIT- III Planning Process II

- a) Coordination between centre and the state and the need for decentralization.
- b) Panchayat raj, people participation.
- c) Role of political, Social movement and voluntary action.

UNIT-IV The planning, Machinery and monitoring plans & programmes

- a) Planning of Monitoring- Concept and Characteristics
- b) Planning of evaluation- Concept and Characteristics
- c) Need for decentralization

UNIT- V

- a) A broad review of the five year plans
- b) Objectives of growth and social justice and with special reference

to the areas of health and family welfare, education,
c)social welfare ,anti poverty programmes and advocacy

REFERENCES:-

- 1 Bhandi,R 1993 Social policy and development in Rajasthan, Udaipur, Himanshu Publication.
- 2 Blumer, M 1989 The Goals of social policy, London, Unwind Hyman.
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Paper IX/CC 18 Integrated Social Work Practice

UNIT-I System and Social Work

Concept of Social work

Characteristics of social Systems, Units of social work

Individual, Family, Groups, communities and Organization

UNIT-II Approaches To Integration

The system Approach , Environmental approach

Understanding of life sustaining elements and their inter-relationships,

UNIT-III Social Work Roles

Concept and types of Role, Role of Social worker.

Roles –theories- theoretical insights.

- Role tasks, skill and techniques, outcomes.
- UNIT-IV Action for and Action In
 The client system, the problem, process and phases.
 Initiating contact, collecting data, assessment, negotiation of contract.
 Problem solving, termination and evaluation for integrated practices.
- Unit-V Social Work Professional and Practice
 Concept of Social Work Profession.
 Social work professional as a single change actor as one in the team
 Integrated social work practice,

REFERENCES:-

- 1 Barborka, G.A 1972: The Devine Plane, Adyar ,Chennai, India, The Therosophical Publishing House.
- 2 Barlett Harriett, 1970 The common base of social work practice., National Association of social workers.
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- 6 Lippit, R.J Watson The dynamics of planned changes, New York. 1958
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Paper XX/P2 Research Project With Block Placement and Field Work		
Marks distribution of paper XX		Maximum marks
1	Block Placement	25
2	Study Tour/field work	15
3	workshop	10
	Total	50(Internal)
4	Research project	50(External)
5	Grand total	100

Out of 50 marks allotted for research project; valuation of research project and viva-voice will be examined by external examiner appointed by university.

CHOICE BASED CREDIT SYSTEM

For Academic Year 2020-2021

Paper – I: Basic concept of sociology

1.Objectives:-

Sociology is to explain the students how sociology –a science to study society is linked to day-to-day life.

To understand society and solve out various social issues.

To inculcate social science students for better understanding of society.

2. Course Structure:-3 Credits involving theory.

3.Caveat: Enrolment of minimum 10 students is required to run the course for a particular semester with maximum intake of 15 students.

4.Brief outline of the course material

Unit I Sociology- Meaning, Definition ,Nature and Scope of Sociology

Unit II Primary Concept – Society, Community, Association, Institution

Unit III Social Group, Social Stratification,

Unit IV Socialization, Family, Marriage , Kinship

Paper –II: Indian Village

1.Objectives:-

The study of Indian Village to explain the students how due to industrialization the existence of village has changed.

To understand village culture and solve out various social issues.

To inculcate social science students for better understanding of rural society

2. Course Structure:-3 Credits involving theory.

3.Caveat: Enrolment of minimum 10 students is required to run the course for a particular semester with maximum intake of 15 students.

4.Brief outline of the course material

UNIT-I: Concept of Village:- Meaning, Characteristics, Concept of rural culture

UNIT-II: Village Social Structure : Caste, Family, Marriage , Kinship

UNIT- III: Village Economy:- land Ownership, agriculture, Occupation, Jajmani System

UNIT- IV : Village Leadership:- Meaning and Characteristics of leadership, , Panchayati Raj System

COURSES WORK FOR THE Ph.D (Sociology)

2017-2018

Sl.No	Papers	Marks
1	Methodological aspect of Sociological Research	100
2	Practical	100
	a. Review of Concerned Literature :(Marks-20)	
	b Seminar :(Marks-20)	
	c Project Work (Marks 60) {External –40}&{Internal –20}	
	TOTAL MARKS	200

PAPER –I: Methodological aspect of Sociological Research (Max. Marks 100)

UNIT-I

- i. Research –Concept and types.
- ii Motivation of research
- iii Criteria of a good research

UNIT II

- Research Methodology
- i Scientific method
 - ii Research Design
 - iii Sampling.

UNIT-III

- i Formulation of research Problem
- ii Data Collection- Method, Tool, technique
- iii Data processing

Unit-IV

- Computer application in Social Research
- i Statistical Tool
 - ii Statistical Software
 - iii Data entry and Commands for Analysis

Unit- V

- Research Writing Style

Paper-II:Practical (Max. Marks 100)

Part-I- Review of Concerned Literature :(Marks-20)

The candidate shall review minimum 20 research articles of a broad research area from referred journals of the discipline. After reviewing the research articles the candidate shall submit a summary chronologically developing the arguments to the Department within two months from the beginning of the Course. On the basis of the review of literature the candidate shall prepare a Synopsis Including.

- i. Research Topic.
- ii. Review of Literature.

- iii. Gaps in earlier Studies.**
- iv. Statement of Problem.**
- v. Objectives**
- vi. Hypotheses**
- vii. Methodology**
- viii. Plan of the Study**

Part-II-Seminar :(Marks-20)

The candidate shall present a seminar on the basis of Part-I

**Part-III: Submission of Project Report :(Marks-60- External Examiner-40
Marks Internal Examiner-20 Marks)**

The candidate shall submit a project report on the basis of the suggestions made in the seminar. Final examination will be conducted with the help of an external examiner in the presence of the internal examiner.