And any one of the following Cantination Optional Group.

OPTIONAL GROUP - A			
i	Financial Management	75	25
ii	Financial Market	75	25
OPTIONAL GROUP - B			
i	Principal of Marketing	75	25
ii	International Marketing	75	25
OPTIONAL GROUP - C			
i	Information Technology and its Applications in Business	75	25
ii	Essential of E-Commerce	75	25
OPTIONAL GROUP - D			
i	Fundamentals of Insurance	75	25
iii	Money & Banking System	75	25

USE OF CALCULATORS

The students of Degree/P.G. Classes will be permitted to use of Calculators in the examination hall from annual 1986 examination 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 by University or examination centres.
3. Calculators with, memory and following variables be permitted +, −, ×, ÷, square reciprocal, expotentials, log squares, root, trignometric functions viz, sine, cosine tangent etc. factorial summation, xy, yx and in the light of objective approvial of merits and demerits of the viva only will be allowed.

OPTIONAL GROUP A

Combination - I (Finance Area)

PAPER - I

FINANCIAL MANAGEMENT

(Paper Code-1157) M.M. 75

OBJECTIVE

The objective of this course is to help students understand the conceptual framework of financial management.

COURSE INPUTS

UNIT-I Financial Management : Financial goals; Profit vs wealth maximization; Financial functions-investment, financing, and dividend decisions; Financial planning.

UNIT-II Capital Budgeting : Nature of investment decisions, Investment evaluation criteria, payback period, accounting rate of return, net present value, internal rate of return profitability index; NPV and IRR comparison.

UNIT-III Cost of Capital : Significance of cost of capital; Calculating cost of debt; Preference shares, equity capital, and retained earnings; Combined (weighted) cost of capital.

Operating and financial Leverage : Their measure; Effects on profit, analyzing alternate financial plans, combined financial and operating leverage.

UNIT-IV Capital Structure : Theories and determinates.

Dividend Policies : Issues in dividend policies; Walter's model; Gordon's model; M.M. Hypothesis, forms of dividends and stability in dividends, determinats.

UNIT-V Management of Working Capital : Nature of working capital, significance of working capital, operating cycle and factors determining of working capital requirements, Management of working capital - cash, recevables, and inventories.

Suggested Reading :

1. Van Home J.C. : Financial Management and Policy; Prentice Hall of India, New Delhi.
2. Khan M.Y. and Jain P.K. : Financial Management, Text and Problems; Tata McGrow Hill, New Delhi.
3. Prasanna Chandra L Financial Management Theory and practice; Tata McGrow Hill, New Delhi.
4. Pandey I.M. : Financial Management Vikas Publishing Hous, New Delhi.
5. Brigham E.F. Gapenski L.C., and Ehrhardt M.C. : Financial Management - Theory and Practice; Harcourt College Publishers, Singapore.
6. Bhalla V.K. : Modern Working Capital Management, Anmol Pub. Delhi.
7. वित्तीय प्रबंध : एस. सी. जैन
8. वित्तीय प्रबंध : अग्रवाल एवं अग्रवाल, रमेश बुक डिपो, जयपुर
9. वित्तीय प्रबंध : एस. डी. सी. शर्मा, मेरठ

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OPTIONAL GROUP A

(Finance Area)

PAPER - II

FINANCIAL MARKET OPERATIONS

(Paper Code-1158)

M.M. 75

OBJECTIVE

This course aims at acquainting the students with the working of financial markets in India.

COURSE INPUTS

UNIT-I Money Market : Indian money market's composition and structure; (a) Acceptance houses, (b) Discount houses and (c) Call money market; Recent trends in Indian money market.

UNIT-II Capital Market : Security market - (a) New issue market, (b) Secondary market; Functions and role of stock exchange; listing procedure and legal requirements; Public issue - pricing and marketing; Stock exchanges - National Stock Exchange and over the counter exchanges.

UNIT-III Securities contract and Regulations Act : Main provgisions.

Investors Protection : Grievancesconcerning stock exchange dealings and their removal; Grievance cells in stock exchanges; SEBI; Company Law Board; Press; Rmedy through courts.

UNIT-IV Functionaries on Stock Exchanges : Brokers, sub brokers, market makers, jobbers, portfolio consultants, institutional investors, and NRIs.

UNIT-V Financial Services : Marchant banking - Functions and roles; SEBI guide-lines; Credit rating - concept, functions, and types.

Suggested Reading :

1. Chandler M.V. and Goldfeld S.M. : Economics of money and Banking, Harper and Row, New Delhi.
2. Gupta Suraj B. Monetary Economics; s. chand and Co. New Delhi.
3. Gupta Suraj B. Monetary Planning in India; Oxford, Delhi.
4. Bhole L.M. : Financial Markets and Institutions : Tata McGrow Hill, New Delhi.
5. Hooda R.P. : Indian Securities Market - Investors view point; Excell Books, New Delhi.
6. R.B.I. : Functions and Working.
7. R.B.I. : Report in Currency and Finance.
8. R.B.I. : Report of the Committee to Review the working of the Monetary system : Chakravarty committee.
9. R.B.I. : Report of the Committee on the Financial System, Narsimham Committee.
10. वित्तीय बाजारों की कार्यप्रणाली – साहित्य भवन पब्लिकेशन, आगरा

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OPTIONAL GROUP B

(Marketing Area)

PAPER - I

PRINCIPLES OF MARKETING

(Paper Code-1159) **M.M. 75**

OBJECTIVE

The Objective of this course is to help students to understand the concept of marketing and its applications.

COURSE CONTENTS

UNIT-I Introduction : Nature and scope of marketing; Importnace of marketing as a business function, and in the economy; Marketing concepts - traditional and modern; Selling vs. marketing; Marketing mix; Marketing environment.

UNIT-II Consumer Behaviour and Market Segmentation : Nature, scope, and significance of consumer behaviour; Market segmentation - concept and importance; Bases for market segmentation.

UNIT-III Product : Concept of product, consumer, and industrial goods; Product planning and development; Packaging role and functions; Brand name and trade mark; after sales service; Product life cycle concept.

Price : Importance of price in the marketing mix; Factors affecting price of a product/ service; Discounts and rebates.

UNIT-IV Distributions Channels and Physical Distribution; Distribution channels - Concept and role; Types of distribution channels. Factors affecting choice of a distribution channel; Retailer and holesaler; Physical distribution of goods; Transportation, Warehousing, Inventory control; Order processing.

UNIT-V Promotion : Methods of promotion; Optimum promotion mix; Advertising media - their ralative merits and limitations; Characteristics of an effective advertisement; Personal selling; Selling as a career; Classification of successful sales person; Functions of salesman.

Suggested Reading :

1. Philip Kotler : Marketing Management Englewood Cliffs; Prentice Hall, N.J.
2. William M. Pride and O.C. Ferrell : Marketing : Houghton - Mifflin Boston.
3. Stanton W.J. Etzel Michael J., and Walker Bruce J. Fundamentals of Marketing; McGraw Hill, New York.
4. Lamb Charles W., Hair Joseph F. and McDaniel Carl : Principles of Marketing; South-Western-Publishing, Cincinnati, Ohio.
5. Cravens David W. Hills Gerald E., Woodruff Robert B : Marketing management : Richard D. Irwin, Homewood Illinois.
6. Kotler Philip and Armstrong Gary : Principles of Marketing; Prentice Hall of India, New Delhi.
7. Dr. R.C. Agrawal, Agra.
8. Dr. S.C. Saxena Agra.
9. Dr. S.K. Jain, Hindi Granth Academi. M.P. भोपाल
10. Dr. N.C. jain

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OPTIONAL GROUP - B

(Marketing Area)

PAPER - II

INTERNATIONAL MARKETING

(Paper Code-1160) M.M. 75

OBJECTIVE

This course aims at acquainting student with the operations of marketing in international environment.

COURSE CONTENTS

UNIT-I International Marketing : Nature, definiton, and scope of international marketing; Domestic marketing vs. International marketing; International environment external and internal.

UNIT-II Identifying and Selecting Foreign Market : Foreign market entry mode decisions.

Product Planning for international Market : Product designing; Standardization vs. adaptation; Branding and packaging; Labeling and quality issues; After sales service.

International Pricing : Factors Influencing International price; Pricing process-process and methods; International price quotation and payment terms.

UNIT-III Promotion of Product/Services Abroad : Methods of international promotion; Direct mail and sales literature; Advertising; Personal selling; Trade fairs and exhibitions.

UNIT-IV International Distribution : Distribution channels and logistics decisions; Selection and appointment of foreign sales agents.

UNIT-V Export Policy and Practices in India : Exim policy - an overview; Trends in India's foreign trade; Steps in starting an export business; Product selection; Market selection; Export pricing; Export finance; Documentation; Export procedures; Export assistance and incentives.

Suggested Reading :

1. Bhattacharya R.L. and Varshney B. : International Mrketing Management; Sultan Chand, New Delhi.
2. Bhattacharya B. : Export Marketing Strategies for Success; Global Press, New Delhi.
3. Keegan W.J. : Multinational Marketing Management; Prentice Hall, New Delhi.
4. Kriplani V. : International marketing; Prentice Hall New Delhi.
5. Taggart J.H. and Moder Mott. M.C. : The Essence of International Business; Prentice Hall New Delhi.
6. Kotler Phillip : Principles of Marketing; Prentice Hall New Delhi.
7. Fayer Weather John : International Marketing; Prentice Hall N.J.
8. Caterora P.M. and Keavenay S.M. : Marketing an international Perspective; Erwin Homewood, Illinois.
9. Paliwala, Stanely J. The Essence of International marketing; Prentice Hall, New Delhi.

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OPTIONAL GROUP C (Commercial Area)

PAPER - I

INFORMATION TECHNOLOGY AND ITS APPLICATIONS IN BUSINESS

(Paper Code-1161)

M.M. 75

OBJECTIVE

The objective of the course is to familiatize the students with the innovation information technology and how it affects business. An understanding of the group rules of these technologies will enable the students to appreciate the nitty-gritty Commerce.

COURSE INPUTS

UNIT-I Information Revolution and information Technology (IT) : Deployment of Business; Basic features of IT; Impact of IT on business environment and social fabric; Invention of writing; Written books; Printing Press and movable type Gutenberg's invention; Radio; telephone, wireless and satelite communication computing and dissemination of information and knowledge and convergence technologies (Internet with Wireless-WAP).

UNIT-II Fundamentals of Computer : Data, information and EDP : Data, information and concept of data and information; Levels of information from data; processing; Electronic data processing; Electronic machines;

a Number Systems and Codes : Different number systems - binary, octal decimal, hexagonal, and their conversion codes used in computers; Bed, EBCDIC, ASCII; Gray and conversions.

b Computer Arithmetic and Gates : Binary arithmetic, complements, addition subtraction; Conversion from one system to another; Logic Gates, truthtable and applications minimisation, and K-maps.

c Computer Processing System : Definition of computer; Hardware/Software concepts; Generation of computers; Types of computers; Elements of computer; CPU and its functions, Various computer systems.

d I/O devices : Basic concepts of I/O devices; Various input devices Keyboard, mouse; MICR, OCR, microphones.

e Various output devices : VDU, printer, plotter, spooling, L.S.

f Storage Devices : Primary and secondary memory; Types of memory capacity and its enhancement; Memory devices and comparisons; Auxiliary storage, tapes, disks (magnetic and potical); various devices and their comparison.

g System Software - Roale of Software, Different System Software : O.S., utilization element of O.S. - Its types and variations; DOS and windows.

h Computer and Networks : Need of communication; Data transmission; Baud; Bandwidth; Communication Channel; Multiplexing; Basic network concepts; O.S.I. model; Types of topologies; LAN, WAN, Client server concept.

UNIT-III Computer-based Business Applications -

a Word Processing : Meaning and role of word processing in creating of documents, editing, formatting, and printing documents, using tools such as spelling check, thesaurus, etc. in word processors (MS-Word).

b Electronic Spreadsheet : Structure of spreadsheet and its applications to

accounting, finance, and marketing functions of business; Crating a dynamic/ sensitive worksheet; Concept of absolute and relative cell reference; Using built-in functions; Goal seeking and solver tool; Using graphics and formatting of worksheet; Sharing data with other desktop applications; Strategies of crating error-free worksheet (MS-Excel, Lotus 123). Practical knowledge on Wings Accounting (Software).

c Programming under a DBMS environment : The concept of data base management system; Data field, records, and files, Sorting and indexing data; Searching records, designing queries, and reports; Linking of data files; Understanding programming environment in DBMS; Developing menu driven applications in query language (MS-Access).

UNIT-IV Electronic Data Interchange (EDI)

Introduction to EDI; Basics of EDI; EDI standards; Financial EDI (FEDI); FEDI for international trade transaction; Applications of EDI; Advantages of EDI; Future of EDI.

UNIT-V The Internet and its Basic Concepts

Internet-concept, history development in India; Technological foundation of internet; Distributed computing; Client-server computing; Internet protocol suite; Application of distributed computing; Client-server computing; Internet protocol suite in the internet environment; Domain Name System (DNS(; Domain Name Service (DNS); Generic top-lelvel domian (gTLD); Country code top-level domain (ccTLD); - India; Llocation of second-level doomains; IP addresses; Internet protocol; Applications of Internet in business, education, governance, etc.

Information System Audit

Basic idea of information audit; Difference with the traditional concepts of audit; Conduct and applications of IS audit in internet environment.

Suggested Reading :

1. Agrawala Kamlesh N. and Agarwala Deeksha : Business on the Net - Introduction to E-commerce, Macmillan India, New Delhi.
2. Agarwala Kamlesh, N. and Agarwala Deeksha : Bulls, Bears and The mouse; and introduction to On-line Service Market Trading; Macmillan India, New Delhi.
3. Agarwala Kamlesh, N. and Agarwala Prateek Amar; WAP the Net; An Introduction on Wireless Application Protocol; Macmillan India, New Delhi.
4. Bajaj Kamlesh K. and Nag Debjanl : E-Commerce; The cutting Edge of Business; Tata McGraw Hill, New Delhi.
5. Edwards, Ward and Bytheway : The Essence of Information Systems; Prentice Hall, New Delhi.
6. Garg & Srinivasan : Work Book on Systems Analysis & Design; Prentice Hall New Delhi.
7. Kanter : Managing with Information; Prentice Hall New Delhi.
8. Minoli Daniel, Minoli Emma : Web Commerce Technology Handbook; Tata McGraw Hill, New Delhi.
9. Minoli Daniel : Internet & Internet Engineering; Tata McGrow Hill, New Delhi.
10. Yeats : Systems Analysis & Design; Macmillan India, New Delhi.
11. Goyal : Management information System; Macmillan India, New Delhi.
12. Timothi J O'Leary : Microsoft Office 2000; Tata McGrow Hill, New Delhi.

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OPTIONAL GROUP C

(E-Commerce Area)

PAPER - II

ESSENTIAL OF E-COMMERCE

M.M. 75

(Paper Code-1162)

OBJECTIVE

The objective of this course is to familiarize the students with the basics of e-commerce and to comprehend its potential.

COURSE INPUTS

UNIT-I Internet and Commerce : Business operations; E-Commerce practices; Concepts b2b, b2c, b2g, g2h; Benefits of e-commerce to organization, consumers, and society; Limitation of e-commerce; Management issues relating to e-commerce.

Operations of E-Commerce : Credit card transaction; Secure Hypertext Transfer Protocol (SHTP); Electronic payment systems; Secure electronic transaction (SET); Set's encryption; Process; Cybercash; Smart cards; Indian payment models.

UNIT-II Applications in B2C : Consumer's shopping procedure on the internet; Impact on disintermediation and re-inermediation; Global market; Strategy of traditional department stores; Products in b2c model; Success factors of e-brokers; Broker based services on-line; Online travel tourism services; Benefits and impact of e-commerce on travel industry; Real estate market; Online stock trading and its benefits; Online banking and its benefits; Online financial services and their future; Educations benefits, implementation, and impact.

UNIT-III Applications in B2B; Applications of b2b, Key technologies for b2b; Architectural models of b2b; Characteristics of the supplier-oriented marketplace, buyer-oriented marketplace, and intermediary-oriented marketplace; Benefits of b2b on procurement re-engineering; Just in Time delivery in b2b; Internet-based EDI from traditional EDI; Integrating EC with back-end information systems; Marketing issues in b2b.

UNIT-IV Applications in Governance : EDI in governance; E-government; E-governance applications of the internet; Concept of government to business, business to government and citizen-to-government; E-governance models; Private sector interface in e-governance.

UNIT-V Emerging Business Models : Retail model; Media model; Advisory model, Mode-to-order manufacturing model; Do-it yourself model; Information service model; Emerging

hybrid models; Emerging models in India.

Suggested Reading :

1. Agarwala Kamlesh. N. and Agarwala Deekhsa : Bridge to Online Storeformt; Macmillan India, New Delhi.
2. Agarwala Kamlesh. N. and Agarwala Deeksha : Business on the Net Introduction to the E-commerce; Macmillan India New Delhi.
3. Agarwala Kamlesh N. and Agarwala Deeksha : Bulls, Bears and The Mouse : An Introduction to Online Stock Market Trading; Macmillan India New Delhi.
4. Tiwari Dr. Murli D. : Eductaion and E-Governance; Macmillan India, New Delhi.
5. Minoli Daniel, Minoli Emma : Web Commerce Technology Handbook; Tata McGraw Hill, New Delhi.
6. Minoli Deniel, Internet & Internet Engineering : Tata McGrow Hill, 1999.
7. Bhatnagar Subhash and Schware Robert (Eds) : Information and Communication Technology in Development; Sage Publications India, New Delhi.
8. Amor, Daniel : E-business R evealuation, The : Living and Working in an Interconnected World; Prentice Hall, U.S.
9. Afuah, A., and Tuccu, C.: Internet usiness models and Strategies; McGraw Hill, New York.
10. Agarwala Kamlesh. N. Internet Banking; Macmillan India, New Delhi.

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OPTIONAL GROUP D

(Money Banking & Insurance Area)

PAPER - I

FUNDAMENTAL OF INSURANCE

M.M. 75

(Paper Code-1163)

OBJECTIVE

This course enables the students to know the fundamentals of insurance.

COURSE INPUTS

UNIT-I Introduction to Insurance : Purpose and need of insurance; Insurance as a social security tool; Insurance and economic development.

UNIT-II Fundamentals of Agency Law : Definiton of an agent; Agents regulations; Insurance intermediaries; Agents Compensation.

UNIT-III Procedure for Becoming an Agent : Prerequisite for obtaining a license; Duration of license; Cancellation of incense; Revocation or suspension/termination of agent appointment; Code of conduct; Unfair practices. Functions of the Agent : Proposal form and other forms for grant of cover; Financial and medical underwriting; Material information; Nomination and assigment; Procedure regarding settlement of policy claims.

UNIT-IV Company Profile : Organizational set-up of the company; Promotion strategy; Market share; Important activities; Structure; Product; Actuarial profession; Product pricing actuarial aspects; Distribution channels.

UNIT-V Fundamentals/Principles of Life Insurance/Marine/Fire/Medical/General Insurance; Contracts of various kinds; Insurable Interest.

Suggested Reading :

1. Mishra M.N. : Insurance Principle and Practice; S. Chand and Co., New Delhi.
2. Insurance Regulatory Development Act. 1999.
3. Life Insurance Corporation Act. 1956.
4. Gupta OS : Life Insurance; Frank brothers, New Delhi.
5. Vinayakam N., Radhaswamy and Vasudevan SV : Insurance - Principles and Practice, S. Chand and Co. New Delhi.
6. Mishra MN : Life Insurance Corporation of India, Vols I, II & III; Raj Books, Jaipur.
7. Balchand Shriwastava, Agra.
8. Dr. M.L. Singhai, RAmesh Book Depot, Jaipur.
9. बीमा के तत्व - आर. के. विश्नोई, आगरा

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OPTIONAL GROUP D

(Money Banking & Insurance Area)

PAPER - II

MONEY & BANKING SYSTEM

M.M. 75

(Paper Code-1164)

OBJECTIVE

This course enables the students to know the working of the Indian Money & banking system.

UNIT-I Money : Function, Alternative Measures to money supply in India - their different components. Meaning and changing relative importance of each.

UNIT-II Indian Banking System : Structure and organization of banks; Reserve Bank of India; Apex banking Institutions; Commercial banks; Regional rural banks; Cooperative banks; Development banks.

UNIT-III Banking Regulation Act, 1947 : History; Social control; Banking Regulation Act as applicable to banking companies and public sector banks; Banking Regulation Act as applicable to Cooperative banks.

UNIT-IV Regional Rural and Cooperative Banks in India : Functions; Role of regional rural and cooperative banks in rural India; Progress and performance.

UNIT-V Reserve Bank of India : Objectives; Organization; Functions and working; Monetary policy; Credit control measures and their effectiveness.

State Bank of India, Project History, Objectives, Functions & Organization working & progress.

Suggested Reading :

1. Basu A.K. : Fundamentals of Banking-Theory and Practice; A Mukherjee and Co., Calcutta.
2. Sayers R.S. : Modern Banking : Oxford University Press.
3. Panandikar S.G. And Mithani D.M. : Banking in India; orient Longman.
4. Reserve Bank of India : Functions and Working.
5. Dekock : Central Banking; Crosby lockwood Staples, London.
6. Tannan M.L. : Banking - Law and Practice in India : India Law House, New Delhi.
7. Khubchandani B.S. : Practice and Law of Banking; Macmillan, New Delhi.
8. Shekhar and Shekhar : Banking Theory and Practice; Vikas Publishing House, New Delhi.
9. Harishchandra Sharma.
10. M.L. Singhai.
11. प्रो. बी.के. जैन एवं डॉ. ए.पी. सिंह - मुद्रा एवं वित्तीय प्रणाली - कैलाश पुस्तक भवन, भोपाल

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पं. रविशंकर शुक्ल विश्वविद्यालय, रायपुर (छ.ग.)

दूरभाष : 0771–2262802 (अकादमिक विभाग), 0771–2262540 (कुलसचिव कार्यालय)

क्रमांक 538/अका./2019 रायपुर, दिनांक 22/06/2019

प्रति,

प्राचार्य/प्राचार्या
संबद्ध समस्त महाविद्यालय
पं. रविशंकर शुक्ल विश्वविद्यालय
रायुपर (छ.ग.)

विषय :– **स्नातक स्तर भाग–एक के पाठ्यक्रम बाबत्।**

संदर्भ :– संयुक्त संचालक, उच्च शिक्षा का पत्र क्रमांक 2456/315/आउशि/सम/2019, दिनांक 16.05.2019

महोदय/महोदया,

विषयांतर्गत् संदर्भित पत्र के माध्यम से प्राप्त स्नातक स्तर भाग–एक के निम्नलिखित कक्षा/विषयों के परिवर्तित/संशोधित पाठ्यक्रम शिक्षा सत्र् 2019–20 से प्रभावशील किया जाता है–

1. **बी.ए.** – आधार पाठ्यक्रम–हिन्दी भाषा, राजनीति, अर्थशास्त्र, संगीत, दर्शनशास्त्र, मानवविज्ञान, गणित, इतिहास, हिन्दी साहित्य, समाजशास्त्र, भूगोल, मनोविज्ञान, संस्कृत, सांख्यिकी, प्राचीन भारतीय इतिहास।
2. **बी.कॉम.** – आधार पाठ्यक्रम–हिन्दी भाषा, वाणिज्य।
3. **बी.एस.सी.** – जैविकी, मानवविज्ञान, बायोटेक्नोलॉजी, कम्प्यूटर साइंस, गणित, भौतिकशास्त्र, प्राणीशास्त्र, सूक्ष्मजीव विज्ञान, वनस्पतिशास्त्र, भूविज्ञान, इलेक्ट्रॉनिकी, रसायन, सांख्यिकी, भूगोल, आधार पाठ्यक्रम–हिन्दी भाषा।
4. **बी.एस.सी. (गृह विज्ञान)** – आधार पाठ्यक्रम–हिन्दी भाषा, एवं गृहविज्ञान।

उपरोक्त विषयों को शिक्षा सत्र् 2019–20 से संशोधित रूप में स्नातक स्तर भाग–एक के लिए प्रभावशील किया जाता है, स्नातक स्तर भाग–दो एवं तीन के पाठ्यक्रम यथावत् रहेंगे।

अतः आपसे अनुरोध है कि पाठ्यक्रम परिवर्तन/संशोधन से महाविद्यालय के शिक्षकों एवं छात्र–छात्राओं को अवगत कराने का कष्ट करेंगे।

संलग्न :– उपरोक्तानुसार।

21.06.19

विशेष कर्तव्यस्थ अधिकारी (अका.)

क्रमशः 2

पं. रविशंकर शुक्ल विश्वविद्यालय, रायपुर (छ.ग.)

दूरभाष : 0771–2262802 (अकादमिक विभाग), 0771–2262540 (कुलसचिव कार्यालय)

पृ. क्र. 539 /अका./2019 रायपुर, दिनांक 22/06/2019

प्रतिलिपि :–

1. संयुक्त संचालक, उच्च शिक्षा को पत्र क्रमांक 2456/315/आउशि/सम/2019, दिनांक 16.05.2019 के परिपेक्ष्य में सूचनार्थ।
2. उपकुलसचिव परीक्षा, सहायक कुलसचिव गोपनीय विभाग,
3. कुलपति जी के सचिव/कुलसचिव के निज सहायक, पं. रविशंकर शुक्ल विश्वविद्यालय, रायपुर को सूचनार्थ।

वरिष्ठ अधीक्षक (अका.)

संशोधित पाठ्यक्रम

बी.ए. / बी.एस–सी. / बी.कॉम. / बी.एच.एस.–सी.

भाग – एक (आधार पाठ्यक्रम)

प्रश्न पत्र– प्रथम (हिन्दी भाषा)

(पेपर कोड –0101) पूर्णांक– 75

नोट :–

1. प्रश्न पत्र 75 अंक का होगा।
2. प्रश्न पत्र अनिवार्य होगा ।
3. इसके अंक श्रेणी निर्धारण के लिए जोड़े जायेंगे।
4. प्रत्येक इकाई के अंक समान होंगे।

पाठ्य विषय :–

इकाई–1

क. पल्लवन, पत्राचार, अनुवाद, पारिभाषिक शब्दावली एवं हिंदी में पदनाम

ख. ईदगाह (कहानी) – मुंशी प्रेमचंद

इकाई–2

क. शब्द शुद्धि, वाक्य शुद्धि, शब्द ज्ञान–पर्यायवाची शब्द, विलोम शब्द, अनेकार्थी शब्द, समश्रुत शब्द, अनेक शब्दों के लिए एक शब्द एवं मुहावरे–लोकोक्तियाँ

ख. भारत वंदना (कविता)– सूर्यकान्त त्रिपाठी निराला

इकाई–3

क. देवनागरी लिपि – नामकरण, स्वरूप एवं देवनागरी लिपि की विशेषताएँ, हिंदी अपठित गद्यांश, संक्षेपण, हिंदी में संक्षिप्तीकरण

ख. भोलाराम का जीव (व्यंग्य) – हरिशंकर परसाई

इकाई–4

क. कम्प्यूटर का परिचय एवं कम्प्यूटर में हिंदी का अनुप्रयोग

ख. शिकागो से स्वामी विवेकानंद का पत्र

इकाई–5

क. मानक हिन्दी भाषा का अर्थ, स्वरूप, विशेषताएँ, मानक, उपमानक, अमानक भाषा

ख. सामाजिक गतिशीलता – प्राचीन काल, मध्यकाल, आधुनिक काल

मूल्यांकन योजना :–

प्रत्येक इकाई से एक–एक प्रश्न पूछा जाएगा। प्रत्येक प्रश्न में आंतरिक विकल्प होगा। प्रत्येक प्रश्न के 15 अंक होंगे । प्रत्येक प्रश्न के दो भाग 'क' और 'ख' होंगे एवं अंक क्रमशः 8 एवं 7 होंगे। प्रश्न–पत्र का पूर्णांक 75 निर्धारित है।

पाठ्यक्रम संशोधन का औचित्य :–

व्याकरण के बुनियादी ज्ञान, संप्रेषण, कौशल, सामाजिक संदेश एवं भाषायी दक्षता को ध्यान में रखते हुए यह पाठ्यक्रम प्रस्तावित है।

अध्यक्ष– हिंदी अध्ययन मंडल

आधार पाठ्यक्रम

FOUNDATION COURSE

PAPER - II

ENGLISH LANGUAGE (Paper Code-0102) M.M. 75

UNIT-1 **Basic Language skills : Grammar and Usage.**

Grammar and Vocabulary based on the prescribed text.
To be assessed by objective / multiple choice tests.

(Grammar - 20 Marks
Vocabulary - 15 Marks)

UNIT-2 **Comprehension of an unseen passage.** 05

This should imply not only (a) an understanding of the passage in question, but also (b) a grasp of general language skills and issues with reference to words and usage within the passage and (c) the Power of short independent composition based on themes and issues raised in the passage.

To be assessed by both objective multiple choice and short answer type tests.

UNIT-3 **Composition :** Paragraph writing 10

UNIT-4 **Letter writing** (The formal and one Informal) 10

Two letters to be attempted of 5 marks each. One formal and one informal.

UNIT-5 **Texts :** 15

Short prose pieces (Fiction and not fiction) short poems, the pieces should cover a range of authors, subjects and contexts. With poetry if may sometimes be advisable to include pieces from earlier periods, which are often simpler than modern examples. In all cases, the language should be accessible (with a minimum of explanation and reference to standard dictionaries) to the general body of students schooled in the medium of an Indian language.

Students should be able to grasp the contents of each piece; explain specific words, phrases and allusions; and comment on general points of narrative or argument. Formal Principles of Literary criticism should not be taken up at this stage.

To be assessed by five short answers of three marks each.

BOOKS PRESCRIBED -

English Language and Indian Culture - Published by M.P. Hindi Granth Academy Bhopal.

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Part - I

SYLLABUS FOR ENVIRONMENTAL STUDIES AND HUMAN RIGHTS

(Paper code-0828)

MM. 75

इन्वारमेंटल साईंसेस के पाठ्यक्रम को स्नातक स्तर भाग–एक की कक्षाओं में विश्वविद्यालय अनुदान आयोग के निर्देशानुसार अनिवार्य रूप से शिक्षा सत्र 2003–2004 (परीक्षा 2004) से प्रभावशील किया गया है। स्वशासी महाविद्यालयों द्वारा भी अनिवार्य रूप से अंगीकृत किया जाएगा।

भाग 1, 2 एवं 3 में से किसी भी वर्ष में पर्यावरण प्रश्न–पत्र उत्तीर्ण करना अनिवार्य है। तभी उपाधि प्रदाय योग्य होगी।

पाठ्यक्रम 100 अंकों का होगा, जिसमें से 75 अंक सैद्धांतिक प्रश्नों पर होंगे एवं 25 अंक क्षेत्रीय कार्य (Field Work) पर्यावरण पर होंगे।

सैद्धांतिक प्रश्नों पर अंक – 75 (सभी प्रश्न इकाई आधार पर रहेंगे जिसमें विकल्प रहेगा)

(अ) लघु प्रश्नोंत्तर – 25 अंक

(ब) निबंधात्मक – 50 अंक

Field Work – 25 अंकों का मूल्यांकन आंतरिक मूल्यांकन पद्धति से कर विश्वविद्यालय को प्रेषित किया जावेगा। अभिलेखों की प्रायोगिक उत्तर पुस्तिकाओं के समान संबंधित महाविद्यालयों द्वारा सुरक्षित रखेंगे।

उपरोक्त पाठ्यक्रम से संबंधित परीक्षा का आयोजन वार्षिक परीक्षा के साथ किया जाएगा।

पर्यावरण विज्ञान विषय अनिवार्य विषय है, जिसमें अनुत्तीर्ण होने पर स्नातक स्तर भाग–एक के छात्र/छात्राओं को एक अन्य विषय के साथ पूरक की पात्रता होगी। पर्यावरण विज्ञान के

सैद्धांतिक एवं फील्ड वर्क के संयुक्त रूप से 33% (तैंतीस प्रतिशत) अंक उत्तीर्ण होने के लिए अनिवार्य होंगे।

स्नातक स्तर भाग–एक के समस्त नियमित/भूतपूर्व/अमहाविद्यालयीन छात्र/छात्राओं को अपना फील्ड वर्क सैद्धांतिक परीक्षा की समाप्ति के पश्चात् 10 (दस) दिनों के भीतर संबंधित महाविद्यालय/परीक्षा केन्द्र में जमा करेंगे एवं महाविद्यालय के प्राचार्य/केन्द्र अधिक्षक, परीक्षकों की नियुक्ति के लिए अधिकृत रहेंगे तथा फील्ड वर्क जमा होने के सात दिनों के भीतर प्राप्त अंक विश्वविद्यालय को भेजेंगे।

UNIT-I THE MULTI DISCIPLINARY NATURE OF ENVIRONMENTAL STUDIES

Definition, Scope and Importance

Natural Resources:

Renewable and Nonrenewable Resources

(a) Forest resources: Use and over-exploitation, deforestation, Timber extraction, mining, dams and their effects on forests and tribal people and relevant forest Act.

(b) Water resources: Use and over-utilization of surface and ground water, floods drought, conflicts over water, dams benefits and problems and relevant Act.

(c) Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources.

(d) food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging , salinity.

(e) Energy resources: Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources.

(f) Land resources: Land as a resource, land degradation, man induced landslides soil erosion and desertification.

(12 Lecture)

UNIT-II ECOSYSTEM

(a) Concept, Structure and Function of and ecosystem

- Producers, consumers and decomposers.
- Energy flow in the ecosystem

- Ecological succession
- Food chains, food webs and ecological pyramids.
- Introduction, Types, Characteristics Features, Structure and Function of Forest, Grass, Desert and Aquatic Ecosystem.

(b) Biodiversity and its Conservation

- Introduction - Definition: genetic. species and ecosystem diversity
- Bio-geographical classification of India.
- Value of biodiversity: Consumptive use. productive use, social ethics, aesthetic and option values.
- Biodiversity at global, National and local levels.
- India as mega-diversity nation.
- Hot spots of biodiversity.
- Threats to biodiversity: habitat loss, poaching of wildlife, man-wild life conflict.
- Endangered and endemic species of India.
- Conservation of biodiversity: In situ and Ex-situ conservation of biodiversity.

(12 Lecture)

UNIT- III

(a) Causes, effect and control measures of

- Air water, soil, marine, noise, nuclear pollution and Human population.
- Solid waste management: Causes, effects and control measures of urban and industrial wastes.
- Role of an individual in prevention of pollution.
- Disaster Management : floods, earthquake, cyclone and landslides.

(12 Lecture)

(b) Environmental Management

- From Unsustainable to sustainable development.
- Urban problems related to energy.

- Water conservation, rain water harvesting, watershed management.
- Resettlement and rehabilitation of people, its problems and concerns.
- Environmental ethics: Issues and possible solutions.
- Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust.
- Wasteland reclamation
- Environment protection Act: Issues involved in enforcement of environmental legislation.
- Role of Information Technology in Environment and Human Health.

UNIT- IV

General background and historical perspective- Historical development and concept of Human Rights, Meaning and definition of Human Rights, Kind and Classification of Human Rights.

Protection of Human Rights under the UNO Charter, protection of Human Rights under the Universal Declaration of Human Rights, 1948.

Convention on the Elimination of all forms of Discrimination against women.

Convention on the Rights of the Child, 1989.

UNIT- V

Impact of Human Rights norms in India, Human Rights under the Constitution of India, Fundamental Rights under the Constitution of India, Directive Principles of State policy under the Constitution of India, Enforcement of Human Rights in India.

Protection of Human Rights under the Human Rights Act, 1993- National Human Rights Commission, State Human Rights Commission and Human Rights court in India.

Fundamental Duties under the Constitution of India.

Reference/ Books Recommended

1. SK Kapoor- Human rights under International Law and Indian Law.
2. HO Agrawal- Internation Law and Human Rights
3. एस.के. कपूर – मानव अधिकार
4. जे.एन. पान्डेय – भारत का संविधान
5. एम.डी. चतुर्वेदी – भारत का संविधान
6. J.N.Pandey - Constitutional Law of India
7. Agarwal K.C. 2001 Environmental Biology, Nidi pub. Ltd. Bikaner

8. Bharucha Erach, the Biodiversity of India, Mapin pub. Ltd. Ahmedabad 380013, India, Email: mapin@icenet.net(R)
9. Bruinner R.C. 1989, Hazardous Waste Incineration. McGraw Hill Inc.480p
10. Clark R.S. Marine pollution, Clanderson press Oxford (TB)
11. Cuningham, W.P.Cooper. T.H.Gorhani, E & Hepworth. M.T,200
12. Dr. A.K.- Environmental Chemistry. Wiley Eastern Ltd.
13. Down to Earth, Center for Science and Environment (R)
14. Gloick, H.P. 1993 Water in crisis. pacific institute for studies in Deve. Environment & Security. Stockholm Eng. Institute. Oxford University, Press. m 473p.
15. Hawkins R.E. Encyclopedia of Indian Natural History, Bombay Natural History Society, Mumbai (R)
16. Heywood, V.H. & Watson, T.T.1995 Global Biodiversity Assessment, Cambridge Univ. Press 1140p
17. Jadhav H. & Bhosale, V.H. 1995 Environmental Protection and Law. Himalaya pub. House, Delhi 284p
18. Mckinney M.L.& School R.M.1996, environmental Science systems & solutions, web enhanced edition, 639p
19. Mhadkar A.K. Matter Hazardous, Techno-Science publication(TB)
20. Miller T.G.Jr. Environment Science, Wadsworth publication co. (TB)
21. Odum E.P.1971, Fundamentals of Ecology, W.B. Saunders Co. USA,574p
22. Rao M.N. & Datta, A.K. 1987, Waste water treatment. Oxford & IBH pub.co.pvt. Ltd 345p
23. Sharma B.K. 2001, Environmental chemistry, Goel pub. House, Meerut
24. Survey of the Environment, The Hidu(M)
25. Townsend C. Harper J. And Michael Begon, Essentials of Ecology, Blackwell Science(TB)
26. Trivedi R.K.Handbook of Environment Laws, Rules, Guidlines, Compliances and Standards, Vol land II, Environment Media(R)
27. Trivedi R.K. and P.K. Goel, Introduction to air pollution, Techno-Science publication (TB)
28. Wanger K.D.1998, Environmental Management. W.B. Saunders Co. Philadelphia, USA 499p

प्रपत्र

विषय :– संस्कृत (कला संकाय)

बी.ए. प्रथम वर्ष

प्रथम प्रश्नपत्र

प्रष्न–पत्र का नाम – नाटक, व्याकरण और अनुवाद

वर्तमान पाठ्यक्रम	नवीन संषोधित पाठ्यक्रम	नवीन संषोधित पाठ्यक्रम का औचित्य
इकाई –3 1 सुबन्त (शब्दरूप) – राम, गति , भानु, पितृ, करिन्, भूभृत्, कर्तृ, चन्द्रमस्, भगवत्, आत्मन्, लता, मति, नदी,धेनु, वधू , मातृ, फल, वारि मधु, वाच्, रात्रि, सर्व,तद्, एतद्, यद्, इदम्, जगत् अस्मद्, युष्मद्, एक, द्वि, त्रि, चतुर् तिङन्त (धातुरूप) – भ्वादि, दिवादि, तुदादि, चुरादि गण के अतिरिक्त अस् एवं कृ धातुओं के लट्, लोट्, लङ् और विधिलिङ् लकारों के रूप ।	इकाई –3 1 सुबन्त (शब्दरूप) – राम, मुनि, भानु, पितृ, करिन्, कर्तृ, आत्मन्, लता, मति, नदी, मातृ, फल, सर्व, तद्, एतद्, यद्, इदम्, अस्मद्, युष्मद् । 2 तिङन्त (धातुरूप) – भ्वादि, दिवादि, तुदादि, चुरादि गण के अतिरिक्त अस् एवं कृ धातुओं के लट्, लृट्, लङ्, लोट् एवं विधिलिङ् लकारों के रूप **अथवा** 3. अपठित गद्यांश पर आधारित प्रश्न	छत्तीसगढ़ लोक सेवा आयोग के पाठ्यक्रम के अनुरूप बिन्दु क्रं 3 (अपठित गद्यांश पर आधारित प्रश्न) का समावेश करने से छात्रों को इसका अभ्यास, लाभ मिल सकेगा । नोट – पाठ्यक्रम के सन्तुलन को ध्यान में रखते हुए नवीन पाठ्यक्रम में किंचित् पाठ्यसामग्री सम्पादित की गई है तथा समस्त पाँचों इकाई के लिए समान रूप से 15 अंक निर्धारित किये गये हैं ।

प्रपत्र

विषय :– संस्कृत (कला संकाय)

बी.ए. प्रथम वर्ष

द्वितीय प्रश्नपत्र

प्रश्नपत्र का नाम – गद्य, कथा एवं साहित्येतिहास

वर्तमान पाठ्यक्रम	नवीन संशोधित पाठ्यक्रम	नवीन संशोधित पाठ्यक्रम का औचित्य
इकाई –4 संस्कृत नाटक एवं कथा साहित्य का इतिहास	इकाई –4 वैदिक एवं पौराणिक साहित्य का सामान्य परिचय (वेद, ब्राह्मण, आरण्यक, उपनिषद्, वेदांगों एवं पुराणों का संक्षिप्त परिचय)	नेट परीक्षा के पाठ्यक्रम की दृष्टि से नवीन पाठ्यसामग्री के समावेश से छात्र लाभान्वित होंगे । (वर्तमान पाठ्यसामग्री को द्वितीय वर्ष की पाठ्यसामग्री में सम्मिलित किया गया है ।)
इकाई –5 निम्नलिखित कवियों का परिचय – महाकवि कालिदास, महाकवि माघ, महाकवि भारवि, महाकवि श्रीहर्ष, महाकवि अम्बिकादत्त व्यास	इकाई –5 निम्नलिखित कवियों का परिचय – महाकवि कालिदास, महाकवि माघ, महाकवि भारवि, महाकवि श्रीहर्ष, बाणभट्ट, शूद्रक, विशाखदत्त, भवभूति ।	समस्त पाँचों इकाई के लिए समान रूप से 15 अंक निर्धारित किये गये हैं । तथा पाठ्यक्रम को सन्तुलित करने पाठ्यसामग्री (चार कवि–परिचय) का समावेश किया गया है ।

सत्र 2018–19 से प्रस्तावित (संशोधित दिनांक 20.08.2018)

बी.ए. प्रथम वर्ष

संस्कृत साहित्य

प्रथम प्रश्नपत्र

टीप – बी.ए. प्रथम वर्ष में संस्कृत साहित्य के दो प्रश्न–पत्र होंगें एवं दोनों प्रश्न –पत्र 75– 75 अंकों के होंगें ।

नाटक, व्याकरण और अनुवाद पूर्णांक – 75

इकाई –1	स्वप्नवासवदत्तम् – व्याख्या	अंक – 15
इकाई –2	स्वप्नवासवदत्तम् – समीक्षात्मक प्रश्न	अंक – 15
इकाई –3	1. सुबन्त (शब्दरूप) – राम, मुनि, भानु, पितृ, करिन्, कर्तृ, आत्मन्, लता, मति, नदी, धेनु, मातृ, फल, वारि, सर्व, तद्, एतद्, यद्, इदम्, अस्मद्, युष्मद् । 2. तिङन्त (धातुरूप) – भ्वादि, दिवादि, तुदादि, चुरादि गण के अतिरिक्त अस् एवं कृ धातुओं के लट्, लृट्, लङ्, लोट् एवं विधिलिङ् लकारों के रूप 3. अपठित गद्यांश पर आधारित प्रश्न	अंक – 15

नोट– शब्द रूप एवं धातु रूप के विकल्प के रूप में अपठित गद्यांश पर आधारित प्रश्न भी पूछे जा सकते है ।

इकाई –4	प्रत्याहार, संज्ञा, सन्धि और विभक्त्यर्थ	अंक – 15
इकाई –5	हिन्दी से संस्कृत में अनुवाद	अंक – 15

अनुशंसित ग्रन्थ –

1. रचनानुवाद कौमुदी – डा. कपिलदेव द्विवेदी
2. संस्कृतस्य व्यावहारिकस्वरूपम् – डा. नरेन्द्र, श्री अरविन्द आश्रम
3. संस्कृतव्याकरण – श्रीधर वसिष्ठ
4. संस्कृत में अनुवाद कैसे करें – उमाकान्त मिश्र शास्त्री, प्रकाशक – भारती भवन
5. लघु सिद्धान्त कौमुदी – श्री महेश सिंह कुशवाहा, प्रकाशक – चौखम्बा विद्याभवन, वाराणसी

सत्र 2018–19 से प्रस्तावित

बी.ए. प्रथम वर्ष

संस्कृत साहित्य

द्वितीय प्रश्नपत्र

गद्य, कथा एवं साहित्येतिहास पूर्णांक – 75

इकाई –1	शुकनासोपदेशः – व्याख्या	अंक – 15
इकाई –2	हितोपदेशः (मित्रलाभः) – व्याख्या	अंक – 15
इकाई –3	शुकनासोपदेश एवं हितोपदेश के समीक्षात्मक प्रश्न	अंक – 15
इकाई –4	वैदिक एवं पौराणिक साहित्य का सामान्य परिचय (वेद, ब्राह्मण, आरण्यक, उपनिषद्, वेदांगों एवं पुराणों का संक्षिप्त परिचय)	अंक – 15
इकाई –5	निम्नलिखित कवियों का परिचय – महाकवि कालिदास, भारवि, माघ, श्रीहर्ष, विशाखदत्त, बाणभट्ट, शूद्रक, विशाखदत्त, भवभूति ।	अंक – 15

अनुशंसित ग्रन्थ –

1. शुकनासोपदेश – प्रकाशक – मोतीलाल बनारसीदास, वाराणसी
2. हितोपदेश (मित्रलाभ) – प्रकाशक – मोतीलाल बनारसीदास, वाराणसी
3. वैदिक साहित्य और संस्कृति – आचार्य बलदेव उपाध्याय
4. संस्कृत साहित्य का इतिहास – आचार्य बलदेव उपाध्याय
5. संस्कृत साहित्य का अभिनव इतिहास – डा. राधावल्लभ त्रिपाठी, वि.वि. प्रकाशन, सागर, म.प्र.

इतिहास अध्ययनशाला
पं.रविशंकर शुक्ल विश्वविद्यालय, रायपुर
केन्द्रीय अध्ययन मण्डल की बैठक (इतिहास)

विषय– इतिहास प्रश्न पत्र –प्रथम
संकाय– सामाजिक विज्ञान
कक्षा का नाम – बी.ए. प्रथम वर्ष प्रश्न पत्र का नाम – भारत का इतिहास, प्रारंभ से 1206 ई. तक
नवीन संशोधित पाठ्यक्रम

इकाई–1

1. भारत की भौगोलिक संरचना
2. भारतीय इतिहास के स्त्रोंतों का सर्वेक्षण
3. पूर्ण पाषाण काल एवं उत्तर पाषाण काल
4. हड़प्पा सभ्यता– निर्माता, प्रसार, नगर योजना, राजनीतिक, सामाजिक, आर्थिक संरचना

इकाई–2

5. ऋगवैदिक काल – राजनीतिक, सामाजिक, आर्थिक
6. ईसा पूर्व छठवी शताब्दी का भारत –महाजनपद काल
7. जैन एवं बौद्ध धर्म
8. सिंकदर का आक्रमण और उसका प्रभाव

इकाई–3

9. चंद्रगुप्त मौर्य एवं अशोक
10. मौर्य प्रशासन, कला एवं संस्कृति, अशोक का धम्म
11. मौर्योत्तरकाल – शुंग, कुषाण एवं सातवाहन
12. संगमयुग– साहित्य, संस्कृति, चोल एवं पाण्ड्य

इकाई–4

13. गुप्तयुग– समुद्रगुप्त की विजयें एवं चंद्रगुप्त द्वितीय, प्रशासन, आर्थिक, सामाजिक, सांस्कृतिक दशा
14. राजपूतों की उत्पत्ति एवं प्रशासनिक तथा सामाजिक विशेषताएं
15. पल्लव, चालुक्य, वर्धन, पाल, राष्ट्रकुट
16. भारत का दक्षिण पूर्व एशिया एवं श्रीलंका से संबंध

17. मोहम्मद बिन कासिम, महमूद गजनवी एवं मुहम्मद गोरी का आक्रमण

इकाई–5

18. छत्तीसगढ़ का परिचय– नामकरण एवं भौगोलिक स्थिति
19. छत्तीसगढ़ के प्रमुख क्षेत्रीय राजवंश–पाण्डुवंश, शरभपुरीय,
20. छत्तीसगढ़ के प्रमुख राजवंश– नलवंश, छिन्दक नागवंश,
21. दक्षिण कोसल के कल्चुरी वंश, राजनीतिक एवं प्रशासनिक व्यवस्था

इतिहास अध्ययनशाला
पं.रविशंकर शुक्ल विश्वविद्यालय, रायपुर
केन्द्रीय अध्ययन मण्डल की बैठक (इतिहास)

विषय– इतिहास प्रश्न पत्र – द्वितीय
संकाय– सामाजिक विज्ञान
कक्षा का नाम – बी.ए. प्रथम वर्ष प्रश्न पत्र का नाम – विश्व का इतिहास–1453 ई. से 1890 ई. तक

नवीन संशोधित पाठ्यक्रम

इकाई–1
1. यूरोप में आधुनिक युग की विशेषतायें, पुनर्जागरण
2. धर्म सुधार एवं प्रति धर्म सुधार आंदोलन
3. राष्ट्रीय राज्यों का उदय स्पेन, फ्रांस
4. राष्ट्रीय राज्यों का उदय इंग्लैण्ड, रूस

इकाई–2
5. वाणिज्यवाद, उपनिवेशवाद
6. औद्योगिक क्रान्ति
7. इग्लैण्ड में गृह युद्ध : घटनाएँ, कारण एवं परिणाम
8. गौरव पूर्ण क्रांति (1688)

इकाई–3
9. अमेरिका का स्वतंत्रता संग्राम
10. फ्रांस की क्रान्ति के कारण एवं प्रभाव
11. नेपोलियन युग
12. विएना कांग्रेस

इकाई–4
13. अनुदारवाद– मैटरनिक, आंतरिक एवं विदेश नीति
14. यूरोप में 1830 ई. एवं 1848 ई. की क्रान्ति
15. इंग्लैण्ड में उदारवाद 1832 एवं 1867 ई. का सुधार अधिनियम
16. पूर्वी समस्या– कारण, क्रीमिया युद्ध, बर्लिन सम्मेलन

इकाई–5
17. इटली का एकीकरण
18. जर्मनी का एकीकरण
19. बिस्मार्क की गृह नीति
20. बिस्मार्क की विदेश नीति

नवीन संशोधित पाठ्यकम
बी.ए. प्रथम वर्ष , इतिहास
प्रश्न पत्र –प्रथम
भारत का इतिहास, प्रारंभ से 1206 ई. तक

इकाई–1

1. भारत की भौगोलिक संरचना
2. भारतीय इतिहास के स्त्रोंतों का सर्वेक्षण
3. पूर्ण पाषाण काल एवं उत्तर पाषाण काल
4. हड़प्पा सभ्यता– निर्माता, प्रसार, नगर योजना, राजनीतिक सामाजिक, आर्थिक संरचना

इकाई–2

5. ऋगवैदिक काल – राजनीतिक, सामाजिक, आर्थिक
6. ईसा पूर्व छठवी शताब्दी का भारत –महाजनपद काल
7. जैन एवं बौद्ध धर्म
8. सिंकदर का आक्रमण और उसका प्रभाव

इकाई–3

9. चंद्रगुप्त मौर्य एवं अशोक
10. मौर्य प्रशासन, कला एवं संस्कृति, अशोक का धम्म
11. मौर्योत्तरकाल – शुंग, कुषाण एवं सातवाहन
12. संगमयुग– साहित्य, संस्कृति, चोल एवं पाण्ड्य

इकाई–4

13. गुप्तयुग– समुद्रगुप्त की विजयें एवं चंद्रगुप्त द्वितीय, प्रशासन, आर्थिक, सामाजिक, सांस्कृतिक दशा
14. राजपूतों की उत्पत्ति एवं प्रशासनिक तथा सामाजिक विशेषताएं
15. पल्लव, चालुक्य, वर्धन, पाल, राष्ट्रकुट
16. भारत का दक्षिण पूर्व एशिया एवं श्रीलंका से संबंध
17. मोहम्मद बिन कासिम, महमूद गजनवी एवं मुहम्मद गोरी का आक्रमण

इकाई 5

18. छत्तीसगढ़ का परिचय– नामकरण एवं भौगोलिक स्थिति
19. छत्तीसगढ़ के प्रमुख क्षेत्रीय राजवंश–पाण्डुवंश, शरभपुरीय,
20. छत्तीसगढ़ के प्रमुख राजवंश– नलवंश, छिन्दक नागवंश,
21. दक्षिण कोसल के कल्चुरी वंश, राजनीतिक एवं प्रशासनिक व्यवस्था

संदर्भ ग्रन्थ सूचीः–

1.	रतिभानु सिंह नाहर	प्राचीन भारतीय इतिहास एवं संस्कृति
2.	शांता शुक्ला	भारत का राजनीतिक इतिहास
3.	द्विजेन्द्र नारायण एवं श्रीमाली	प्राचीन भारत
4.	ओम प्रकाश	प्राचीन भारत
5.	बी.एन. लूनिया	प्राचीन भारतीय संस्कृति
6.	एस.आर. शर्मा	प्राचीन भारत– प्रगैतिहासिक युग से 1200 ई. तक
7.	K.L. Khurana	Ancient India from Earliest Time to 1206 A.D.
8.	K.L. Khurana	History of India from Earliest Time to 1526 A.D
9.	Vincent Smith	Oxford History of India
10.	भार्गव	प्राचीन भारत
11.	L. Prasad	Ancient India- Indius Volley Civilization to 1200 A.D
12.	भगवान सिंह वर्मा	छत्तीसगढ़ का इतिहास प्रारंभ से 1947ई. तक
13.	राम कुमार बेहार	छत्तीसगढ़ का इतिहास
14.	ऋषिराज पांडे	दक्षिण कौशल के कल्चुरी
15.	व्ही.व्ही. मिराशी	कल्चुरी नरेश और उनका काल
16.	सुरेश चंद्र शुक्ला	छत्तीसगढ़ का समग्र अध्ययन
17.	किशोर अग्रवाल	बीसवीं शताब्दी का छत्तीसगढ
18.	सुरेश चंद्र शुक्ला एवं अर्चना शुक्ला	छत्तीसगढ की रियासतों का विलीनीकरण
19.	लाला जगदलपुरी	बस्तर इतिहास एवं संस्कृति
20.	प्यारेलाल गुप्त	प्राचीन छत्तीसगढ
21.	सी.एल. शर्मा	छत्तीसगढ की रियासतें
22.	हीरालाल शुक्ल	छत्तीसगढ का जनजातीय इतिहास
23.	पी.एल. मिश्र	मुगलकालीन छत्तीसगढ़

बी.ए. प्रथम वर्ष , इतिहास
प्रश्न पत्र – द्वितीय
वि□व का इतिहास–1453 ई. से 1890 ई. तक

इकाई–1

1. यूरोप में आधुनिक युग की विशेषताएँ, पुनर्जागरण
2. धर्म सुधार एवं प्रति धर्म सुधार आंदोलन
3. राष्ट्रीय राज्यों का उदय स्पेन, फ्रांस
4. राष्ट्रीय राज्यों का उदय इंग्लैण्ड, रूस

इकाई–2

5. वाणिज्यवाद, उपनिवेशवाद
6. औद्योगिक क्रान्ति
7. इग्लैण्ड में गृह युद्ध : घटनाएँ, कारण एवं परिणाम
8. गौरव पूर्ण क्रांति (1688)

इकाई–3

9. अमेरिका का स्वतंत्रता संग्राम
10. फ्रांस की क्रान्ति के कारण एवं प्रभाव
11. नेपोलियन युग
12. विएना कांग्रेस

इकाई–4

13. अनुदारवाद– मैटरनिक, आंतरिक एवं विदेश नीति
14. यूरोप में 1830 ई. एवं 1848 ई. की क्रान्ति
15. इंग्लैण्ड में उदारवाद 1832 एवं 1867 ई. का सुधार अधिनियम
16. पूर्वी समस्या– कारण, क्रीमिया युद्ध, बर्लिन सम्मेलन

इकाई–5

17. इटली का एकीकरण
18. जर्मनी का एकीकरण
19. बिस्मार्क की गृह नीति
20. बिस्मार्क की विदेश नीति

संदर्भ ग्रन्थ सूचीः–

1. बी. एन. मेहता — अर्वाचीन यूरोप
2. K.L. Khurana — History of Modern World
3. Khurana And Sharma — Modern Europe 1453- 1789 A.D.
4. जैन एवं माथुर — आधुनिक विश्व
5. कौलेश्वर राय — आधुनिक यूरोप
6. मथुरा लाल शर्मा — संयुक्त राज्य अमेरिका का इतिहास
7. वी.एस. माथुर — संयुक्त राज्य अमेरिका का इतिहास
8. बी.एन. लूणिया — आधुनिक पाश्चात्य इतिहास की प्रमुख धाराएं
9. एल.पी. शर्मा — इंग्लैंड का इतिहास
10. वी.डी. महाजन — इंग्लैंड का इतिहास
11. जे.आर. काम्बले — अमेरिका का इतिहास
12. A.C. Gupta — A History of China
13. विपिन बिहारी सिन्हा — आधुनिक ग्रेट ब्रिटेन

B. A. – I

PSYCHOLOGY

Paper	Name of the Paper	Max. Marks	Duration
I	Basic Psychological Processes	50	3 hrs.
II.	Psychopathology	50	3 hrs.
III.	Practicum	50	4 Hrs.

PAPER - I

BASIC PSYCHOLOGICAL PROCESSES (Paper Code-0119) **M.M.:50**

Note: This paper consists of five units. From each unit a minimum of two questions would be set and the candidates would be required to attempt one from the each unit.

UNIT-1 Introduction: Definition and Goals of Psychology; Behaviouristic, Cognitive and Humanistic; Cross-cultural Perspectives. Methods: Experimental, Observational, Interview, Questionnaire, and Case study.

UNIT-2 Biological Basis of Behaviour: Genes and Behaviour, The Nervous System: The Central Nervous System (C.N.S.), The Autonomic Nervous System (A.N.S.) and The Peripheral Nervous System (P.N.S.); Glands and Hormones; Emotions- Types and Bodily changes (internal and external).

UNIT-3 Sensory and Perceptual Processes: Nature and Types of Sensation, Perception and Attention: Process, Definition, Types and Determinants; Principles of Perceptual Organization; Illusion: Nature and Types.

UNIT-4 Learning and Memory: Classical and Operant Conditioning- Basic Processes; Verbal and Observational Learning; Memory: Sensory (S.M.), Short-term (S.T.M.) and Long-term (L.T.M.); Forgetting: Process and Theories.

UNIT-5 Cognitive and Non-Cognitive Processes: Intelligence: Nature and Types; Motivation: Biogenic and Sociogenic Motives; Thinking Process: Nature and Types. Personality: Nature and Determinants; Approaches to study Personality: Trait and Type Approaches; Assessment of Personality.

References

1. सिंह, अरुण। कुमार। सामान्य मनोविज्ञान। बनारसीदास पब्लिकेशन।
2. वर्मा, पूनिता। आधुनिक सामान्य मनोविज्ञान।
3. Baron, R.A. & Byrne, D.A. Understanding Behavior. Tokyo: Halt Sounders.
4. Zimbardo, P.G. Psychology. New York: Haper Collings College publishers.
5. Lefton, L. A. (1985). Psychology. Bosten-Allyn Publishers. 6.Walser, A.L. (1997).

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B. A. - I

PSYCHOLOGY

PAPER- II

PSYCHOPATHOLOGY (Paper Code-0120) **M.M.:50**

Note: This paper consists of five units. From each unit a minimum of two questions would be set and the candidates would be required to attempt one from the each unit.

UNIT-1 Introduction: The concept of Normality and Abnormality; Models of Psychopathology: Psychodynamic, Behavioral and Cognitive.

UNIT-2 Assessment of Psychopathology: Diagnostic Tests, Rating Scales, Clinical Interview, and Projective Tests.

UNIT-3 Anxiety Disorders: Panic Disorder, Phobias, Obsessive Compulsive Disorder (OCD), and Generalized Anxiety Disorder (GAD).

UNIT-4 Mood Disorders: Manic-Depressive Episode and Dysthemia; Personality Disorders: Paranoid, Schizoid, and Dependent Personality Disorder, Dissociative disorder and Obesity.

UNIT-5 Management of Psychopathology: Stress Management; Medico and Psychosocial Therapy: Shock Therapy, Psychoanalysis, Group therapy and Behavior therapy.

References

1. Lamm, A. (1997). Introduction to Psychopathology. NY: Sage.
2. Buss, A. H. (1999). Psychopathology. NY: John Wiley.

3ण सिंह तथा तिवारी। असामान्य मनोविज्ञान। आगरा: विनोद पुस्तक मंदिर।

4ण कपिल, एच. के.। असामान्य मनोविज्ञान। आगरा: हरप्रसाद भार्गव।

B. A. – I

PSYCHOLOGY

PAPER- III

PRACTICUM M.M.:50

Note: This paper consists of two parts:

Part-A

(a) Comprises of Laboratory **Experiments**.
(b) Comprises of Psychological **Testing** and understanding of self and others.

(a) **Experiments-** (Any five of the following) :-

(i) Effect of Set on Perception
(ii) Effect of Frustration on Performance.
(iii) Division of Attention.
(iv) Learning Curve/ Serial Position Curve.
(v) Retroactive Inhibition (RI).
(vi) S.T.M.
(vii) Concept Formation.
(vii) Judgment of Emotions through Facial Expressions.
(ix) Personality Test

(b) **Psychological Tests** (Any four of the following)

(i) Verbal/ Nonverbal Intelligence Test/ Performance Tests.

(ii) E.P.I./ Personality (iii) Anxiety test.

(iv) Depression Scale (v) Adjustment Inventory.

(vi) Achievement motivation. (vii) Stress Tolerance Test.

Part-B

Anecdotal Record: Each student will be required to observe the behaviour of pupil in different setting and select an anecdote to understand, judge and narrate it as objectively as possible, so as to reveal his/her psychological insight existing in that anecdotal behavior. This record constitutes a part of psychological assessment of the students. Introduction to the measures of central tendency and graphical presentation of the ungrouped data.

Distribution of Marks

A.	Conduction of Psychological Experiment and Reporting	-	15 Marks
B.	Administration of one Psychological Test and Reporting	-	15 Marks
C.	Evaluation of Practical notebook and Anecdotal record	-	10 Marks
D.	Viva-voce	-	10 Marks

Note : No candidate will be allowed to appear in the practical examination unless his/her day-to-day practical work and the report are found satisfactory.

References Choubey, A. (2015). Psycho-lab- Experiment and Test. Raipur: Vaibhav Prakshan.

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REVISED SYLLBUS

B. A. Part- I (Economics)

Subject : Micro Economics, Paper-I (Code: 0111)

UNIT 1

Introduction - Definitions Nature and scope of Economics, Methodology in Economics, Utility - Cardinal and Ordinal approaches, Indifference curve, Consumer's equilibrium, Giffin goods, Demand - Law of Demand, Elasticity of demand Consumer's surplus

UNIT 2

Theory of production and cost, Production decision, Production function, Iso-quant, Factor substitution, Law of variable proportions, Returns to scale, Economies of scale, Different concepts of cost and their interrelation, Equilibrium of the firm.

UNIT 3

Market structure-perfect and imperfect markets, Equilibrium of a firm-Perfect competition, Monopoly and price discrimination, Monopolistic competition, Duopoly, Oligopoly, controlled and administered prices

UNIT 4

Factor pricing-Marginal productivity theory of distribution, Euler's theorem, Theories of wage determination, wages and collective bargaining, wage differentials, Rent - Scarcity Rent, differential rent, Quasi rent, Modern Rent Theory, Interest Classical and Keynesian Theories, Modern Theory, Profits - Innovation, Risk bearing and uncertainty theories

UNIT 5

Welfare economics: , What welfare economics is about ?, Role of value judgments in welfare economics, Pigou's contribution in the field of welfare economics, Concept and condition of Pareto optimality, New welfare economics: Kaldor-Hicks welfare criterion, Scitovsky paradox, Social welfare function and social choice: Bergson-Samuelson social welfare function, Prof. Amartya Sen's critique, Arrow impossibility theorem

References:

1. Bach, G. L. (1977) "Economics, " Prentice Hall of India, New Delhi.

2. Gauld, J.P. and Edward P. L. (1996), "Microeconomic Theory," Richard Irwin, Homewood

. 3. Henderson J. and R. E. Quandt (1980), "Microeconomic Theory : A Mathematical Approach", McGraw Hill, New Delhi.

4. Heathfield and Wibe (1987), " An Introduction to Cost and Production Functions", Macmillan. London.

5. Koutsoyiannis, A. (1990), " Modern Microeconomics" , Macmillan.

6. Lipsey, R. G. and K. A. Chrystal (1999) "Principles of Economics ", (9th Edition), Oxford University Press, Oxford. B.A.-Part-I (21) P

REVISED SYLLBUS

B. A. Part- I (Economics)

Subject : Indian Economy , Paper-II (Code: 0112)

UNIT 1

Pre and post independent Indian economy: A short introduction of economic policies of British India, State of economy at the time of independence, Planning exercise in India-Planning in India through different five Year Plans, The planning commission and NITI Aayog, Growth and development in pre-reform period, New Economic Reforms: Liberalization, Privatization and Globalization, Growth, development and structural change in post-reform period.

UNIT 2

Population and human development: Demographic trends and issues of education, health, malnutrition and migration. Growth and distribution: Trends and policies in poverty, inequality, unemployment and occupational distribution, International comparison in human development and poverty reduction

UNIT 3

Agriculture: Nature and importance, Trends in agriculture production and productivity, factors determining productivity, Land reforms, new agriculture strategies and green revolution, rural credit, Agricultural marketing, natural resources and infra-structure development: Performance, problems and policies, MUDRA yojana.

UNIT 4

Industry: Growth and productivity, Industrial policy and reforms, Growth and problems of small and cottage scale industries,Role of public sector enterprises in India's industrialization. Trends and performance in services.

UNIT 5

External Sector - Role of foreign trade, Trends in exports and imports, Composition and direction of India's foreign trade, Export promotion measures and the new trade policies, Recent macroeconomic scenario: National Income, investment, saving and inflation, Current macroeconomic policies and their impact, fiscal policies and monetary policy.

References

1. Uma Kapila, "Indian Economy : Performance and Policies," published by Academic Foundation.
2. Dutta and Sundram, "Indian Economy', S. Chand Publications.

3. Mishra and Puri, "Indian Economy," Himalaya Publishing House.
4. Economic Survey of India: various Issues, Published by Government of India.

I

Syllabus for B.A./ B.Sc. Course, 2018-19
Subject:. Statistics

Each year of B.A./B.sc. I, II, III shall have two theories and one practical course. All the Theory as well as Practical Examinations will be of 3 hours duration. In each practical examination 10% marks shall be fixed for viva –voce and 20% marks for practical record.

Scheme of Examination

	Title of the paper	MAX. Marks
B.A./B.Sc. I	**Paper-I** (Code No. 0803) **: Probability I**	50
	Paper-II (Code No. 0804)**: Descriptive Statistics I**	50
	Paper III: **Practical**- Based on Theory Papers I & II	50
	Total	**150**
B.A./B.Sc. II	**Paper-I** (Code No. 0853)**: Statistical Methods**	50
	Paper-II (Code No. 0854)**: Sampling Theory and Design of Experiments**	50
	Paper III: **Practical**- Based on Theory Papers I & II	50
	Total	**150**
B.A./B.Sc. III	**Paper I** (Code No. 0907)**: Applied Statistics**	50
	Paper II (Code No. 0908): **Statistical Quality Control and Computational Techniques**	50
	Paper III: Practical- Based on Theory Papers I & II	50
	Total	**150**

B.A./B.Sc. –I
Subject-Statistics
Paper – I (Paper Code-0803)
PROBABILITY THEORY

Unit-I

Important concepts in probability: Random experiment: trial, sample point and sample space, event, Operations of events, concepts of mutually exclusive and exhaustive events. Definition of probability: classical and relative frequency approach. Richard Von Misses, Cramer and Kolmogrove approachesto probability, merits and demerits to these approaches, any general idea to be given. Discrete probability space, Properties of probability based on axiomatic approaches, Independence of events, Conditional probability, total and compound probability rules, Baye's theorem and its applications.

Unit-II

Random variables: Definition of discrete random variable (rv); probability mass function (pmf) and cumulative distribution function (cdf). Joint pmf of several discrete rvs. Marginal and conditional pmfs. Independence of rvs. Idea of continuous random variables, probability density function, illustration of random variables and its properties. Expectation of a random variable and its properties -moments, measures of location and dispersion, skewness and kurtosis, Moment generating function, raw and central moments, Probability generating function (pgf) and, their properties and uses.

Unit-III

Standard univariate discrete distributions: degenerate, discrete uniform, hypergeometric, Poisson, geometric and negative binomial distributions. Marginal and conditional distributions, Distributions of functions of discrete rvs, reproductive property of standard distributions.

Unit-IV

Univariate continuous distributions and their properties: Uniform, Beta, Gamma, Exponential, Normal, Cauchy, Lognormal. Moment generating function (mgf) : its properties and applications.
Tchebycheff's inequality and applications, statements and applications of weak law of large numbers and central limit theorems.

Unit-V

Four short notes, one from each unit will be asked. Students have to answer any two.

REFERENCES

1. Bhat B.R.,Srivankataramana T. and Rao Madhav K.S. (1997): Statistics; A Beachners Vol. II, New Age International (P) Ltd.
2.Chung, K.L. (1979). Elementary Probability Theory with Stochastic Processes, Springer International Student Edition.
3. Edward P.J., Ford J.S. and Lin (1974): Probability for Statistical Decision-Marketing. Prentice Hall
4. Goon A.M., Gupta M.K. and Dasgupta B.(1999): Fundamentals of Statistics, Vol. I , World Press, Calcutta
5. Mood A.M., Grabill F.A. and Bose D.C.(1974): Introduction to the theory of Statistics, Mc. Graw Hall.

ADDITIONAl REFERENCES:

6. Cook, Cramer and Clark (): Basic Statistical Computing, Chapman and Hall.
7.David Stirzaker (1994). Elementary Probability, Cambridge University Press.
8.Feller, W. (1968). An Introduction to Probability Theory and its Applications, Wiley.
9. Hoel P.G. (1971): Introduction to Mathematical Statistics
10. Mayer P.L. (1970): Introductory Probability and Statistical Applications, Addition Wesley
11.Mukhopadhyay, P. (1996). Mathematical Statistics, New Central Book Agency, Calcutta.
12.Parzen, E. (1960). Modern Probability Theory and its Applications, Wiley Eastern.
13Pitman, Jim (1993). Probability, Narosa Publishing House.

Paper – II(Paper Code-0804)
DESCRIPTIVE STATISTICS

Unit - I

Origin and Development of statistical importance, uses and limitations of Statistics. Types of Data: Concepts of a statistics population and sample from a population; qualitative and quantitative data; nominal and ordinal data; cross sectional and time series data; discrete and continuous data; frequency and non-frequency data.

Collection and Scrutiny of Data; Primary data – designing a questionnaire and a schedule; checking their consistency. Secondary data – their major sources including some government publications. Complete enumeration, controlled experiments, observational studies and sample surveys. Scrutiny of data for internal consistency and detection of errors of recording. Ideas of cross-validation.

Presentation of Data: Construction of tables with one or more factors of classification. Diagrammatic and graphical representation of non-frequency data. Frequency distributions, cumulative frequency distributions and their graphical and diagrammatic representation – column diagram, histogram, frequency polygon and ogives. Stem and leaf chart. Box plot.

Unit -II

Analysis of Quantitative Data: Univariate data: Concepts of central tendency or location, and their measures; arithmetic, geometric and harmonic mean, median and mode.

Unit -III

Dispersion and relative measures of dispersion, skewness and kurtosis, and their measures including those based on quartiles and moments. Sheppard's corrections for moments for grouped data (without deviation).

Unit -IV

Bivariate data: Scatter diagram. Product moment correlation coefficient and its properties. Coefficient of determination. Correlation ratio. Concepts of regression. intra-class correlation coefficient with equal and unequal group sizes. Rank correlation – Spearman's and Kendall's measures. Correlation index. Principle of least squares. Fitting of linear and quadratic regression and related results. Fitting of curves reducible to polynomials by log and inverse transformation. Multivariate data: Multiple regression, multiple correlation and partial correlation in 3 variables. Their measures and related results.

Unit V

Four short notes, one from each unit will be asked. Students have to answer any two.

REFERENCES

1. Bhat B.R.,Srivankataramana T. and Rao Madhav K.S. (1997): Statistics; A Beachners Vol. II, New Age International (P) Ltd.
2.Croxton FE, Cowden DJ and Klein S: Applied General Statistics (1973): Prentice Hall of India.
3.Goon A.M., Gupta M.K., Dasgupta B. Fundamentals of Statistics, Vol. 1(1991) & Vol. 2(2001). World Press, Calcutta.
5.Gupta V.K. and Kapor S.C. : Fundamentals of Mathematical Statistics S. Chand and Sons.

ADDITIONAl REFERENCES:

6.Cook, Cramer and Clark (): Basic Statistical Computing, Chapman and Hall.
7. Mood A.M., Grabill F.A. and Bose D.C.(1974): Introduction to the theory of Statistics, McGraw Hill.
8.Snedecor GW and Cochran WG: Statistical Methods (1967) : Lowa State University Press.
9.Spiegel, MR (1967): Theory & Problems of Statistics (1967): Schaum's Publishing Series.

Paper III:

Practical : Practicals Based on Paper I & II

1. Presentation of data by Frequency tables, diagrams and graphs.
2. Calculation of Measures of Central Tendency, dispersion , skewness and kurtosis
3. Product Moment Correlation and Correlation Ratio
4. Fitting of Curves by the least square method
5. Regression of two variables
6. Spearman's Rank correlation Coefficient
7. Multiple regression of three variables
8. Multiple correlation and partial correlation
9. Evaluation of probabilities using addition and multiplication theorems, conditional probabilities and Bayes theorems
10. Exercises on mathematical expectations and finding measures of central tendency, dispersion, skewness and kurtosis of univariate probability distributions
11. Fitting of univariate and conditional distributions

बी.ए./बी. एस–सी. प्रथम वर्ष
सत्र : 2018–19

विषय का नाम :– मानवविज्ञान
प्रश्न पत्र :– प्रथम
प्रश्न पत्र का नाम :– मानवविज्ञान के आधार

पूर्णांक :– 50 उत्तीर्णांक :– 17

पाठ्यक्रम

इकाई 1 – मानवविज्ञान का अर्थ एवं क्षेत्र। मानव विज्ञान का इतिहास। मानव विज्ञान की शाखाएँ –
1. सामाजिक–सांस्कृतिक मानव विज्ञान
2. शारीरिक जैविक मानव विज्ञान
3. भाषाई मानव विज्ञान

इकाई 2 – मानवविज्ञान का अन्य विषयों के साथ संबंध : जैवविज्ञान, चिकित्सा विज्ञान, सामाजिक विज्ञान, इतिहास, अर्थशास्त्र, समाजशास्त्र, मनोविज्ञान, राजनैतिक विज्ञान।

इकाई 3 – जैवकीय मानवविज्ञान के आधार
1. मानव उद्विकास, होमिनिड फासिल के संबंध में
2. मानव विभिन्नता : प्रकार एवं कारक
3. मानव अनुवांशिकी : अवधारणा, क्षेत्र एवं शाखाएँ
4. मानव संवृद्धि एवं विकास : परिभाषा, क्षेत्र, पद्धति, एवं मानव संवृद्धि एवं विकास को प्रभावित करने वाले कारक

इकाई 4 – सामाजिक–सांस्कृतिक मानवविज्ञान के आधार।
1. संस्कृति, समाज, समुदाय, समूह एवं संस्था।
2. मानव संस्थाएँ :
   परिवार : परिभाषा, प्रकार एवं परिवार के प्रकार्य।
   विवाह : परिभाषा, विवाह के स्वरूप एवं उसके प्रकार्य।
   नातेदारी : परिभाषा, प्रकार एवं प्रकार्य।
   धर्म : धर्म के उत्पत्ति संबंधी सिद्धांत।
3. तथ्य संग्रहण के आधारभूत तकनीक : अवलोकन, अनुसूची, प्रश्नावली एवं वंशावली।

ईकाई 5 – पुरातात्विक मानवविज्ञान के आधार
1. उपकरण प्रारूप एवं तकनीक : पुरापाषाणिक, मध्यपाषाणिक एवं नवपाषाणिक

2. सांस्कृतिक उद्विकास : संस्कृतियों का वृध्द रूपरेखा (पाषाण–युग से धातु–युग)
3. पुरातत्वशास्त्र में काल निर्धारक तकनीक

बी.ए./बी. एस–सी. प्रथम वर्ष
सत्र : 2018–19

विषय का नाम :– मानवविज्ञान
प्रश्न पत्र :– द्वितीय
प्रश्न पत्र का नाम :– शारीरिक/जैविकीय मानवविज्ञान

पूर्णांक :– 50 उत्तीर्णांक :– 17

पाठ्यक्रम

इकाई 1 – शारीरिक मानवविज्ञान का अर्थ एवं क्षेत्र, इतिहास एवं इसका व्यावहारिक आयाम। जैविक उद्विकास के सिद्धांत : लैमार्कवाद, नव–लेमार्कवाद, डार्विनवाद, नव–डार्विनवाद एवं उद्विकास के संश्लेषण सिद्धांत

इकाई 2 – जंतु जगत में मानव का स्थान, जीवित (लिविंग) प्राइमेट का वर्गीकरण, मनुष्य एवं कार्य की तुलनात्मक शारीरिक रचना (कपाल,पेल्विस, दंत एवं लम्बे अस्थियों के विशेष संदर्भ में)

इकाई 3 – मानव उद्विकास के जीवाश्म साक्ष्य : रामाथिथेकस, आस्ट्रेलोपिथेकस, पिथेकेन्थ्रोपस, सिनेएन्थ्रोपस, नियंडरथल, क्रोमेग्नन, ग्रिमाल्डी मानव, चांसलेड मानव।

इकाई 4 – प्रजाति की अवधारणा : प्रजाति निर्माण एवं प्रजातीय वर्गीकरण के मापदंड, यूनेस्को कथन, भारत में प्रजातीय तत्व, विश्व के प्रमुख प्रजाति।

इकाई 5 – मानव अनुवांशिकी :
1. गुणसूत्र की संरचना, डी.एन.ए. एवं आर.एन.ए.
2. मेण्डेलियन सिद्धांत
3. मानव में वंशागतिकी के प्रकार

बी.ए./बी. एस–सी. प्रथम वर्ष

सत्र : 2018–19

विषय का नाम :– मानवविज्ञान

प्रश्न पत्र :– प्रायोगिक

प्रश्न पत्र का नाम :– अस्थिशास्त्र एवं कपालमिति

पूर्णांक :– 50 उत्तीर्णांक :– 17

पाठ्यक्रम

भाग 1 – मानव कंकाल के अस्थियों का पहचान। मानव कपाल के विभिन्न संस्थितीयों का चित्रण एवं नामकरण। पेक्टोरल एवं पेल्विक गर्डल, फीमर एवं ह्यूमरस अस्थि की पहचान एवं बाह्य चित्रण।

भाग 2 – कपालमिति :

1. कपाल की अधिकत लंबाई (मैक्सिमम क्रेनियल लेंथ)
2. कपाल की अधिकतम चौड़ाई (मैक्सिमम क्रेनियल ब्रेथ)
3. माथे की अधिकतम चौड़ाई (मैक्सिमम फ्रंटल ब्रेथ)
4. चेहरे की चौड़ाई (बाई–जायगोमेटीक ब्रेथ)
5. नासिका/नाक की ऊँचाई (नेजल हाईट)
6. नासिका/नाक की चौड़ाई (नेजल ब्रेथ)
7. माथे की न्यूनतम चौड़ाई (मिनीमम फ्रंटेल ब्रेथ)
8. बाई–मेक्सिलरी ब्रेथ
9. आर्बिट की अधिकतम चौड़ाई (बाई आर्बिटल ब्रेथ)
10. महारंध्र की लंबाई (लेंथ ऑफ फोरामेन मेग्नम)

भाग 3 – कपालमीतिय देशनाएँ –

1. क्रेनियल देशना
2. नेसल देशना

SYLLABUS

GEOGRAPHY

(B.A. / B.Sc.)

(UG COURSES)

Admitted Batch 2018-19

JUNE 2018

Chhattisgarh State Council of Higher Education

उपस्थिति पत्रक
केन्द्रीय अध्ययन मण्डल की बैठक

अध्ययन शाला का नाम – भूगोल अध्ययन शाला, पं. रविशंकर शुक्ल विश्वविद्यालय, रायपुर
बैठक दिनांक – 11/06/2018 समय – 11:00 बजे

कमांक	सदस्यों का नाम/पदनाम	हस्ताक्षर
1	डॉ. एन. के. बघमार, प्रोफेसर अध्यक्ष, भूगोल, अध्ययन मण्डल, पं. र. वि. वि. रायपुर	11/6/18
2	डॉ. सरला शर्मा, प्रोफेसर एवं अध्यक्ष भूगोल अध्ययन, शाला, पं. र. वि. वि. रायपुर	11.6.2018
3	डॉ. अमृत लाल पटेल, प्रभारी प्राचार्य, (पदोन्नत प्राध्यापक) शासकीय महाविद्यालय, सरायपाली	11.6.18
4	डॉ. डी. एल. पटेल, सहा. प्राध्यापक अध्यक्ष, भूगोल, अध्ययन मण्डल, बस्तर वि. वि., जगदलपुर	11.06.18
5	श्री गोपीश्वर साय, सहा. प्राध्यापक अध्यक्ष, भूगोल, अध्ययन मण्डल, सरगुजा वि.वि. अम्बिकापुर	11/06/2018
6	डॉ. शीला श्रीधर, सहा. प्राध्यापक एवं विभागाध्यक्ष, भूगोल विभाग, शास. दू. ब. महिला. महा. रायपुर	11/06/2018
7	डॉ. कृष्ण कुमार द्विवेदी, सहा. प्राध्यापक, एवं विभागाध्यक्ष, भूगोल विभाग, शास. के. डी. महिला महा., राजनांदगांव	11/06/2018
8	श्री एम. एस. साहू, सहा. प्राध्यापक एवं विभागाध्यक्ष, भूगोल विभाग, शास. स्नातकोत्तर महा. कुरूद, धमतरी	11.06.18
9	डॉ. सखा राम कुजाम, सहा. प्राध्यापक शास. महा. नारायणपुर	
10	डॉ. एम. पी. गुप्ता, प्रोफेसर एवं पूर्व अध्यक्ष, भूगोल अध्ययन, शाला, पं. र. वि. वि. रायपुर, विशेष आमंत्रित सदस्य,	11.6.18

11.6.18
अध्यक्ष
भूगोल अध्ययन शाला
पं. रविशंकर शुक्ल विश्वविद्यालय, रायपुर

केन्द्रीय अध्ययन मण्डल की बैठक
दिनांक 11/06/2018

कार्यालय, आयुक्त उच्च शिक्षा के पत्र क्रमांक/1686/315/आउशि/समन्वय/2018, रायपुर, दिनांक 05.06.2018 के द्वारा स्नातक स्तर के एकीकृत पाठ्यक्रमों के विभिन्न विषयों के पुनर्निरीक्षण हेतु केन्द्रीय अध्ययन मण्डलों में उक्त अधिनियम की धारा–34(ए) की उपधारा–2, 3 एवं 4 के अंतर्गत आयुक्त, उच्च शिक्षा, छत्तीसगढ़ के नामांकित सदस्यों की केन्द्रीय अध्ययन मण्डल की बैठक आज दिनांक 11/06/2018 को पूर्वान्ह 11:00 बजे भूगोल अध्ययनशाला में आयोजित की गई जिसमें निम्नांकित सदस्य उपस्थित रहे :–

अधिनियम के अन्तर्गत प्रावधान	सदस्य का नाम	हस्ताक्षर
34(क)(2)(i) विश्वविद्यालय के उन विषय के अध्ययन मण्डल के अध्यक्ष	1. डॉ. एन. के. बघमार – अध्यक्ष, अध्ययन मण्डल, भूगोल, पं. रविशंकर शुक्ल वि.वि., रायपुर (छ.ग.) 2. डॉ. डी.एल. पटेल – अध्यक्ष, अध्ययन मण्डल, भूगोल, बस्तर विश्वविद्यालय, जगदलपुर (छ.ग.) 3. डॉ. गोपीश्वर साय – अध्यक्ष, अध्ययन मण्डल, भूगोल, सरगुजा विश्वविद्यालय, जगदलपुर (छ.ग.) 4. डॉ. सरला शर्मा, अध्यक्ष, भूगोल अध्ययनशाला, पं. रविशंकर शुक्ल वि.वि., रायपुर (छ.ग.)	
34(क)(2)(ii) कुलाधिपति द्वारा नामांकित महाविद्यालयों के स्नातकोत्तर स्तर के विभागाध्यक्ष	1. डॉ. शीला श्रीधर, सहा. प्राध्यापक एवं विभागाध्यक्ष, भूगोल, शा. स्नातकोत्तर दू. ब. महिला महाविद्यालय, रायपुर (छ.ग.)	
34(क)(3)(iii) कुलाधिपति द्वारा नामांकित महाविद्यालयों के स्नातक स्तर के विभागाध्यक्ष	1. डॉ. एम. एस. साहू, सहा. प्राध्यापक एवं विभागाध्यक्ष, शास. महाविद्यालय, कुरूद, धमतरी (छ.ग.) 2. डॉ. अमृत लाल पटेल, पदोन्नत प्राध्यापक एवं प्रभारी प्राचार्य, शासकीय महाविद्यालय, सरायपाली (छ.ग.) 3. डॉ. गोपीश्वर साय – अध्यक्ष, शासकीय महाविद्यालय,सुरजपर (छ.ग.) 4. डॉ. डी.एल.पटेल – विभागाध्यक्ष, भूगोल शास. भानुप्रतापदेव स्नातकोत्तर, महाविद्यालय, कांकेर (छ.ग.)	
34(क)(3)(iv) कुलाधिपति द्वारा आयुक्त उच्च शिक्षा की सिफारिश के आधार पर मनोनीत विषय विशेषज्ञ	1. श्री के. के. द्विवेदी सहा. प्राध्यापक शास. के. डी. महिला महाविद्यालय, राजनांदगांव	
34(क)(3)(v) आयुक्त उच्च शिक्षा का प्रतिनिधि		
विशेष आमंत्रित सदस्य	1. डॉ. एम. पी. गुप्ता, से.नि. प्राध्यापक, पं. रविशंकर शुक्ल वि.वि., रायपुर	

कार्य **वृत** :– आज दिनांक 11/06/2018 को पू वान्ह 11:00 बजे केन्दीय अध्ययन मंडल, भूगोल की बैठक भूगोल अध्ययनशाला, पं. रविशंकर शुक्ल वि.वि., रायपुर में आयोजित हुई जिसमें निम्नानुसार अनुशंसा की गई :–

1. **कार्य सूची** – 1 के संदर्भ में सदस्यों द्वारा बी.ए./बी. एस. सी – प्रथम, क्षितीय एवं तृतीय वर्ष, 2018–19 के पाठ्यक्रम के विषय में चर्चा की गई तथा बी.ए./बी. एस. सी – प्रथम, क्षितीय एवं तृतीय वर्ष, 2018–19 के पाठ्यक्रम में संशोधन कर निम्नलिखित संशोधित पाठ्यक्रम अनुशंसित किया गया –

Brief Summary

3 Year Integrated UG Courses (B.A./B.Sc) in Geography

B.A. /B.Sc. Part I

The B.A. /B.Sc. Part-I Examination in Geography will be 150 marks. There will be two theory papers and one Practical each of 50 marks as follows:

Paper - I	Physical Geography
Paper - II	Human Geography.
Paper - III	Practical Geography

B.A. /B.Sc. Part-II

The B.A./B.Sc. Part-II Examination in Geography will be 150 marks. There will be two theory papers and one Practical each of 50 marks as follows:

Paper-I	Economic and Resources Geography
Paper-II	Regional Geography of India
Paper-III	Practical Geography

B.A. /B.Sc. Part III

The B.A. /B.Sc. Part III Examination in Geography will be 150 marks. There will be two theory papers and one Practical each of 50 marks as follows

Paper – I	Remote Sensing and GIS
Paper - II	Geography of Chhattisgarh
Paper - III	Practical Geography

प्रपत्र

कक्षा : बैचलर ऑफ आर्ट्स / साइंस
विषय : भूगोल
संकाय : कला / विज्ञान

प्रश्नपत्र	प्रश्नपत्र का नाम
I	भौतिक भूगोल (Physical Geography)
II	मानव भूगोल (Human Geography)
III	प्रायोगिक – मानचित्र एवं सांख्यिकी (Practical - Cartography and Statistical Techniques)
IV	आर्थिक एवं संसाधन भूगोल (Economic & Resource Geography)
V	भारत का प्रादेशिक भूगोल (Regional Geography of India)
VI	प्रायोगिक – मानचित्र निर्वचन, प्रक्षेप एवं सांख्यिकी विधि (Practical - Map Interpretation and Statistical Techniques) Projection
VII	सुदूर संवेदन एवं भौगोलिक सूचना प्रणाली (Remote Sensing and GIS
VIII	छत्तीसगढ़ का भूगोल (Geography of Chhattisgarh)
IX	प्रायोगिक – मानचित्र पठन एवं निर्वचन (Practical - Map Reading & Interpretation)

वर्तमान पाठयक्रम	नवीन संसोधित	नवीन संसोधित पाठ्यक्रम का औचित्य
संलग्नानुसार संलग्नक कमांक – 1	संलग्नानुसार संलग्नक कमांक – 2	1. विश्वविद्यालय अनुदान आयोग के पाठ्यक्रम के अनुरूप विषय वस्तु का युक्ति–युक्तकरण किया गया हैं । 2. छात्रों में विभिन्न प्रतियोगिता परीक्षा में सफलता के लिए नवीन पठन–पाठन शामिल कर प्रश्नपत्रों में संशोधन किया गया है । 3. छ. ग. शासन की अपेक्षाओं के अनुरूप, क्षेत्रीय आवश्यकताओं को ध्यान में रखकर पाठ्यक्रम तैयार किया गया है

1. डॉ. एन. के. बघमार,, अध्यक्ष : Baghmar — Dr. H.K. Baghmar
2. डॉ. सरला शर्मा, प्रोफेसर, सदस्य : (Dr Sarla Sharma)
3. डॉ. अमृत लाल पटेल, सदस्य : Dr. A.L. Patel, Govt. college Sarai Pali
4. डॉ. डी. एल. पटेल, सदस्य : (Dr. D.L. Patel) Chairman board of study Bastar Vvi
5. श्री गोपीश्वर साय, सदस्य :
6. डॉ. शीला श्रीधर, सदस्य : Dr Sheela Shridhar
7. डॉ. कृष्ण कुमार द्विवेदी, सदस्य :
8. श्री एम. एस. साहू, सदस्य : (M.S. SAHU) GOVT. P.G. College Kurud
9. डॉ. सखा राम कुजाम, सदस्य :
10. डॉ. एन. पी. गुप्ता, आमंत्रित सदस्य :

कार्य वृत :– आज दिनांक 11/06/2018 को पू वान्ह 11:00 बजे केन्दीय अध्ययन मंडल, भूगोल की

बैठक भूगोल अध्ययनशाला, पं. रविशंकर शुक्ल वि.वि., रायपुर में आयोजित हुई जिसमें निम्नानुसार अनुशंसा की गई :–

1. **कार्य सूची – 1** के संदर्भ में सदस्यों द्वारा बी.ए./बी. एस. सी – प्रथम, क्षितीय एवं तृतीय वर्ष, 2018–19 के पाठ्यक्रम के विषय में चर्चा की गई तथा बी.ए./बी. एस. सी – प्रथम, क्षितीय एवं तृतीय वर्ष, 2018–19 के पाठ्यक्रम में संशोधन कर निम्नलिखित संशोधित पाठ्यक्रम अनुशंसित किया गया –

Brief Summary
3 Year Integrated UG Courses (B.A./B.Sc) in Geography

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Paper - I	Physical Geography
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B.A. /B.Sc. Part-II

The B.A./B.Sc. Part-II Examination in Geography will be 150 marks. There will be two theory papers and one Practical each of 50 marks as follows:

Paper-I	Economic and Resources Geography
Paper-II	Regional Geography of India
Paper-III	Practical Geography

B.A. /B.Sc. Part III

The B.A. /B.Sc. Part III Examination in Geography will be 150 marks. There will be two theory papers and one Practical each of 50 marks as follows

Paper – I	Remote Sensing and GIS
Paper - II	Geography of Chhattisgarh
Paper - III	Practical Geography

B.A. /B.Sc. Part I

PAPER - I
PHYSICAL GEOGRAPHY
Max. Marks: 50
(Paper Code-0117)

Unit I The Nature and Scope of Physical Geography. Origin of the Earth, Geological Time Scale, Earth's Interior, Continental Drift Theory (Wegner), Plate Tectonics, Isostasy.

Unit II Earth movements: Earthquakes and Volcanoes. Rocks, Weathering, Erosion, and Normal cycle of erosion, Evaluation of landscapes- Fluvial, Arid, Glacial, Karts and Coastal landscape.

Unit III Elements of Weather and Climate, Composition and Structure of the Atmosphere. World patterns of Atmospheric Temperature, Pressure, and Wind.

Unit IV Atmospheric Moisture, and Disturbances, Climatic Classification (Koppen and Thornthwait) types, characteristics and World patterns.

Unit V Surface relief of Pacific Ocean, Atlantic Ocean, and Indian Ocean. Distribution of Temperature and Salinity of oceans and seas, Currents and Tides, Ocean Deposits and Coral Reefs, and Oceanic Resources.

Books Recommended:

1. Barry, R. G. and Chorley, R. J. (1998): Atmosphere, Weather and Climate. Routledge, London.
2. Bryant, H. Richard (2001): Physical Geography Made Simple, Rupa and Company. New Delhi
3. Bunnett, R.B. (2003): Physical Geography in Diagrams, Fourth GCSE edition, Pearson Education (Singapore) Private Ltd.
4. Garrison, T. (1998): Oceanography, Wordsworth Company., Belmont.
5. Lake, P. (1979): Physical Geography (English and Hindi editions), Cambridge University Press, Cambridge.
6. Lal, D.S. 1993 : Climatology, 3rd edition, Chaitanya Pub. House, New Delhi
7. Leong Goh Cheng (2003): Certificate Physical and Human Geography, Oxford University Press, New Delhi.
8. Monkhouse, F.J. (1979): Physical Geography. Methuen, London
9. Singh, S. (2003): Physical Geography. (English and Hindi editions.). Prayag Pustak Bhawan, Allahabad;
10. Trewartha, G.T., Robinson, A.H., Hammond, E.H., and Horn, A.T. (1976/1990): Fundamentals of Physical Geography, 3rd edition. MacGraw-Hill, New York.
11. Singh, M.B. (2001): *Bhoutik Bhugol,* Tara Book Agency, Varanasi
12. Strahler, A.N. and Stahler, A.M. (1992): Modern Physical Geography. John Wiley and Sons, New York.

B.A. /B.Sc. Part I

PAPER - II
HUMAN GEOGRAPHY
Max. Marks: 50
(Paper Code-0118)

Unit I Definition and Scope of Human Geography. Man - environment relationship; Determinism, Possibilism, and Probabilism; Human Development Index (HDI).

Unit II Classification of Human Races – their Characteristics and Distribution; Human adaptation to environment: Eskimos, Bushman, Pigmy, Gond, Masai, and Naga.

Unit III Growth, Density and Distribution of World Population and factors influencing Spatial distribution; Over , Under, and Optimum Population; Migration of Population. .

Unit IV Settlements – Urban Settlements: Urbanization, Evolution and Classification, Trends of Urbanization.

Rural settlements: Characteristics, Types and Regional Pattern, Rural Houses in India - Types, Classification and Regional Pattern.

Unit V Issues – Global Warming, Climate Change, Deforestation, Desertification, Air, Water and Soil Pollution.

Books Recommended:

1. Chisholm, M. (1985): Human Geography, 2nd edition, Penguin Books, London.
2. De Blij, H.J.(1996): Human Geography: Culture, Society and Space,. 2nd edition. John Wiley and Sons, New York,
3. Fellman, J. D., Arthur, G., Judith, G., Hopkins, J. and Dan, S. (2007): Human Geography: Landscapes of Human Activities. McGraw-Hill, New York. 10th edition.
4. Haggett, P. (2004): Geography: A Modern Synthesis. 8th edition, Harper and Row, New York.
5. Huggett, R. J. (1998): Fundamentals of Biogeography, Routledge, London.
6. Hussain, M. (1994): Human Geography, Rawat Publications, Jaipur.
7. Johnston, R. J., Gregory, D., Pratt, G. and Watts, M. (2009): The Dictionary of Human Geography. 5th edition, Basil Blackwell Publishers, Oxford.
8. Kaushik, S.D. and Sharma, A.K. (1996): Principles of Human Geography (in Hindi), Rastogi Publication, Meerut.
9. Norton, W. (2008): Human Geography, Oxford University Press, New York. 5th ed.
10. Saxena, H. M. (2000): Environmental Management. Rawat Publications., Jaipur and New Delhi.
11. Singh, K. N. and Singh, J. (2001): *Manav Bhugol*. Gyanodaya Prakashan, Gorakhpur. 2nd edition.
12. Singh, L.R. (2005): Fundamentals of Human Geography, Sharda Pustak Bhawan, Allahabad
13. Smith, D. M.(1977): Human Geography- A Welfare Approach, Edward Arnold (Publishers) Ltd.,London
14. Stoddard, R.H., Wishart, D.J. and Blouet, B.W. (1986): Human Geography. Prentice-Hall, Englewood Cliffs, New Jersey.

B.A. /B.Sc. Part I

PAPER - III
PRACTICALGEOGRAPHY
Max. Marks: 50

SECTION A

CARTOGRAPHY AND STASTISTICAL METHODS (M.M. 25)

Unit I Scale: Statement Scale , Representative Fraction (R.F.), Linear scale – Simple, Diagonal, Comparative, and Time Scales.

Unit II Contour: Methods of showing relief; Hachures, Contours; Representation of different landforms by contours.

Unit III Graph and Diagram: Line graph, Bar Diagram (Simple and Compound), Circle Diagram, Pie Diagram

Unit IV Statistical Technique: Mean, Median and Mode

SECTION B

SURVEYING - (M.M. 15)

Unit V Chain and Tape Survey. Triangulation method, Open Traverse and Closed Traverse

PRACTICAL RECORD AND VIVA VOCE (M.M. 10)

Books Recommended:

1. Davis, R.E. and Foote, F.S. (1953): Surveying, 4th edition, McGraw Hill Publication, New York
2. Jones, P.A.(1968): Fieldwork in Geography, Longmans, Green and Company Ltd., First Publication, London
3. Monkhouse, F. J. and Wilkinson, F.J. (1985): Maps and Diagrams. Methuen, London
4. Natrajan, V. (1976): Advanced Surveying, B.I. Publications., Mumbai
5. Pugh, J.C. (1975): Surveying for Field Scientists, Methuen and Company Ltd., London, First Publication.
6. Raisz, E. (1962): General Cartography. John Wiley and Sons, New York. 5th edition.
7. Sarkar, A. K. (1997): Practical Geography: A Systematic Approach. Orient Longman, Kolkata.
8. Sharma, J. P. (2001): *Prayogik Bhugol.*, Rastogi Publication, Meerut 3rd. edition.
9. Singh, R.L. and Singh, Rana P.B. (1993): Elements of Practical Geography. (Hindi and English editions). Kalyani Publishers, New Delhi,.
10. Singh, L.R. (2006): Fundamentals of Practical Geography, Sharda Pustak Bhawan, Allahabad.
11. Venkatramaiah, C. (1997): A Text Book of Surveying, Universities Press, Hyderabad.

B.A. /B.Sc. Part II

PAPER - I
ECONOMIC AND RESOURCES GEOGRAPHY
Max. Marks: 50
(Paper Code-0187)

Unit I Meaning, scope and approaches to economic geography; Main concepts of economic geography; Resource: concept and classification; Natural resources: soil, forest and water.

Unit II Mineral resources: iron ore and bauxite; Power resources: coal, petroleum and hydro electricity; Resource conservation; Principal crops: wheat, rice, sugarcane and tea

Unit III Agricultural regions of the world (Derwent Whittlesey); Theory of agricultural location (Von Thunen); Theory of industrial location (Weber); Major industries: iron and steel, textiles, petrochemical and sugar; industrial regions of the world.

Unit IV World transportation: major trans-continental railways, sea and air routes; International trade: patterns and trends; Major trade blocks: LAFTA, EEC, ASEAN; Effect of globalization on developing countries.

Unit V Conservation of resources; evolution of the concept, principles, philosophy, and approach to conservation, resources conservation and practices. Policy making and sustainable development.

Books Recommended:

1. Alexander, J. W. (1988): Economic Geography. Prentice-Hall, New Delhi,.
2. Bryson, J., Henry, N., Keeble, D. and Martin, R. (eds.) (1999): The Economic Geography Reader: Producing and Consuming Global Capitalism. John Wiley and Sons, Inc, New York.
3. Clark,G. L., Gertler, M. S. and Feldman, M. P. (eds.) (2000): The Oxford Handbook of Economic Geography. Oxford University Press, USA.
4. Coe, N. (2007): Economic Geography: A Contemporary Introduction. Blackwell Publishers, Inc., Massachusetts.
5. Gautam, A. (2006): *Aarthik Bhugol Ke Mool Tattava,* Sharda Pustak Bhawan, Allahabad.
6. Guha, J. S. and Chattoraj, P.R. (2002): A New Approach to Economic Geography: A Study of Resources. The World Press Private Limited, Kolkata.
7. Hanink, D. M. (1997): Principles and Applications of Economic Geography: Economy, Policy, Environment. John Wiley and Sons, Inc, New York.
8. Hartshorne, T. A. and Alexander, J. W. (1988): Economic Geography (3rd revised edition) Englewood Cliff , New Jersey, Prentice Hall
9. Hudson, R. (2005): Economic Geographies: Circuits, Flows and Spaces. Sage Publications, London.
10. Knowles, R, Wareing, J. (2000): Economic and Social Geography Made Simple, Rupa and Company, New Delhi.

बी.ए. / बी.एस.सी. – प्रथम वर्ष
प्रश्न पत्र–प्रथम
भौतिक भूगोल

अधिकतम अंक : 50

(कोड क्रमांक 0117)

इकाई –1. भौतिक भूगोल की प्रकृति एवं विषय क्षेत्र, पृथ्वी की उत्पत्ति, भूगर्भिक समय मापनी, पृथ्वी की आंतरिक संरचना, वेगनर का महाद्वीपीय प्रवाह सिद्धांत, पट्ट विवर्तन, भूसंतुलन ।

इकाई –2. पृथ्वी की हलचल–भूकंप, ज्वालामुखी, चट्टान अपक्षय, अपरदन, सामान्य अपरदन चक्र, वायु, हिम बहता जल, भूमिगत जल और सागरीय जल से निर्मित भूदृश्य ।

इकाई –3. मौसम और जलवायु के तत्व, वायुमंडल की संरचना एवं संघटन, वायुमंडलीय ताप, दाब तथा हवाएं ।

इकाई –4. वायुमंडलीय आर्द्रता विक्षोम, जलवायु वर्गीकरण कोपेन और थार्नथ्वेट के आधार पर वैश्विक जलवायु की विशेषताएँ और विश्व प्रतिरूप ।

इकाई –5. महासागरीय उच्चावच्च प्रशांत महासागर, आंध्रमहासागर एवं हिन्द महासागर । सामुद्रिक तापमान लवणता जलधाराएँ एवं, ज्वारभाटा, सामुद्रिक निक्षेप एवं प्रवाल भित्ती, सामुद्रिक संसाधन ।

Books Recommended:

1. Barry, R. G. and Chorley, R. J. (1998): Atmosphere, Weather and Climate. Routledge, London.
2. Bryant, H. Richard (2001): Physical Geography Made Simple, Rupa and Company. New Delhi
3. Bunnett, R.B. (2003): Physical Geography in Diagrams, Fourth GCSE edition, Pearson Education (Singapore) Private Ltd.
4. Garrison, T. (1998): Oceanography, Wordsworth Company., Belmont.
5. Lake, P. (1979): Physical Geography (English and Hindi editions), Cambridge University Press, Cambridge.
6. Lal, D.S. 1993 : Climatology, 3rd edition, Chaitanya Pub. House, New Delhi
7. Leong Goh Cheng (2003): Certificate Physical and Human Geography, Oxford University Press, New Delhi.
8. Monkhouse, F.J. (1979): Physical Geography. Methuen, London
9. Singh, S. (2003): Physical Geography. (English and Hindi editions.). Prayag Pustak Bhawan, Allahabad;
10. Trewartha, G.T., Robinson, A.H., Hammond, E.H., and Horn, A.T. (1976/1990): Fundamentals of Physical Geography, 3rd edition. MacGraw-Hill, New York.
11. Singh, M.B. (2001): *Bhoutik Bhugol,* Tara Book Agency, Varanasi
12. Strahler, A.N. and Stahler, A.M. (1992): Modern Physical Geography. John Wiley and Sons, New York.

बी.ए./बी.एस.सी. –प्रथम वर्ष
प्रश्न पत्र–द्वितीय
मानव भूगोल

अधिकतम अंक : 50

(कोड क्रमांक 0118)

इकाई –1. मानव भूगोल की परिभाषा एवं विषय क्षेत्र मानव वातावरण संबंध, निश्चयवाद, संम्भववाद प्रसम्भववाद, मानव विकास सूचकांक ।

इकाई –2. मानव प्रजाति उद्‌भव प्रकार विशेषताएँ एवं वितरण, मानव द्वारा वातावरण से अनुकुलन एस्किमो, बुशमेन,

पिग्मी, गोंड, मसाई, और नागा ।

इकाई –3. वैश्विक जनसंख्या– वृद्धि, घनत्व, जनसंख्या के वितरण को प्रभावित करने वाले स्थानिक कारक, जनाधिक्य, न्यूनतम जनसंख्या और अनूकूलतम आदर्श जनसंख्या, जनसंख्या एवं प्रवास।

इकाई –4. अधिवास– नगरीय अधिवासः नगरीयकरण उद्‌भव, प्रकार एवं नगरीकरण के प्रतिरूप । ग्रामीण अधिवास : विशेषताएँ , प्रकार और क्षेत्रीय प्रतिरूप, भारत में ग्रामीण अधिवास, प्रकार, वर्गीकरण और क्षेत्रीय प्रतिरूप ।

इकाई –5. उभरते पर्यावरणीय मुद्‌दे– ग्लोबल वार्मिंग, जलवायु परिवर्तन निर्वनिकरण, मरूस्थलीकरण प्रदूषण – जल, वायु और मृदा प्रदूषण ।

Books Recommended:

1. Chisholm, M. (1985): Human Geography, 2nd edition, Penguin Books, London.
2. De Blij, H.J.(1996): Human Geography: Culture, Society and Space,. 2nd edition. John Wiley and Sons, New York,
3. Fellman, J. D., Arthur, G., Judith, G., Hopkins, J. and Dan, S. (2007): Human Geography: Landscapes of Human Activities. McGraw-Hill, New York. 10th edition.
4. Haggett, P. (2004): Geography: A Modern Synthesis. 8th edition, Harper and Row, New York.
5. Huggett, R. J. (1998): Fundamentals of Biogeography, Routledge, London.
6. Hussain, M. (1994): Human Geography, Rawat Publications, Jaipur.
7. Johnston, R. J., Gregory, D., Pratt, G. and Watts, M. (2009): The Dictionary of Human Geography. 5th edition, Basil Blackwell Publishers, Oxford.
8. Kaushik, S.D. and Sharma, A.K. (1996): Principles of Human Geography (in Hindi), Rastogi Publication, Meerut.
9. Norton, W. (2008): Human Geography, Oxford University Press, New York. 5th ed.
10. Saxena, H. M. (2000): Environmental Management. Rawat Publications., Jaipur and New Delhi.
11. Singh, K. N. and Singh, J. (2001): *Manav Bhugol*. Gyanodaya Prakashan, Gorakhpur. 2nd edition.
12. Singh, L.R. (2005): Fundamentals of Human Geography, Sharda Pustak Bhawan, Allahabad
13. Smith, D. M.(1977): Human Geography- A Welfare Approach, Edward Arnold (Publishers) Ltd.,London
14. Stoddard, R.H., Wishart, D.J. and Blouet, B.W. (1986): Human Geography. Prentice-Hall, Englewood Cliffs, New Jersey.

बी.ए. / बी.एस.सी.–प्रथम वर्ष
प्रश्न पत्र–तृतीय
प्रायोगिक भूगोल

अधिकतम अंक : 50

भाग– अ मानचित्र तकनीक एवं सांख्यिकी विधियां (25)

इकाई –1 मपनी– कथनात्मक मापन, प्रतिनिधि भिन्न सामान्य रैखिक मापनी विकर्ण तुलनात्मक एवं समय मापनी.

इकाई –2 उच्चावच प्रदर्शन की विधियां – हैश्यूर समोच्च रेखा, तथा विविध स्थलाकृतियों की प्रदर्शन.

इकाई –3 रैखिक आरेख, दंड आरेख, (सामान्य एवं मिश्रित) चक्र आरेख – समानुपातिक वृत्त आरेख विभाजित वृतारेख

इकाई –4 सांख्यिकी विधियां : औसत, माध्यिका , बहुलक

भाग– ब सर्वेक्षण (15)

इकाई –5 चैन और फीता सर्वेक्षण–त्रिभुजीकरण, खुला एवं बंद मार्ग मापन,

प्रायोगिक पुस्तिका और मौखिक परिक्षण परीक्षा (10)

Books Recommended:

1. Davis, R.E. and Foote, F.S. (1953): Surveying, 4th edition, McGraw Hill Publication, New York
2. Jones, P.A.(1968): Fieldwork in Geography, Longmans, Green and Company Ltd., First Publication, London
3. Monkhouse, F. J. and Wilkinson, F.J. (1985): Maps and Diagrams. Methuen, London
4. Natrajan, V. (1976): Advanced Surveying, B.I. Publications., Mumbai
5. Pugh, J.C. (1975): Surveying for Field Scientists, Methuen and Company Ltd., London, First Publication.
6. Raisz, E. (1962): General Cartography. John Wiley and Sons, New York. 5th edition.
7. Sarkar, A. K. (1997): Practical Geography: A Systematic Approach. Orient Longman, Kolkata.
8. Sharma, J. P. (2001): *Prayogik Bhugol.,* Rastogi Publication, Meerut 3rd. edition.
9. Singh, R.L. and Singh, Rana P.B. (1993): Elements of Practical Geography. (Hindi and English editions). Kalyani Publishers, New Delhi,.
10. Singh, L.R. (2006): Fundamentals of Practical Geography, Sharda Pustak Bhawan, Allahabad.
11. Venkatramaiah, C. (1997): A Text Book of Surveying, Universities Press, Hyderabad.

बी.ए. / बी.एस.सी. –द्वितीय वर्ष
प्रश्न पत्र–प्रथम
आर्थिक एवं संसाधन भूगोल

(कोड क्रमांक 0187)

अधिकतम अंकः 50

इकाई–1 : आर्थिक भूगोल का अर्थ, विषय क्षेत्र एवं उपागम; आर्थिक भूगोल की आधारभूत संकल्पनाये; संसाधन : संकल्पनायें एवं वर्गीकरण; प्राकृतिक संसाधन : मिट्टी, वन एवं जल ।

इकाई–2 : खनिज संसाधन : लौह अयस्क एवं बाक्साईट; शक्ति संसाधन कोयला, पेट्रोलियम एवं जल विद्युत; संसाधन संरक्षण ; प्रमुख फसलेः गेहूँ, चाँवल, गन्ना, एवं चाय ।

इकाई–3 : विश्व के कृषि प्रदेश (व्हिटलसी के अनुसार); कृषि अवस्थिति के सिद्धान्त (वॉन थ्यूनेन); औधोगिक स्थानीयकरण का सिद्धान्त (वेबर); प्रमुख उद्योग : लौह एवं इस्पात, वस्त्र उद्योग, शैलरासायनिक एवं शक्कर; विश्व के औद्योगिक प्रदेश ।

इकाई–4 : विश्व परिवहन : प्रमुख ट्रांस महाद्वीपीय रेलवे, समुद्र एवं वायु मार्ग; अंतर्राष्ट्रीय व्यापार प्रतिरुप एवं प्रवृत्तियाँ; प्रमुख व्यापार संघ : लैटिन अमेरिकी स्वतंत्र व्यापार संघ (LAFTA), यूरोपीय साझा बाजार (EEC), दक्षिणी–पूर्वी एशियाई राष्ट्रों का संघ (ASEAN), विकासशील देशों पर भूमण्डलीकरण का प्रभाव ।

इकाई–5 : संसाधनों का संरक्षण; संकल्पनाओं का उद्भव, सिद्धात, दर्शन एवं संरक्षण के उपागम, संसाधन संरक्षण एवं प्रवृत्तियाँ, अक्षय विकास एवं नीति निर्माण ।

Books Recommended:

1. Alexander, J. W. (1988): Economic Geography. Prentice-Hall, New Delhi,.
2. Bryson, J., Henry, N., Keeble, D. and Martin, R. (eds.) (1999): The Economic Geography Reader: Producing and Consuming Global Capitalism. John Wiley and Sons, Inc, New York.
3. Clark,G. L., Gertler, M. S. and Feldman, M. P. (eds.) (2000): The Oxford Handbook of Economic Geography. Oxford University Press, USA.
4. Coe, N. (2007): Economic Geography: A Contemporary Introduction. Blackwell Publishers, Inc., Massachusetts.
5. Gautam, A. (2006): *Aarthik Bhugol Ke Mool Tattava,* Sharda Pustak Bhawan, Allahabad.
6. Guha, J. S. and Chattoraj, P.R. (2002): A New Approach to Economic Geography: A Study of Resources. The World Press Private Limited, Kolkata.
7. Hanink, D. M. (1997): Principles and Applications of Economic Geography: Economy, Policy, Environment. John Wiley and Sons, Inc, New York.
8. Hartshorne, T. A. and Alexander, J. W. (1988): Economic Geography (3rd revised edition) Englewood Cliff , New Jersey, Prentice Hall
9. Hudson, R. (2005): Economic Geographies: Circuits, Flows and Spaces. Sage Publications, London.

नवीन संशोधित पाठ्यक्रम

दर्शन शास्त्र

बी.ए. भाग–एक, दर्शन शास्त्र में दो प्रश्न पत्र (75 अंक) के होंगे

1. भारतीय दर्शन की रूपरेखा
2. पाश्चात्य दर्शन का इतिहास

प्रत्येक प्रश्न पत्र पांच इकाईयों में विभाजित है । प्रत्येक इकाई में से एक प्रश्न हल करना अनिवार्य होगा ।

बी.ए. भाग – एक

दर्शन शास्त्र

प्रथम – प्रश्न पत्र

भारतीय दर्शन की रूपरेखा

इकाई–1
1. भारतीय दर्शन – परिचय एवं मुख्य विशेषताएं
2. वेद एवं उपनिषद– ब्रह्म , आत्मा
3. चार्वाक दर्शन – तत्व मीमांसा

इकाई–2
1. जैन दर्शन – स्याद्वाद, जीव, बंधन एवं मोक्ष
2. बौद्ध दर्शन– चार आर्यसत्य, अनात्मवाद

इकाई–3
1. न्याय दर्शन – प्रमाण (प्रत्यक्ष एवं अनुमान), ईश्वर
2. वैशेषिक दर्शन– परमाणुवाद, सप्त पदार्थ

इकाई–4
1. सांख्य दर्शन – प्रकृति , पुरूष, विकासवाद
2. योग दर्शन – अष्टांग योग, ईश्वर

इकाई–5
1. शंकराचार्य का अद्धैत दर्शन– ब्रह्म, आत्मा, माया
2. रामानुज का विशिष्टाद्धैत – ब्रह्म, जीव, मोक्ष

उपरोक्त समस्त संशोधन विषय की स्पष्टता व ज्ञानवर्धन को ध्यान में रखकर समिति के सभी सदस्यों की सहमति से किया गया ।

नवीन संशोधित पाठ्यक्रम

बी.ए. भाग – एक

दर्शन शास्त्र

द्वितीय – प्रश्न पत्र

पाश्चात्य दर्शन का इतिहास

इकाई–1 1. पाश्चात्य दर्शन – परिचय

2. प्लेटो– प्रत्ययों का सिद्धांत

3. अरस्तू– कारणता का सिद्धांत

इकाई–2 1. थामस एक्वीनास– ईश्वर के अस्तित्व के प्रमाण

2. डेकार्ट– संदेह पद्धति, आत्मा का अस्तित्व, ईश्वर का अस्तित्व

इकाई 3. 1. स्पिनोजा – द्रव्य, गुण, पर्याय

2. लाइबनित्ज– चिद्बिन्दुवाद

इकाई–4 1. जॉन लॉक– सहज प्रत्ययों का खंडन, मूलगुण एवं उपगुण

2. जॉन बर्कले – मूलगुण एवं उपगुण का खंडन, विज्ञानवाद

इकाई–5 1. ह्यूम– संस्कार और प्रत्यय, संदेहवाद, आत्मा का खंडन

2. कांट – समीक्षावाद

उपरोक्त समस्त संशोधन विषय की स्पष्टता व ज्ञानवर्धन को ध्यान में रखकर समिति के सभी सदस्यों की सहमति से किया गया ।

संशोधित पाठ्यक्रम – बी.ए. प्रथम वर्ष के अंतर्गत
विशय – नृत्य (भरत नाट्यम)

बी.ए. भाग (1) के लिये इस विषय में प्रायोगिक और सैद्धांतिक दो भाग होगें। प्रायोगिक 50 अंक एवं सैद्धांतिक 100 अंक का होगा। इस हेतु 50–50 अंक के दो प्रश्नपत्र होंगे। प्रत्येक वर्ष के पूर्णांक कुल मिलाकर 150 अंक के होगें।

क्र	विवरण		पूर्णांक	उत्तीर्णांक
1	सैद्धांतिक प्रथम प्रश्न पत्र	–	50	17
2	सैद्धांतिक द्वितीय प्रश्न पत्र	–	50	17
3	प्रायोगिक	–	50	17
		योग	**150**	**51**

सैद्धांतिक (विस्तृत पाठ्यक्रम)
प्रथम प्रश्न पत्र
शीर्षक – नृत्य का इतिहास एवं सामान्य अध्ययन
पेपर कोड (0153)

1. **नृत्य का इतिहास** – सिंधु सभ्यता, वैदिक काल, रामायण एवं महाभारत काल में नृत्य की स्थिति।
2. **पुराणों के आधार पर** – उमाशकर एवं नटवर श्री कृष्ण की नृत्य संबंधी कथायें – त्रिपुरडाह, उमा तांडव, मोहिनी–भस्मासुर, माखन लीला, कालिया दमन, रासलीला।
3. **नृत्य का अन्य ललित कलाओं से संबंध** – संगीत, साहित्य, चित्रकला एवं मूर्तिकला से संबंध।
4. **नाट्य की उत्पत्ति कथा** – भारत के नाट्यशास्त्र के प्रथम अध्याय में वर्णित।
5. **लोकधर्मी नाट्य परंपरा** – निम्न की संक्षिप्त जानकारी –

    1. रामलीला
    2. रासलीला
    3. भवाई
    4. माच

सैद्धांतिक (विस्तृत पाठ्यक्रम)
द्वितीय प्रश्न पत्र
शीर्षक – शास्त्रीय नृत्य सिद्धान्त
पेपर कोड (0154)

1.	**ताल की प्रारंभिक जानकारी**	–	1. ताल के दस प्राण। 2. लय – विलंबित, मध्य एवं द्रुत लय।
2.	**संक्षिप्त जीवन परिचय**	–	भरत मुनि, आचार्य नंदिकेश्वर।
3.	**नृत्य के अभ्यास से शारीरिक एवं मानसिक लाभ।**		
4.	**भारतीय नाट्य परंपरा में गुरूवंदना का महत्व।**		
5.	**छत्तीसगढ़ी नृत्यों का सामान्य परिचय**	–	1. करमा 2. ददरिया 3. सुवा 4. रीना, परब

प्रायोगिक

1. मौखिक मुद्रा प्रदर्शन – (अभिनय दर्पण के अनुसार)
   (1) शिवस्तुति (2) शिरोभेद (3) ग्रीवाभेद
   (4) दृष्टिभेद (5) असंयुक्त हस्त (6) संयुक्त हस्त

2. कार्यक्रम विभाग –
   (1) शारीरिक अभ्यास
   (2) आरंभिक –05 अड़ऊ भेद
   (पद + हस्त संचालन तीन काल में)
   (3) पूजा नृत्य
   (4) अलारिपु (तिस्त्रजाति)

बी. ए. भाग एक B.A. Part I

राजनीति विज्ञान Political Science

प्रथम प्रश्न पत्र : राजनीतिक सिद्धान्त Paper I : Political Theory

इकाई 1 : राजनीति विज्ञान का अर्थ, परिभाषा (आधुनिक अवधारणा सहित) । राजनीति एक विशिष्ट मानवीय व्यवहार के रुप में । शक्ति, सत्ता, प्रभाव : अर्थ, विशेषताएं, प्रकार । राजनीति विज्ञान की अध्ययन पध्दतियां : परम्परागत एवं व्यवहारवाद एवं उत्तर व्यवहारवाद ।

Unit I : Meaning and Definition of Political Science (with modern concept). Politics as a specific human behaviour. Power, Authority and Influence : meaning, features and kinds. Method of Study to Political Science : Traditional , Behaviouralism and Post Behaviouralism.

इकाई 2 : राज्य एवं उसके आवश्यक तत्व । राज्योत्पत्ति के विभिन्न सिद्धान्त, मार्क्सवादी सिद्धान्त । सावयविक सिद्धान्त ।

Unit 2 : State and its essential elements. Various theories of the origin of the State, Marxist theory . Organismic Theory.

इकाई 3 : सम्प्रभुता एवं उसकी बहुलवादी आलोचना । अधिकारः अर्थ, प्रकार , सिद्धान्त । कर्तव्य । स्वतन्त्रता : अर्थ , प्रकार, संरक्षण । समानता : अर्थ , प्रकार एवं स्वतन्त्रता से सम्बंध । प्रजातन्त्र : परिभाषा, व्यापक अर्थ, चुनौतियां, सफलता के लिए आवश्यक शर्तें , गुण–दोष । प्रत्यक्ष प्रजातन्त्र ।

Unit 3: Sovereignty and its pluralistic criticism. Rights : meaning, kinds and theories. Duties. Liberty : meaning, kinds , safeguards. Equality : meaning, kinds and relations with Liberty. Democracy : meaning, comprehensive meaning, challanges, conditions for its success, merits and demerits. Direct Democracy.

इकाई 4 : शासन के प्रकार : एकात्मक व संघात्मक , संसदीय व अध्यक्षात्मक, निरंकुशतन्त्र । शासन के अंग : कार्यपालिका, व्यवस्थापिका, न्यायपालिका । शक्ति पृथक्करण का सिद्धान्त व नियंत्रण –संतुलन का सिद्धान्त । संविधान : अर्थ , प्रकार । प्रतिनिधित्व के सिद्धान्त एवं निर्वाचन प्रणालियां ।

Unit 4 : Kinds of Government : Unitary and Federal, Parliamentary and Presidential. Dictatorship. Organs of Government : Executive, Legislature and Judiciary. Theory of Separation of Powers and Checks and Balances. Constitution : meaning and kinds. Theories of representation and Electoral Process.

इकाई 5 : लोककल्याणकारी राज्य। दल पद्धति : अर्थ , प्रकार, पद्धति । दबाव समूह : अर्थ, प्रकार, तकनीक । सामाजिक परिवर्तन : अर्थ, विशेषताएं , सिद्धान्त । नारीवाद, राष्ट्रवाद ।

Unit 5 : Public Welfare State. Party System : meaning , kinds , process. Pressure Groups : meaning, kinds and technique. Social Change : meaning, characteristics, theories. Feminis. Nationalism.

राजनीतिक सिद्धांत

बी.ए. प्रथम
प्रथम प्रश्न पत्र

1. ओ.पी. गाबा, समकालीन राजनीतिक सिद्धांत, मयूर पेपर बैक्स नोएडा।
2. ओ.पी. गाबा, राजनीति सिद्धांत की रूपरेखा, मयूर पेपर बैक्स नोएडा।
3. जे.सी. जौहरी व सीमा जौहरी, आधुनिक राजनीति विज्ञान के सिद्धांत, स्टर्लिंग पब्लिकेशन।
4. पंत गुप्ता जैन, राजनीति शास्त्र के आधार, सेन्ट्रल पब्लिकेशिंग हाऊस इलाहाबाद।
5. प्रो. आनंद प्रकाश अवस्थी , भारतीय शासन एवं राजनीति, लक्ष्मीनारायण अग्रवाल, आगरा।
6 Andrew Haywood Political Theory , An Introduction.
7- O.P. Gaba An Introduction to Political Theory, Macmillan India Ltd.

बी. ए. भाग एक B. A. Part I

राजनीति विज्ञान Political Science

द्वितीय प्रश्न पत्र : भारतीय शासन एवं राजनीति Paper II : Indian Government and Politics

इकाई 1 : भारतीय राष्ट्रीय आन्दोलन : 1858 का प्रथम स्वतन्त्रता संग्राम, असहयोग आन्दोलन, सविनय अवज्ञा आन्दोलन, भारत छोड़ो आन्दोलन । भारत का संविधानिक विकास : 1858, 1909,1919 और 1935 का भारत शासन अधिनियम ।

Unit 1 : Indian National Movement : First Independence Movement 1858, Non cooperation Movement, Civil Disobedience Movement and Quit India Movement.Constitutional Development of India : Govt. of India Act of 1858,1909, 1919 and 1935.

इकाई 2 : भारतीय संविधान : विशेषताएं , प्रस्तावना, स्त्रोत, । संघीय व्यवस्था , मौलिक अधिकार, मूल कर्तव्य,नीति निर्देशक तत्व । संविधान संशोधन प्रकिया ।

Unit 2 : Constitution of India : Characteristics, Preamble, Sources. Federal System. Fundamental Rights and Duties, Directive Principles of State Policy. Constitution Amendment Process.

इकाई 3 : संघीय कार्यपालिका : राष्ट्रपति, उपराष्ट्रपति, मन्त्रिपरिषद् और प्रधानमन्त्री । संघीय व्यवस्थापिका :संसद : लोकसभा और राज्यसभा । संसदीय प्रकिया ।

Unit 3 : Union Executive : President , Vice President, Council of MInisters and Prime MInister. Union Legislature : Parliament: Lok Sabha and Rajya Sabha. Parliamentary Procedure.

इकाई 4 : संघीय न्यायपालिका : सर्वोच्च न्यायालय : गठन, क्षेत्राधिकार, न्यायिक पुनरावलोकन, न्यायिक सक्रियतावाद । राज्य कार्यपालिका : राज्यपाल , मन्त्रिपरिषद् और मुख्यमन्त्री ।

Unit 4 : Union Judiciary : Supreme Court : Organisation, Jurisdiction, Judicial Review,Judicial Activism. State Executive : Governor, Council of Ministers and Chief Minister.

इकाई 5 : राज्य व्यवस्थापिका : विधानसंभा एवं विधानपरिषद् । निर्वाचन आयोग व चुनाव सुधार । राष्ट्रीय व क्षेत्रीय दल । भारतीय राजनीति के प्रमुख मुद्दे : जाति, धर्म, भाषा और क्षेत्र । पंचायती राज व्यवस्था।

Unit 5 : State Legislature : Legislative Assembly and Legislative Council. Election Commission and Election Reforms. National and Regional Parties. Major issues of Indian Politics : Caste, Religion, Language and Region. Panchayati Raj System.

सद भ ुपस् तक (Reference Books)

8. डॉ. सुभाष कश्यप, भारत का संवैधानिक विकास और संविधान, हिन्दी माध्यम कार्यान्वय निदेशालय दिल्ली विश्वविद्यालय।
डॉ. सुभाष कश्यप, हमारी संसद, भारत की संसद एक परिचय, राष्ट्रीय पुस्तक न्यास।
10. डॉ. रूपा मंगलानी, भारतीय शासन एवं राजनीति, राजस्थान हिन्दी ग्रंथ अकादमी जयपुर।

11- M.V. Pylee , Constitutional History of India , S.Chand.
12- D.D. Basu Indian Constitution

संशोधित पाठ्यक्रम – बी.ए. प्रथम वर्ष के अंतर्गत
विशय – नृत्य (भरत नाट्यम)

बी.ए. भाग (1) के लिये इस विषय में प्रायोगिक और सैद्धांतिक दो भाग होगें। प्रायोगिक 50 अंक एवं सैद्धांतिक 100 अंक का होगा। इस हेतु 50–50 अंक के दो प्रश्नपत्र होंगे। प्रत्येक वर्ष के पूर्णांक कुल मिलाकर 150 अंक के होगें।

क्र	विवरण		पूर्णांक	उत्तीर्णांक
1	सैद्धांतिक प्रथम प्रश्न पत्र	–	50	17
2	सैद्धांतिक द्वितीय प्रश्न पत्र	–	50	17
3	प्रायोगिक	–	50	17
		योग	**150**	**51**

सैद्धांतिक (विस्तृत पाठ्यक्रम)
प्रथम प्र□न पत्र
शीर्षक – नृत्य का इतिहास एवं सामान्य अध्ययन
पेपर कोड (0153)

1. **नृत्य का इतिहास** – सिंधु सभ्यता, वैदिक काल, रामायण एवं महाभारत काल में नृत्य की स्थिति।
2. **पुराणों के आधार पर** – उमाशकर एवं नटवर श्री कृष्ण की नृत्य संबंधी कथायें – त्रिपुरडाह, उमा तांडव, मोहिनी–भस्मासुर, माखन लीला, कालिया दमन, रासलीला।
3. **नृत्य का अन्य ललित कलाओं से संबंध** – संगीत, साहित्य, चित्रकला एवं मूर्तिकला से संबंध।
4. **नाट्य की उत्पत्ति कथा** – भारत के नाट्यशास्त्र के प्रथम अध्याय में वर्णित।
5. **लोकधर्मी नाट्य परंपरा** – निम्न की संक्षिप्त जानकारी –

    1. रामलीला
    2. रासलीला
    3. भवाई
    4. माच

सैद्धांतिक (विस्तृत पाठ्यक्रम)
द्वितीय प्र□न पत्र
शीर्षक – शास्त्रीय नृत्य सिद्धान्त
पेपर कोड (0154)

1. **ताल की प्रारंभिक जानकारी** – 1. ताल के दस प्राण।
   2. लय – विलंबित, मध्य एवं द्रुत लय।
2. **संक्षिप्त जीवन परिचय** – भरत मुनि, आचार्य नंदिकेश्वर।
3. **नृत्य के अभ्यास से शारीरिक एवं मानसिक लाभ।**
4. **भारतीय नाट्य परंपरा में गुरूवंदना का महत्व।**
5. **छत्तीसगढ़ी नृत्यों का सामान्य परिचय** – 1. करमा 2. ददरिया 3. सुवा 4. रीना, परब

प्रायोगिक

1. मौखिक मुद्रा प्रदर्शन – (अभिनय दर्पण के अनुसार)
   (1) शिवस्तुति (2) शिरोभेद (3) ग्रीवाभेद
   (4) दृष्टिभेद (5) असंयुक्त हस्त (6) संयुक्त हस्त

2. कार्यक्रम विभाग –
   (1) शारीरिक अभ्यास
   (2) आरंभिक –05 अड़ऊ भेद
   (पद + हस्त संचालन तीन काल में)
   (3) पूजा नृत्य
   (4) अलारिपु (तिस्त्रजाति)

प्राचीन भारतीय इतिहास, संस्कृति तथा पुरातत्व
Ancient India History, Culture and Archaeology

बी.ए. प्रथम, द्वितीय एवं तृतीय वर्ष

B.A. Part I , II & III Year

पाठ्यक्रम
Syllabus

सत्र : 2018–19

Session 2018-19

(डॉ. दिने□ा नंदिनी परिहार) मिश्र)
सदस्य
केन्द्रीय अध्ययन मंड़ल

(डॉ. अनुप परसाई)
अध्यक्ष
केन्द्रीय अध्ययन मंड़ल

(डॉ. निते□ा कुमार
सदस्य
केन्द्रीय अध्ययन मंड़ल

कार्यवृत्त
केन्द्रीय अध्ययन मंड़ल
प्राचीन भारतीय इतिहास, संस्कृति एवं पुरातत्व
दिनांक 11.06.2018

प्राचीन भारतीय इतिहास, संस्कृति एवं पुरातत्व अध्ययन शाला, पं.रविशंकर शुक्ल विश्वविद्यालय, रायपुर में आज दिनांक 11.06.2018 को केन्द्रीय अध्ययन मंड़ल की बैठक 11 बजे प्रारंभ किया गया जिसमें अध्यक्ष प्रो. दिनेश नंदिनी परिहार एवं सदस्य डॉ. अनुप परसाई तथा डॉ. नितेश कुमार मिश्र उपस्थित हुये किन्तु कोरम के अभाव में बैठक स्थागित की गई।

अध्ययन मंड़ल की बैठक को पुनः 12 बजे से प्रारंभ किया गया जिसमें बी.ए. प्रथम, द्वितीय एवं तृतीय वर्ष के पाठ्यक्रमों पर विस्तृत चर्चा कर विषय के औचित्य के अनुसार संशोधित करते हुये बिन्दुवार निर्णय लिया गया।

संशोधित पाठ्यक्रम	संशोधन का औचित्य
बी.ए. प्रथम वर्श के पाठ्यक्रम में निम्न संशोधन किया गया। (1) प्रथम प्रश्न पत्र भारत का इतिहास (हड़प्पा सभ्यता से 319 ई.) को यथावत रखा गया। (2) द्वितीय प्रश्न पत्र प्राचीन भारतीय सामाजिक एवं आर्थिक संस्थाओं को विलोपित किया गया और उनके स्थान पर द्वितीय प्रश्न पत्र के रूप में भारत का राजनैतिक इतिहास 319 से 1300 ई.तक को जोडा गया।	पूर्व के पाठ्यक्रम में दोनों प्रश्न पत्र में क्रमबद्धता नहीं थी और राजनीतिक इतिहास में क्रमबद्धता अत्यंत आवश्यक है, इसलिए प्रथम वर्ष के लिए प्राचीन भारत का समग्र राजनीतिक इतिहास को क्रमबद्ध रूप से प्रथम वर्ष के पाठ्यक्रम में रखा गया है।
बी.ए. द्वितीय वर्श में निम्न संशोधन किये गये । (1) भारत का राजनैतिक इतिहास 319 से 1300 ई.तक को और द्वितीय प्रश्न पत्र "अ" प्राचीन भारतीय धर्म दर्शन (वैदिक काल से 13 वीं शताब्दी) **को विलोपित किया गया।** (2) प्रथम प्रश्न पत्र प्राचीन भारतीय सामाजिक एवं आर्थिक संस्था को जोड़ा गया। जिसकी सभी ईंकाईयॉ पूर्ववत् रहेगेंह (3)प्रश्न पत्र द्वितीय "ब" प्राचीन भारतीय राजनय प्रशासन को यथावत रखा गया।	प्राचीन भारतीय धर्म एवं दर्शन का प्रश्न पत्र बी.ए. द्वितीय वर्ष के विद्यार्थियों के लिए विषय वस्तु गंभीर और विस्तृत होने के कारण इसे विलोपित किया है और भारत के राजनीतिक इतिहास को क्रमबद्धता लाने के लिए प्रथम वर्ष में जोड़ा गया।
बी.ए. तृतीय वर्श के पाठ्यक्रम में पूर्व के तीनों प्रश्न पत्रों को आंशिक संशोधन करते हुये यथावत रखा गया। (1) प्रथम प्रश्न पत्र भारतीय वास्तु तथा कला के मूल तत्व के द्वितीय इकाई में मंदिर वास्तु के उद्भव एवं विकास एवं विभिन्न शैलियों नागर, बेसर एवं द्रविड को जोड़ा गया।	भारतीय वास्तु तथा कला के प्रश्न पत्र में आंशिक परिवर्तन कर उसे क्रमबद्ध रूप देते हुए स्पष्ट किया गया। अभिलेख एवं पुरालिपि के प्रश्न पत्र में आंशिक परिवर्तन करते हुए कुछ इकाई 2 एवं 3 में अभिलेखीय महत्व को ध्यान में रखते हुए कुछ नये अभिलेखो को जोडा गया। यूनिट 4 एवं 5 को क्रमबद्धता स्वरूप प्रदान करते हुए कुछ परिवर्तन कर स्थानीय एवं राष्ट्रीय महत्व की मुद्राओं को जोड़ा गया।
इकाई IV में प्राचीन भारत मूर्ति पूजा के उद्भव एवं विकास को जोड़ा गया। (2) द्वितीय प्रश्न पत्र "अ" को यथावत रखा गया तथा "ब" पुराभिलेख एवं मुद्रा शास्त्र में आंशिक संशोधन करते हुये इकाईयों का पुर्ननिर्धारण किया गया। इकाई I को यथावत रखा गया इकाई II एवं III में निम्नलिखित ऐतिहासिक महत्व के कुछ अभिलेखों को	

जोड़ा जिनका विवरण निम्न है।

इकाई II

(1) अशोक का द्वितीय अभिलेख
(2) अशोक का बारहवां अभिलेख
(3) हेलियोडोरस का बेसनगर अभिलेख
(4) गौतमी पुत्र सातकर्णी का नासिक अभिलेख
(5) खारवेल का हाथिगुंफा अभिलेख
(6) रूद्र दामन का जूनागढ़ अभिलेख

इकाई III

(1) समुद्र गुप्त का प्रयाग प्रशस्ति अभिलेख
(2) पुलकेशिन द्वितीय का एहोल लेख
(3) हर्ष का बांसखेड़ा अभिलेख
(4) महारानी वासटा का लक्ष्मण मंदिर अभिलेख
(5) जाजल्ल देव प्रथम का रतनपुर अभिलेख

इकाई IV

इतिहास की पुर्नरचना में मुद्रा का महत्व, मुद्रा का उद्भव एवं प्राचीनता, मुद्रा निर्माण तकनीक तथा आहत सिक्के

इकाई V

कुषाण कालीन सिक्के, जनपदीय सिक्के (तक्षाशिला, कौशाम्बी, एरण), गुप्त कालीन मुद्रायें, समुद्रगुप्त, चन्द्रगुप्त द्वितीय एवं कुमारगुप्त की स्वर्ण रजत एवं ताम्र मुद्रायें स्थानीय मुद्रायें (शरभपुरीय, नलवंशीय एवं कलचुरी राजवंश)।

- **बी.ए. तृतीय वर्श के प्रायोगिकीय का पाठ्यकम यथावत रहेगा।**

नोट– बी.ए. प्रथम, द्वितीय एवं तृतीय वर्ष के सभी सातों प्रश्न पत्र का पॉचों इकाईयों का सत्यापित संशोधित एवं टंकित पाठ्यकम अंग्रेजी में अनुवाद के साथ केन्द्रीय अध्ययन मंड़ल कार्यवृत्त रजिस्ट्रर में साथ संलग्न किया गया है।

(प्रो.दिनेश नंदिनी परिहार)	(डॉ. अनुप परसाई)	(डॉ. नितेश कुमार मिश्र)
अध्यक्ष	सदस्य	सदस्य
केन्द्रीय अध्ययन मंडल	केन्द्रीय अध्ययन मंडल	केन्द्रीय अध्ययन मंडल

बी.ए. प्रथम वर्श

प्राचीन भारतीय इतिहास, संस्कृति तथा पुरातत्व

प्रथम : प्रश्न–पत्र

B.A. Part I Paper I

भारत का राजनीतिक इतिहास (पेपर कोड 0133)

(हड़प्पा संस्कृति से 319 ई. तक)

Political History of India (Harappa Culture to 319 A.D.)

पूर्णांक : 75

उदेश्य : इस पाठ्यक्रम का उदेश्य छात्रों को संबंधित कालखण्ड के राजनीतिक इतिहास की समुचित जानकारी देना है।

इकाई– 1 (1) प्राचीन भारतीय इतिहास के स्रोत (Sources of Ancient Indian History)
(2) हड़प्पा तथा समकालीन ताम्राश्म संस्कृतियॉ (Harappa and Contemporary Chalcolithic Culture)
(3) वैदिक युग (Vedic Age)

इकाई– 2 (1) महाजन पद युग (Mahajanpada Age)
(2) मगध साम्राज्य का उत्कर्ष (Rise of Magadha Kingdom)

इकाई– 3 (1) सिकन्दर का आक्रमण और उसके प्रभाव (Alexander's Invasion and its impact)
(2) मौर्य साम्राज्य का उत्थान और उसके प्रभाव (Rise of Mauryan empire and its impact)

इकाई– 4 (1) हिन्द–यूनानी (Indo-Greeks)
(2) शुंग (Shungas)
(3) सातवाहन (Satvahanas)
(4) शक–क्षत्रप, पार्थियन (Shak-Kshatrapas, Parthiyan)
(5) खारवेल (Kharvela)

इकाई– 5 (1) संगम युग (Sangam Age)
(2) कुषाण (Kushanas)
(3) मालव, यौधेय, अर्जुनायन तथा औदुम्बर (Malavas, Youdheyas, Arjunayana and Audumbara)
(4) नागवंश (Nagas)

सहायक ग्रंथ :

1. एच.सी. रायचौधरी – प्राचीन भारत का राजनीतिक इतिहास
2. के.ए. नीलकंठ शास्त्री – दक्षिण भारत का इतिहास
3. कृष्णदत्त बाजपेयी तथा विमलचंन्द्र पांडेय – प्राचीन भारत का इतिहास
4. विमल चन्द्र पांडेय – प्राचीन भारत का राजनीति तथा सांस्कृतिक इतिहास भाग एक
5. किरन कुमार थप्याल – सैंधव सम्यता
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7. राजबली पाण्डेय – प्राचीन भारत
8. H.C. Roycoudhary - Political History of Ancient India
9. R.C. Majumdar (Ed.) - The Age of Imperial Unity
10. Romila Thaper - History of India
11. K.A, Nilkanta Shastry - History of South India
12. व्ही.डी.झा. सुष्मिता पाण्डेय, डॉ.ओम प्रकाश – Ashoka and the declaim of Moury empire

बी.ए. प्रथम वर्श

प्राचीन भारतीय इतिहास, संस्कृति तथा पुरातत्व

प्रथम : प्रश्न–पत्र

B.A. Part I Paper II

भारत का राजनीतिक इतिहास (319 ई.से 1300 ई. सन् तक)

Political History of India (From 319 A.D. to 1300 A.D.)

पूर्णांक : 75

उदेश्य : इस पाठ्यक्रम का उदेश्य विद्यार्थियों को संबंधित कालखण्ड के राजनीतिक इतिहास का समुचित ज्ञान प्रदान करना है।

इकाई– 1 (1) गुप्तों की उत्पत्ति एवं प्रारंभिक इतिहास (Rise of Guptas and their early History)
(2) चन्द्रगुप्त प्रथम, रामगुप्त, समुद्रगुप्त (Chandragupta – I, Ramagupta, Samudragupta)
(3) कुमारगुप्त प्रथम, स्कन्दगुप्त (Kumargupta – I, Shandgupta)
(4) वाकाटक राजवंश, गुप्त–वाकाटक सम्बन्ध (Vakataka Dynasty, Gupta Vakataka relation)

इकाई– 2 (1) परवर्ती गुप्त राजवंश (Later Gupta Rulers)
(2) मौखरी (Maukharis)
(3) वर्धन राजवंश और हर्ष का प्रशासन (Vardhana Dynasty and Administration of Harsha)

इकाई– 3 (1) बादामी के चालुक्य (Chalukyas of Badami)
(2) कांची के पल्लव (Pallavas of Kanchi)
(3) चोल तथा उनका प्रशासन (Cholas and their administration)

इकाई– 4 (1) गुर्जर प्रतिहार (Gurjara Pratihara)
(2) राष्ट्रकूट (Rashtrakutas)
(3) पाल (Palas)
(4) गाहड़वाल (Gahadwalas)

इकाई– 5 (1) चन्देल (Chandela)
(2) परमार (Parmaras)
(3) चाहमान (Chahmanas)
(4) त्रिपुरी के कलचुरि (Kalachuris of Tripuri)
(5) रतनपुर के कलचुरि (Kalachuris of Ratanpur)

अनुशंशित पुस्तके :

1. उदयनारायण राय – गुप्त राजवंश तथा उसका इतिहास (नया संस्करण) 1988
2. श्री राम गोयल – भारत का राजनैतिक इतिहास भाग 2 एवं 3
3. श्री राम गोयल – गुप्त साम्राज्य का इतिहास
4. Ashvini Agrawal - Rise and Fall of the imperial Gupta
5. विशुद्धानंद पाठक – उत्तर भारत का राजनीतिक इतिहास
6. अवध बिहारी लाल अवस्थी – राजपूत राजवंश
7. डी.सी.गांगुली – परमार राजवंश
8. भगवती प्रसाद पांथरी – मौखरी और पुष्यभूमि राजवंश
9. डॉ.के.ए.नीलकंठ शास्त्री – दक्षिण भारत का इतिहास
10. डॉ.बैजनाथ शर्मा – हर्षवर्धन
11. R.C. Majumdar & A.D. Pusalkar (Ed.) - The Classicale Age "The age of Imperial Unity" The Strangle for Empire
12. Majumdar, Roy Choudhary - An Advanced History of India Vol. I

पं. रविशंकर शुक्ल विश्वविद्यालय
रायपुर (छत्तीसगढ़)

पाठ्यक्रम

बी. ए.– 1 (कोड– 101) B.A.-1 (Code-101)
बी. ए. क्लासिक्स– 1 (कोड–061) B.A. CLASSICS-1 (Code-061)

परीक्षा : 2018– 19

कुलसचिव पं. रविशंकर शुक्ल विश्वविद्यालय
रायपुर (छत्तीसगढ़) की ओर से

संशोधित पाठ्यक्रम

बी. ए. भाग–1

हिन्दी साहित्य

प्रथम– प्रश्न पत्र

(प्राचीन हिन्दी काव्य) पूर्णांक 75

(पेपर कोड– 0103)

उद्देश्य एवं प्रस्तावना–

प्राचीन से तात्पर्य है– आधुनिक काल से पूर्व का काल। सही अर्थ में हिन्दी भाषा और साहित्य का विकास आदिकाल से शुरू होता है। इसमें धार्मिक तथा ऐतिहासिक दो प्रकार का साहित्य मिलता है, जो प्रबंध, मुत्तक, रासो, फागु, चरित, सुभाषित आदि विविध काव्यरूपों में अभिव्यंजित है। मध्यकालीन साहित्य की पृष्ठभूमि के रूप में इसे प्रतिष्ठापित किया जाता है।

मध्यकालीन काव्य में भक्तिकाव्य, जहां लोक जागरण को स्वर देने वाला है, वहीं रीतिकाल अपने लौकिक– श्रृंगारिका, परिदृश्य में तत्कालीन सामाजिक, सांस्कृतिक, राजनीतिक स्थितियों को बेलौस अभिव्यंजित करता है। अतः भाषा, संस्कृति, विचार, मानवता, काव्यरूपता, लौकिकत– पारलौकिकता, आदि दृष्टियों से इसका अध्ययन अत्यावश्यक है।

पाठ्य विषय–

1. कबीर (कबीर– कांतिकुमार जैन, प्रारंभिक 50 साखियाँ)
2. जायसी– (संक्षिप्त पद्मावत– श्यामसुंदर दास, नागमती वियोग वर्णन)
3. सूर (भ्रमर गीत सार– सं. आचार्य रामचन्द्र शुक्ल, प्रारंभिक 25 पद)
4. तुलसी – "रामचरित मानस" के सुंदरकाण्ड से प्रारंभिक 30 दोहे चौपाई छंद साहिंत
5. घनानन्द (घनानन्द– सं. विश्वनाथ प्रसाद मिश्र, प्रारंभिक 25 छंद)
   द्रुत पाठ हेतु निम्नांकित तीन कवियों का अध्ययन किया जावेगा– जिसमें से किन्हीं दो पर लघुउत्तरीय प्रश्न पूछे जायेंगे–

1. विद्यापति
2. रहीम
3. रसखान

अंक विभाजन–

1. व्याख्याएँ (3) – 21 अंक
2. आलोचनात्मक प्रश्न (2) – 24 अंक
3. लघुउत्तरीय प्रश्न (5) – 15 अंक
4. वस्तुनिष्ठ प्रश्न (15) – 15 अंक

संशोधित

बी. ए. भाग–1

हिन्दी साहित्य

द्वितीय– प्रश्न पत्र

हिन्दी कथा साहित्य पूर्णांक 75

(पेपर कोड– 0104)

उद्देश्य एवं प्रस्तावना–

गद्य की प्रमुख विधाओं का इतना द्रुत विकास इनकी लोकप्रियता का प्रमाण प्रस्तुत करता है। इसमें आधुनिक जीवन, अपनी विविध कमियों के साथ यथार्थ रूप में अभिव्यंजित हुआ है। जीवन की अनुभूतियाँ, संवेदनाओं तथा विविध परिस्थितियों के साक्षात्कार के लिए इनका अध्ययन सर्वथा अपेक्षित है।

पाठ्य विषय–

व्याख्या एवं आलोचनात्मक प्रश्नों के लिए एक उपन्यास एवं आठ कहानीकारों की एक– एक प्रतिनिधि कहानी का अध्ययन आवश्यक है।

उपन्यास 1. प्रेमचंद – गबन

कहानी
1. प्रेमचंद – कफन
2. जयशंकर प्रसाद – आकाश दीप
3. यशपाल – परदा
4. फणीश्वनाथ रेणु – ठेस
5. मोहन राकेश – मलबे का मालिक
6. भीष्म साहनी – चीफ की दावत
7. गुलशेर खाँ शानी – जली हुई रस्सी
8. रांगेय राघव – गदल

द्रुत पाठ के लिए निम्नांकित तीन कथाकारों का अध्ययन अपेक्षित है, जिनमें से किन्हीं दो पर लघुउत्तरीय प्रश्न पूछे जावेंगे–

1. उपेन्द्रनाथ अश्क, 2. बाल शौरि रेड्डी 3. शिवानी

अंक विभाजन– व्याख्या (3) 21 अंक
आलोचनात्मक प्रश्न (2) 24 अंक
लघुउत्तरीय प्रश्न (5) 15 अंक
वस्तुनिष्ठ प्रश्न (15) 15 अंक

MATHEMATICS

There shall be three compulsory papers. Each paper of 50 marks is divided into five units and each unit carry equal marks.

B.A. Part-I

MATHEMATICS

PAPER - I

ALGEBRA AND TRIGONOMETRY

UNIT-I Elementary operations on matrices, Inverse of a matrix. Linear independence of row and column matrices, Row rank, column rank and rank of a matrix. Equivalence of column and row ranks. Eigenvalues, eigenvectors and the characteristic equations of a matrix. Cayley Hamilton theorem and its use in finding inverse of a matrix.

UNIT-II Application of matrices to a system of linear (both homogeneous and nonhomogeneous) equations. Theorems on consistency of a system of linear equations. Relation between the roots and coefficients of general polynomial equations in one variable. Transformation of equations. Descarte's rule of signs. Solutions of cubic equations (Cardons method), Biquadratic equation.

UNIT-III Mappings, Equivalence relations and partitions. Congruence modulo n. Definition of a group with examples and simple properties. Subgroups, generation of groups, cyclic groups, coset decomposition, Lagrange's theorem and its consequences. Fermat's and Euler's theorems. Normal subgroups. Quotient group, Permutation groups. Even and odd permutations. The alternating groups An. Cayley's theorem.

UNIT-IV Homomorphism and Isomorphism of groups. The fundamental theorems of homomorphism. Introduction, properties and examples of rings, Subrings, Integral domain and fields Characteristic of a ring and Field.

TRIGONOMETRY :

UNIT-V De-Moivre's theorem and its applications. Direct and inverse circular and hyperbolic functions. Logarithm of a complex quantity. Expansion of trigonometrical functions. Gregory's series. Summation of series.

TEXT BOOK :

1. I.N. Herstein, Topies in Algebra, Wiley Eastern Ltd., New Delhi, 1975
2. K.B. Datta, Matrix and Linear Algebra, Prentice Hall of India Pvt. Ltd.New Delhi, 2000.
3. Chandrika Prasad, Text-Book on Algebra and Theory of equations, Pothishala Private Ltd., Allahabad.
4. S.L. Loney, Plane Trigonometry Part II, Macmillan and Company, London.

REFERENCES :

1. P.B. Bhattacharya, S.K. Jain and S.R. Nagpaul, First Course in linear Algebra, Wiley Eastern, New Delhi, 1983.
2. P.B. Bhattacharya, S.K.Jain and S.R. Nagpaul, Basic Abstract Algebra (2 edition), Cambridge University Press, Indian Edition, 1997.
3. S.K. Jain, A. Gunawardena and P.B. Bhattacharya, Basic linear Algebra with MATLAB, Key College Publishing (Springer-Verlag), 2001.
4. H.S. Hall and S.R. Knight, Higher Algebra, H.M. Publications, 1994.
5. R.S. Verma and K.S. Shukla, Text Book on Trigonometry, Pothishala Pvt. Ltd., Allahabad.

B.A. Part-I

MATHEMATICS

PAPER - II

CALCULUS

DIFFERENTIAL CALCULUS :

UNIT-I $\varepsilon - \delta$ definition of the limit of a function. Basic properties of limits. Continuous functions and classification of discontinuties. Differentiability. Successive differentiation. Leibnitz theorem. Maclaurin and Taylor series expansions.

UNIT-II Asymptotes. Curvature. Tests for concavity and convexity. Points of inflexion. Multiple points. Tracing of curves in cartesian and polar coordinates.

INTEGRAL CALCULUS:

UNIT-III Integration of transcendental functions. Reduction formulae. Definite integrals. Quadrature. Rectification. Volumes and surfaces of solids of revolution.

ORDINARY DIFFERENTIAL EQUATIONS :

UNIT-IV Degree and order of a differential equation. Equations reducible to the linear form. Exact differential equations. First order higher degree equations solvable for x, y, p. Clairaut's form and singular solutions. Geometrical meaning of a differential equation. Orthogonal trajectories. Linear differential equations with constant coefficients. Homogeneous linear ordinary differential equations.

UNIT-V Linear differential equations of second order. Transformation of the equation by changing the dependent variable/the independent variable. Method of variation of parameters. Ordinary simultaneous differential equations.

TEXT BOOK :

1. Gorakh Prasad, Differential Calculaus, Pothishala Private Ltd. Allahabad.
2. Gorakh Prasad, Integral Calculus, Pothishala Private Ltd. Allahabad.
3. D.A. Murray Introductory Course in Differential Equations, Orient Longman (India), 1976.

REFERENCES :

1. Gabriel Klambauer, Mathematical Analysis, Marcel Dekkar, Inc. New York, 1975.
2. Murray R. Spiegel, Theory and Problems of Advanced Calculus, Schaum's outline series, Schaum Publishing Co. New York.
3. N. Piskunov, Differential and Integral Calculus, Peace Publishers, Moscow.
4. P.K. Jain and S.K. Kaushik, An Introduction to Real Analysis, S. Chand & Co. New Delhi, 2000.
5. G.F. Simmons, Differential Equations, Tata Mc Graw Hill, 1972.
6. E.A. Codington, An Introduction to Ordinary Differential Equations, Prentics Hall of India, 1961.
7. H.T.H. Piaggio, Elementary Treatise on Differential Equations and their Applications, C.B.S. Publishe & Distributors, Dehli, 1985.
8. W.E. Boyce and P.O. Diprima, Elementary Differential Equations and Boundary Value Problems, John Wiley, 1986.
12. Erwin Kreysizig, Advanced Engineering Mathematics, John Wiley and Sons, 1999.

B.A. Part-I

MATHEMATICS

PAPER - III

VECTOR ANALYSIS AND GEOMETRY

VECTOR ANALYSIS :

UNIT-I Scalar and vector product of three vectors. Product of four vectors. Reciprocal Vectors. Vector differentiation. Gradient, divergence and curl.

UNIT-II Vector integration. Theorems of Gauss, Green, Stokes and problems based on these.

UNIT-III General equation of second degree. Tracing of conics. System of conics. Confocal conics. Polar equation of a conic.

UNIT-IV Sphere. Cone. Cylinder.

UNIT-V Central Conicoids. Paraboloids. Plane sections of conicoids. Generating lines. Confocal Conicoids. Reduction of second degree equations.

TEXT BOOKS :

1. N. Saran and S.N. Nigam, Introduction to vector Analysis, Pothishala Pvt. Ltd. Allahabad.
2. Gorakh Prasad and H.C. Gupta, Text Book on Coordinate Geometry, Pothishala Pvt. Ltd., Allahabad.
3. R.J.T. Bell, Elementary Treatise on Coordinate Geometry of three dimensions, Machmillan India Ltd. 1994.

REFERENCES :

1. Murray R. Spiegel, Theory and Problems of Advanced Calculus, Schaum Publishing Company, New York.
2. Murray R. Spiegel, Vector Analysis, Schaum Publishing Company, New York.
3. Erwin Kreysizig, Advanced Engineering Mathematics, John Wiley & Sons, 1999.
4. Shanti Narayan, A Text Book of Vector Calculus, S. Chand & Co., New Delhi.
5. S.L. Loney, The Elements of Coordinate Geometry, Macmillan and Company, london.
6. P.K. Jain and Khalil Ahmad, A Text Book of Analytical Geometry of two Dimensions, Wiley Eastern Ltd., 1994.
7. P.K. Jain and Khalil Ahmad, A Text Book of Analytical Geometry of three Dimensions, Wiley Eastern Ltd., 1999.
8. N. Saran and R.S. Gupta, Analytical Geometry of three Dimensions, Pothishala Pvt. Ltd. Allahabad.

प्रपत्र

विषय / संकाय / प्रश्नपत्र का नामः **B.A. Part-I (Mathematics)**

Paper-I (Algebra and Trigonometry)

वर्तमान पाठ्यक्रम	नवीन संशोधित पाठ्यक्रम	नवीन संशोधित पाठ्यक्रम का औचित्य
Unit-I Symmetric, Skew symmetric, Hermitian and skew hermitian, matrices. Elementary operations on matrices, Inverse of a matrix. Linear independence of row and column matrices, Row rank, Column rank and rank of a matrix. Equivalence of column and row ranks. Eigen values, Eigen vectors and the characteristic equations of a matrix. Cayley Hamilton theorem and its use in finding inverse of a matrix.	**Unit-I** ~~Symmetric, Skew symmetric, Hermitian and skew hermitian, matrices~~. Elementary operations on matrices, Inverse of a matrix. Linear independence of row and column matrices, Row rank, Column rank and rank of a matrix. Equivalence of column and row ranks. Eigen values, Eigen vectors and the characteristic equations of a matrix. Cayley Hamilton theorem and its use in finding inverse of a matrix.	पाठ्यक्रम का वह भाग जो कक्षा–11 एवं 12 वी के पाठ्यक्रम में सम्मिलित हो चुका है, उसे हटाया गया है। इससे शेष भाग का विस्तार से अध्यापन कराया जा सकेगा।

प्रश्नपत्र का शेष भाग यथावत है।

Prof.H.K.Pathak **Prof.B.S.Thakur** **Prof.M.A.Siddiqui** **Dr.S.K.Bhatt** **Dr.R.K.Mishra** **Dr.A.K.Mishra** **S.K.Gupta** **Sangeeta Pandey**

प्रपत्र

विषय / संकाय / प्रश्नपत्र का नामः **B.A. Part-I (Mathematics)**

Paper-II (Calculus)

वर्तमान पाठ्यक्रम	नवीन संशोधित पाठ्यक्रम	नवीन संशोधित पाठ्यक्रम का औचित्य
Unit-III Integration of irrational algebraic functions and transcendental functions. Reduction formulae. Definite integrals. Quadrature. Rectification. Volumes and surfaces of solids of revolution.	**Unit-III** Integration of ~~irrational algebraic functions and~~ transcendental functions. Reduction formulae. Definite integrals. Quadrature. Rectification. Volumes and surfaces of solids of revolution.	पाठ्यक्रम का वह भाग जो कक्षा–11 एवं 12 वी के पाठ्यक्रम में सम्मिलित हो चुका है, उसे हटाया गया है। इससे शेष भाग का विस्तार से अध्यापन कराया जा सकेगा।
Unit-IV Degree an order of a differential equation. Equations of first order and first degree. Equations in which the variables are separable. Homogeneous equations. Linear equations and equations reducible to the linear form. Exact differential equations. First order higher degree equations solvable for x, y, p. Clairaut's form and singular solutions. Geometrical meaning of a differential equation. Orthogonal trajectories. Linear differential equations with constant coefficients. Homogeneous linear ordinary differential equations.	**Unit-IV** Degree an order of a differential equation. ~~Equations of first order and first degree. Equations in which the variables are separable. Homogeneous equations. Linear equations and~~ equations reducible to the linear form. Exact differential equations. First order higher degree equations solvable for x, y, p. Clairaut's form and singular solutions. Geometrical meaning of a differential equation. Orthogonal trajectories. Linear differential equations with constant coefficients. Homogeneous linear ordinary differential equations.	

प्रश्नपत्र का शेष भाग यथावत है।

Prof.H.K.Pathak **Prof.B.S.Thakur** **Prof.M.A.Siddiqui** **Dr.S.K.Bhatt** **Dr.R.K.Mishra** **Dr.A.K.Mishra** **S.K.Gupta** **Sangeeta Pandey**

प्रपत्र

विषय / संकाय / प्रश्नपत्र का नामः **B.A. Part-I (Mathematics)**

Paper-III (VECTOR ANALYSIS AND GEOMETRY)

वर्तमान पाठ्यक्रम	नवीन संशोधित पाठ्यक्रम	नवीन संशोधित पाठ्यक्रम का औचित्य
Unit-IV Plane the Straight line and the plane. Sphere. Cone. Cylinder.	**Unit-IV** ~~Plane the Straight line and the plane.~~ Sphere. Cone. Cylinder.	कक्षा–11 एवं 12 वी के पाठ्यक्रम में सम्मिलित हो चुका है, उसे हटाया गया है। इससे शेष भाग का विस्तार से अध्यापन कराया जा सकेगा।
प्रश्नपत्र का शेष भाग यथावत है।		

Prof.H.K.Pathak **Prof.B.S.Thakur** **Prof.M.A.Siddiqui** **Dr.S.K.Bhatt** **Dr.R.K.Mishra** **Dr.A.K.Mishra** **S.K.Gupta** **Sangeeta Pandey**

Revised syllabus

SOCIOLOGY 2018-2019

B.A. PART-I

Paper – I

INTRODUCTION TO SOCIOLOGY (Paper Code - 0115)

UNIT-I **Sociology** : Meaning, Nature, scope, Subject matter and significance.
Basic concepts : Society, Community, institution, Association, group, Status and role.

UNIT-II **Social Institutions:** Marriage, Family and kinship.
Culture and society: Culture, socialization, The individual and society, social control, norms and values.

UNIT-III **Social Stratification:** Meaning, forms and theories.
Social Mobility: Meaning, forms and theories.

UNIT-IV **Social change**: Meaning and patterns, types, factors, evolution and progress.

UNIT-V **Social System and process:** Social System- meaning, characteristics and elements.
Social process- Meaning, elements, characteristics and types.

ESSENTIAL READINGS :-

1 Bottomore T.B., Sociology- A guide to Problems and Literature, Bombay. George Allen and unwin(India) 1972.
2 Inkeles, Alex, What is Sociology ? New Delhi, Prentice Hall of India 1987.
3 Jayram, N., Introductory Sociology, Madras Maomillan India 1988.
4 Johnson Harry, M., Sociology of systematic Introduction New Delhi Allied Publishers 1995.

सपना
11.06.18

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Shubhash
11/06/2018

11.06.18

11/6/2018
Head,
S.O.S. in Sociology & Social Work,
Pt. Ravishankar Shukla University,
Raipur. (C.G.)

प्रपत्र –1

कक्षा : बी.ए. प्रथम वर्ष,

संकाय : सामाजिक विज्ञान

विषय : समाजशास्त्र

प्रश्न–पत्र : First **(Paper code 0115 : Introduction to Sociology)**

वर्तमान पाठ्यकम	नवीन संशोधित पाठ्यकम	नवीन संशोधित पाठ्यकम का औचित्य
Introduction to Sociology	**Introduction to Sociology**	केन्द्रीय अध्ययन मण्डल के अध्यक्ष एवं सदस्यों द्वारा आशिक संशोधन किया गया है, जो निम्नानुसार है:– 1. विषय में प्रथम प्रश्न–पत्र के शीर्षक को ध्यान में रखते हुए आंशिक संशोधन किया गया। 2. बी.ए. प्रथम वर्ष के विद्यार्थियों के बौद्विक क्षमत को ध्यान रखते हुए आंशिक संशोधन का निर्णय लिया गया। 3. इस पाठ्यकम के माध्यम से विद्यार्थियों को विषय के आधारभूत जानाकारी से जानकारी से अवगत कराने हेतु आंशिक संशोधन किया गया है।

11.06.2018

11/6/2018
Head,
S.O.S. in Sociology & Social Work,
Pt. Ravishankar Shukla University,
Raipur (C.G.)

Revised syllabus

SOCIOLOGY 2018-2019

B.A. PART-I

Paper –II

CONTEMPORARY INDIAN SOCIETY (Paper Code-0116)

UNIT-I **Classical View about Indian Society:** Verna, Asharam, Karma, Dharma and Purusharth.

UNIT-II **The Structure and composition of Indian society.**

Structure ; Village ,Towns, Cities and Rural – Urban Linkage,

Compositions: Tribes, Dalits, Women and Minorities.

UNIT-III **Basic Institutions of Indian Society:**

Caste system, Joint Family, Marriage and Changing dimensions.

UNIT-IV **Familial Problems:**

Dowry, Domestic violence, Divorce, Intra-intergenerational conflict, problem of elderly.

UNIT-V **Social Problems:**

Surrogate Motherhood, Live in Relationship, Regionalism, Communalism, Corruption, Youth unrest.

ESSENTIAL READINGS :-

1 Dube, S. C. 1995. Society in India, New Delhi: National Book Trust.

2 Mandelbaum, D.G. 1970. Society in India, Bombay: Poular Prakashan.

3 Shriniwas, M.N. 1973. Social Change in Modern India, California: University of California Press.

4 Shriniwas, M.N. 1990. Social Change Structure, New Delhi: Hindustan Publishing Corporation.

5 Uberoi Patricia, 1993. Family and Marriage In India, New Delhi: Oxford University Press.

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Head,
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Pt. Ravishankar Shukla Univer
Raipur. (C.G.)

11/6/18

प्रपत्र –2

कक्षा : बी.ए. प्रथम वर्ष,

संकाय : सामाजिक विज्ञान

विषय : समाजशास्त्र

प्रश्न–पत्र : Second (Paper code 0116)

वर्तमान पाठ्यकम	नवीन संशोधित पाठ्यकम	नवीन संशोधित पाठ्यकम का औचित्य
Foundation of Sociological Thought (Paper Code 0116)	Society in India	1. बी.ए. प्रथम वर्ष के छात्रों के बौद्विकता की दृष्टि से प्रश्न पत्र के कान्टेंट जटिल था जिसे संशोधन किया गया है। 2. चूंकि प्रश्न–पत्र का शीर्षक संमसमायिक किया गया है तथा इसी के आधार पर कॉनटकेन्ट में आंशिक परिवर्तन किया गया है।

सपना
11.06.18

11.06.2018

11/6/2018
Head,
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Shubhash
11/06/2018

11.6.18

11/6/18

11/6/18

[redacted]

विषय :– संस्कृत (कला संकाय)

बी.ए. प्रथम वर्ष[redacted]

प्रथम प्रश्नपत्र

प्रश्न–पत्र का नाम – नाटक, व्याकरण और अनुवाद

वर्तमान पाठ्यक्रम	नवीन संशोधित पाठ्यक्रम	नवीन संशोधित पाठ्यक्रम का औचित्य
इकाई –3 1 सुबन्त (शब्दरूप) – राम, गति , भानु, पितृ, करिन्, भूभृत्, कर्तृ, चन्द्रमस्, भगवत्, आत्मन्, लता, मति, नदी,धेनु, वधू , मातृ, फल, वारि मधु, वाच्, रात्रि, सर्व,तद्, एतद्, यद्, इदम्, जगत् अस्मद्, युष्मद्, एक, द्वि, त्रि, चतुर् तिङन्त (धातुरूप) – भ्वादि, दिवादि, तुदादि, चुरादि गण के दिवादि, तुदादि, चुरादि गण के धातुओं के लट्, लृट्, लङ्, लोट् एवं विधिलिङ् लकारों के रूप अतिरिक्त अस् एवं कृ धातुओं के लट्, लोट्, लङ् और विधिलिङ् लकारों के रूप एवं अस् और कृ धातुओं के भी लकार के रूप ।	इकाई –3 1 सुबन्त (शब्दरूप) – राम, मुनि, भानु, पितृ, करिन्, कर्तृ, आत्मन्, लता, मति, नदी, मातृ, फल, सर्व, तद्, एतद्, यद्, इदम्, अस्मद्, युष्मद् । 2 तिङन्त (धातुरूप) – भ्वादि, दिवादि, तुदादि, चुरादि गण के अतिरिक्त अस् एवं कृ धातुओं के लट्, लृट्, लङ्, लोट् एवं विधिलिङ् लकारों के रूप 3. अपठित गद्यांश पर आधारित प्रश्न	छत्तीसगढ़ लोक सेवा आयोग के पाठ्यक्रम के अनुरूप बिन्दु क्रं 3 (अपठित गद्यांश पर आधारित प्रश्न) का समावेश करने से छात्रों को इसका अभ्यास, लाभ मिल सकेगा । नोट – पाठ्यक्रम के सन्तुलन को ध्यान में रखते हुए नवीन पाठ्यक्रम में किंचित् पाठ्यसामग्री सम्पादित की गई है तथा समस्त पाँचों इकाई के लिए समान रूप से 15 अंक निर्धारित किये गये हैं ।

सत्र 2018–19 से प्रस्तावित (संशोधित दिनांक 20.08.2018)

बी.ए. प्रथम वर्ष

संस्कृत साहित्य

प्रथम प्रश्नपत्र

टीप – बी.ए. प्रथम वर्ष में संस्कृत साहित्य के दो प्रश्न–पत्र होंगें एवं दोनों प्रश्न –पत्र 75– 75 अंकों के होंगें ।

नाटक, व्याकरण और अनुवाद पूर्णांक – 75

इकाई –1	स्वप्नवासवदत्तम् – व्याख्या	अंक – 15
इकाई –2	स्वप्नवासवदत्तम् – समीक्षात्मक प्रश्न	अंक – 15
इकाई –3	1. सुबन्त (शब्दरूप) – राम, मुनि, भानु, पितृ, करिन्, कर्तृ, आत्मन्, लता, मति, नदी, धेनु, मातृ, फल, वारि, सर्व, तद्, एतद्, यद्, इदम्, अस्मद्, युष्मद् । 2. तिङन्त (धातुरूप) – भ्वादि, दिवादि, तुदादि, चुरादि गण के अतिरिक्त अस् एवं कृ धातुओं के लट्, लृट्, लङ्, लोट् एवं विधिलिङ् लकारों के रूप 3. अपठित गद्यांश पर आधारित प्रश्न	अंक – 15

नोट– शब्द रूप एवं धातु रूप के विकल्प के रूप में अपठित गद्यांश पर आधारित प्रश्न भी पूछे जा सकते है ।

इकाई –4	प्रत्याहार, संज्ञा, सन्धि और विभक्त्यर्थ	अंक – 15
इकाई –5	हिन्दी से संस्कृत में अनुवाद	अंक – 15

अनुशंसित ग्रन्थ –

1. रचनानुवाद कौमुदी – डा. कपिलदेव द्विवेदी
2. संस्कृतस्य व्यावहारिकस्वरूपम् – डा. नरेन्द्र, श्री अरविन्द आश्रम
3. संस्कृतव्याकरण – श्रीधर वसिष्ठ
4. संस्कृत में अनुवाद कैसे करें – उमाकान्त मिश्र शास्त्री, प्रकाशक – भारती भवन
5. लघु सिद्धान्त कौमुदी – श्री महेश सिंह कुशवाहा, प्रकाशक – चौखम्बा विद्याभवन, वाराणसी

[redacted]

विषय :– संस्कृत (कला संकाय)

बी.ए. प्रथम वर्ष[redacted]

द्वितीय प्रश्नपत्र

प्रश्नपत्र का नाम – गद्य, कथा एवं साहित्येतिहास

वर्तमान पाठ्यक्रम	नवीन संशोधित पाठ्यक्रम	नवीन संशोधित पाठ्यक्रम का औचित्य
इकाई –4 संस्कृत नाटक एवं कथा साहित्य का इतिहास	इकाई –4 वैदिक एवं पौराणिक साहित्य का सामान्य परिचय (वेद, ब्राह्मण, आरण्यक, उपनिषद्, वेदांगों एवं पुराणों का संक्षिप्त परिचय)	नेट परीक्षा के पाठ्यक्रम की दृष्टि से नवीन पाठ्यसामग्री के समावेश से छात्र लाभान्वित होंगे । (वर्तमान पाठ्यसामग्री को द्वितीय वर्ष की पाठ्यसामग्री में सम्मिलित किया गया है ।)
इकाई –5 निम्नलिखित कवियों का परिचय – महाकवि कालिदास, महाकवि माघ, महाकवि भारवि, महाकवि श्रीहर्ष, महाकवि अम्बिकादत्त व्यास	इकाई –5 निम्नलिखित कवियों का परिचय – महाकवि कालिदास, महाकवि माघ, महाकवि भारवि, महाकवि श्रीहर्ष, बाणभट्ट, शूद्रक, विशाखदत्त, भवभूति ।	समस्त पाँचों इकाई के लिए समान रूप से 15 अंक निर्धारित किये गये हैं । तथा पाठ्यक्रम को सन्तुलित करने पाठ्यसामग्री (चार कवि–परिचय) का समावेश किया गया है ।

सत्र 2018–19 से प्रस्तावित

बी.ए. प्रथम वर्ष

संस्कृत साहित्य

द्वितीय प्रश्नपत्र

गद्य, कथा एवं साहित्येतिहास पूर्णांक – 75

इकाई –1	शुकनासोपदेशः – व्याख्या	अंक – 15
इकाई –2	हितोपदेशः (मित्रलाभः) – व्याख्या	अंक – 15
इकाई –3	शुकनासोपदेश एवं हितोपदेश के समीक्षात्मक प्रश्न	अंक – 15
इकाई –4	वैदिक एवं पौराणिक साहित्य का सामान्य परिचय (वेद, ब्राह्मण, आरण्यक, उपनिषद्, वेदांगों एवं पुराणों का संक्षिप्त परिचय)	अंक – 15
इकाई –5	निम्नलिखित कवियों का परिचय – महाकवि कालिदास, भारवि, माघ, श्रीहर्ष, विशाखदत्त, बाणभट्ट, शूद्रक, विशाखदत्त, भवभूति ।	अंक – 15

अनुशंसित ग्रन्थ –

1. शुकनासोपदेश – प्रकाशक – मोतीलाल बनारसीदास, वाराणसी
2. हितोपदेश (मित्रलाभ) – प्रकाशक – मोतीलाल बनारसीदास, वाराणसी
3. वैदिक साहित्य और संस्कृति – आचार्य बलदेव उपाध्याय
4. संस्कृत साहित्य का इतिहास – आचार्य बलदेव उपाध्याय
5. संस्कृत साहित्य का अभिनव इतिहास – डा. राधावल्लभ त्रिपाठी, वि.वि. प्रकाशन, सागर, म.प्र.

पं. रविशंकर शुक्ल विश्वविद्यालय, रायपुर (छ.ग.)

दूरभाष : 0771–2262802 (अकादमिक विभाग), 0771–2262540 (कुलसचिव कार्यालय)

क्रमांक 538/अका./2019 रायपुर, दिनांक 22/06/2019

प्रति,

प्राचार्य/प्राचार्या
संबद्ध समस्त महाविद्यालय
पं. रविशंकर शुक्ल विश्वविद्यालय
रायुपर (छ.ग.)

विषय :– **स्नातक स्तर भाग–एक के पाठ्यक्रम बाबत्।**

संदर्भ :– संयुक्त संचालक, उच्च शिक्षा का पत्र क्रमांक 2456/315/आउशि/सम/2019, दिनांक 16.05.2019

महोदय/महोदया,

विषयांतर्गत् संदर्भित पत्र के माध्यम से प्राप्त स्नातक स्तर भाग–एक के निम्नलिखित कक्षा/विषयों के परिवर्तित/संशोधित पाठ्यक्रम शिक्षा सत्र् 2019–20 से प्रभावशील किया जाता है–

1. **बी.ए.** – आधार पाठ्यक्रम–हिन्दी भाषा, राजनीति, अर्थशास्त्र, संगीत, दर्शनशास्त्र, मानवविज्ञान, गणित, इतिहास, हिन्दी साहित्य, समाजशास्त्र, भूगोल, मनोविज्ञान, संस्कृत, सांख्यिकी, प्राचीन भारतीय इतिहास।
2. **बी.कॉम.** – आधार पाठ्यक्रम–हिन्दी भाषा, वाणिज्य।
3. **बी.एस.सी.** – जैविकी, मानवविज्ञान, बायोटेक्नोलॉजी, कम्प्यूटर साइंस, गणित, भौतिकशास्त्र, प्राणीशास्त्र, सूक्ष्मजीव विज्ञान, वनस्पतिशास्त्र, भूविज्ञान, इलेक्ट्रॉनिकी, रसायन, सांख्यिकी, भूगोल, आधार पाठ्यक्रम–हिन्दी भाषा।
4. **बी.एस.सी. (गृह विज्ञान)** – आधार पाठ्यक्रम–हिन्दी भाषा, एवं गृहविज्ञान।

उपरोक्त विषयों को शिक्षा सत्र् 2019–20 से संशोधित रूप में स्नातक स्तर भाग–एक के लिए प्रभावशील किया जाता है, स्नातक स्तर भाग–दो एवं तीन के पाठ्यक्रम यथावत् रहेंगे।

अतः आपसे अनुरोध है कि पाठ्यक्रम परिवर्तन/संशोधन से महाविद्यालय के शिक्षकों एवं छात्र–छात्राओं को अवगत कराने का कष्ट करेंगे।

संलग्न :– उपरोक्तानुसार।

21.06.19

विशेष कर्तव्यस्थ अधिकारी (अका.)

क्रमशः 2

पं. रविशंकर शुक्ल विश्वविद्यालय, रायपुर (छ.ग.)

दूरभाष : 0771–2262802 (अकादमिक विभाग), 0771–2262540 (कुलसचिव कार्यालय)

पृ. क्र. 539 /अका./2019 रायपुर, दिनांक 22/06/2019

प्रतिलिपि :–

1. संयुक्त संचालक, उच्च शिक्षा को पत्र क्रमांक 2456/315/आउशि/सम/2019, दिनांक 16.05.2019 के परिपेक्ष्य में सूचनार्थ।
2. उपकुलसचिव परीक्षा, सहायक कुलसचिव गोपनीय विभाग,
3. कुलपति जी के सचिव/कुलसचिव के निज सहायक, पं. रविशंकर शुक्ल विश्वविद्यालय, रायपुर को सूचनार्थ।

वरिष्ठ अधीक्षक (अका.)

संशोधित पाठ्यक्रम

बी.ए. / बी.एस–सी. / बी.कॉम. / बी.एच.एस.–सी.

भाग – एक (आधार पाठ्यक्रम)

प्रश्न पत्र– प्रथम (हिन्दी भाषा)

(पेपर कोड –0101) पूर्णांक– 75

नोट :–

1. प्रश्न पत्र 75 अंक का होगा।
2. प्रश्न पत्र अनिवार्य होगा ।
3. इसके अंक श्रेणी निर्धारण के लिए जोड़े जायेंगे।
4. प्रत्येक इकाई के अंक समान होंगे।

पाठ्य विषय :–

इकाई–1

क. पल्लवन, पत्राचार, अनुवाद, पारिभाषिक शब्दावली एवं हिंदी में पदनाम

ख. ईदगाह (कहानी) – मुंशी प्रेमचंद

इकाई–2

क. शब्द शुद्धि, वाक्य शुद्धि, शब्द ज्ञान–पर्यायवाची शब्द, विलोम शब्द, अनेकार्थी शब्द, समश्रुत शब्द, अनेक शब्दों के लिए एक शब्द एवं मुहावरे–लोकोक्तियाँ

ख. भारत वंदना (कविता)– सूर्यकान्त त्रिपाठी निराला

इकाई–3

क. देवनागरी लिपि – नामकरण, स्वरूप एवं देवनागरी लिपि की विशेषताएँ, हिंदी अपठित गद्यांश, संक्षेपण, हिंदी में संक्षिप्तीकरण

ख. भोलाराम का जीव (व्यंग्य) – हरिशंकर परसाई

इकाई–4

क. कम्प्यूटर का परिचय एवं कम्प्यूटर में हिंदी का अनुप्रयोग

ख. शिकागो से स्वामी विवेकानंद का पत्र

इकाई–5

क. मानक हिन्दी भाषा का अर्थ, स्वरूप, विशेषताएँ, मानक, उपमानक, अमानक भाषा

ख. सामाजिक गतिशीलता – प्राचीन काल, मध्यकाल, आधुनिक काल

मूल्यांकन योजना :–

प्रत्येक इकाई से एक–एक प्रश्न पूछा जाएगा। प्रत्येक प्रश्न में आंतरिक विकल्प होगा। प्रत्येक प्रश्न के 15 अंक होंगे । प्रत्येक प्रश्न के दो भाग 'क' और 'ख' होंगे एवं अंक क्रमशः 8 एवं 7 होंगे। प्रश्न–पत्र का पूर्णांक 75 निर्धारित है।

पाठ्यक्रम संशोधन का औचित्य :–

व्याकरण के बुनियादी ज्ञान, संप्रेषण, कौशल, सामाजिक संदेश एवं भाषायी दक्षता को ध्यान में रखते हुए यह पाठ्यक्रम प्रस्तावित है।

अध्यक्ष– हिंदी अध्ययन मंडल

आधार पाठ्यक्रम

FOUNDATION COURSE

PAPER - II

ENGLISH LANGUAGE (Paper Code-0102) M.M. 75

UNIT-1 **Basic Language skills : Grammar and Usage.**

Grammar and Vocabulary based on the prescribed text.
To be assessed by objective / multiple choice tests.

(Grammar - 20 Marks
Vocabulary - 15 Marks)

UNIT-2 **Comprehension of an unseen passage.** 05

This should imply not only (a) an understanding of the passage in question, but also (b) a grasp of general language skills and issues with reference to words and usage within the passage and (c) the Power of short independent composition based on themes and issues raised in the passage.

To be assessed by both objective multiple choice and short answer type tests.

UNIT-3 **Composition :** Paragraph writing 10

UNIT-4 **Letter writing** (The formal and one Informal) 10

Two letters to be attempted of 5 marks each. One formal and one informal.

UNIT-5 **Texts :** 15

Short prose pieces (Fiction and not fiction) short poems, the pieces should cover a range of authors, subjects and contexts. With poetry if may sometimes be advisable to include pieces from earlier periods, which are often simpler than modern examples. In all cases, the language should be accessible (with a minimum of explanation and reference to standard dictionaries) to the general body of students schooled in the medium of an Indian language.

Students should be able to grasp the contents of each piece; explain specific words, phrases and allusions; and comment on general points of narrative or argument. Formal Principles of Literary criticism should not be taken up at this stage.

To be assessed by five short answers of three marks each.

BOOKS PRESCRIBED -

English Language and Indian Culture - Published by M.P. Hindi Granth Academy Bhopal.

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Part - I

SYLLABUS FOR ENVIRONMENTAL STUDIES AND HUMAN RIGHTS

(Paper code-0828)

MM. 75

इन्वारमेंटल साईंसेस के पाठ्यक्रम को स्नातक स्तर भाग–एक की कक्षाओं में विश्वविद्यालय अनुदान आयोग के निर्देशानुसार अनिवार्य रूप से शिक्षा सत्र 2003–2004 (परीक्षा 2004) से प्रभावशील किया गया है। स्वशासी महाविद्यालयों द्वारा भी अनिवार्य रूप से अंगीकृत किया जाएगा।

भाग 1, 2 एवं 3 में से किसी भी वर्ष में पर्यावरण प्रश्न–पत्र उत्तीर्ण करना अनिवार्य है। तभी उपाधि प्रदाय योग्य होगी।

पाठ्यक्रम 100 अंकों का होगा, जिसमें से 75 अंक सैद्धांतिक प्रश्नों पर होंगे एवं 25 अंक क्षेत्रीय कार्य (Field Work) पर्यावरण पर होंगे।

सैद्धांतिक प्रश्नों पर अंक – 75 (सभी प्रश्न इकाई आधार पर रहेंगे जिसमें विकल्प रहेगा)

(अ) लघु प्रश्नोंत्तर – 25 अंक

(ब) निबंधात्मक – 50 अंक

Field Work – 25 अंकों का मूल्यांकन आंतरिक मूल्यांकन पद्धति से कर विश्वविद्यालय को प्रेषित किया जावेगा। अभिलेखों की प्रायोगिक उत्तर पुस्तिकाओं के समान संबंधित महाविद्यालयों द्वारा सुरक्षित रखेंगे।

उपरोक्त पाठ्यक्रम से संबंधित परीक्षा का आयोजन वार्षिक परीक्षा के साथ किया जाएगा।

पर्यावरण विज्ञान विषय अनिवार्य विषय है, जिसमें अनुत्तीर्ण होने पर स्नातक स्तर भाग–एक के छात्र/छात्राओं को एक अन्य विषय के साथ पूरक की पात्रता होगी। पर्यावरण विज्ञान के

सैद्धांतिक एवं फील्ड वर्क के संयुक्त रूप से 33% (तैंतीस प्रतिशत) अंक उत्तीर्ण होने के लिए अनिवार्य होंगे।

स्नातक स्तर भाग–एक के समस्त नियमित/भूतपूर्व/अमहाविद्यालयीन छात्र/छात्राओं को अपना फील्ड वर्क सैद्धांतिक परीक्षा की समाप्ति के पश्चात् 10 (दस) दिनों के भीतर संबंधित महाविद्यालय/परीक्षा केन्द्र में जमा करेंगे एवं महाविद्यालय के प्राचार्य/केन्द्र अधिक्षक, परीक्षकों की नियुक्ति के लिए अधिकृत रहेंगे तथा फील्ड वर्क जमा होने के सात दिनों के भीतर प्राप्त अंक विश्वविद्यालय को भेजेंगे।

UNIT-I THE MULTI DISCIPLINARY NATURE OF ENVIRONMENTAL STUDIES

Definition, Scope and Importance

Natural Resources:

Renewable and Nonrenewable Resources

(a) Forest resources: Use and over-exploitation, deforestation, Timber extraction, mining, dams and their effects on forests and tribal people and relevant forest Act.

(b) Water resources: Use and over-utilization of surface and ground water, floods drought, conflicts over water, dams benefits and problems and relevant Act.

(c) Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources.

(d) food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging , salinity.

(e) Energy resources: Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources.

(f) Land resources: Land as a resource, land degradation, man induced landslides soil erosion and desertification.

(12 Lecture)

UNIT-II ECOSYSTEM

(a) Concept, Structure and Function of and ecosystem

- Producers, consumers and decomposers.
- Energy flow in the ecosystem

- Ecological succession
- Food chains, food webs and ecological pyramids.
- Introduction, Types, Characteristics Features, Structure and Function of Forest, Grass, Desert and Aquatic Ecosystem.

(b) Biodiversity and its Conservation

- Introduction - Definition: genetic. species and ecosystem diversity
- Bio-geographical classification of India.
- Value of biodiversity: Consumptive use. productive use, social ethics, aesthetic and option values.
- Biodiversity at global, National and local levels.
- India as mega-diversity nation.
- Hot spots of biodiversity.
- Threats to biodiversity: habitat loss, poaching of wildlife, man-wild life conflict.
- Endangered and endemic species of India.
- Conservation of biodiversity: In situ and Ex-situ conservation of biodiversity.

(12 Lecture)

UNIT- III

(a) Causes, effect and control measures of

- Air water, soil, marine, noise, nuclear pollution and Human population.
- Solid waste management: Causes, effects and control measures of urban and industrial wastes.
- Role of an individual in prevention of pollution.
- Disaster Management : floods, earthquake, cyclone and landslides.

(12 Lecture)

(b) Environmental Management

- From Unsustainable to sustainable development.
- Urban problems related to energy.

- Water conservation, rain water harvesting, watershed management.
- Resettlement and rehabilitation of people, its problems and concerns.
- Environmental ethics: Issues and possible solutions.
- Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust.
- Wasteland reclamation
- Environment protection Act: Issues involved in enforcement of environmental legislation.
- Role of Information Technology in Environment and Human Health.

UNIT- IV

General background and historical perspective- Historical development and concept of Human Rights, Meaning and definition of Human Rights, Kind and Classification of Human Rights.

Protection of Human Rights under the UNO Charter, protection of Human Rights under the Universal Declaration of Human Rights, 1948.

Convention on the Elimination of all forms of Discrimination against women.

Convention on the Rights of the Child, 1989.

UNIT- V

Impact of Human Rights norms in India, Human Rights under the Constitution of India, Fundamental Rights under the Constitution of India, Directive Principles of State policy under the Constitution of India, Enforcement of Human Rights in India.

Protection of Human Rights under the Human Rights Act, 1993- National Human Rights Commission, State Human Rights Commission and Human Rights court in India.

Fundamental Duties under the Constitution of India.

Reference/ Books Recommended

1. SK Kapoor- Human rights under International Law and Indian Law.
2. HO Agrawal- Internation Law and Human Rights
3. एस.के. कपूर – मानव अधिकार
4. जे.एन. पान्डेय – भारत का संविधान
5. एम.डी. चतुर्वेदी – भारत का संविधान
6. J.N.Pandey - Constitutional Law of India
7. Agarwal K.C. 2001 Environmental Biology, Nidi pub. Ltd. Bikaner

8. Bharucha Erach, the Biodiversity of India, Mapin pub. Ltd. Ahmedabad 380013, India, Email: mapin@icenet.net(R)
9. Bruinner R.C. 1989, Hazardous Waste Incineration. McGraw Hill Inc.480p
10. Clark R.S. Marine pollution, Clanderson press Oxford (TB)
11. Cuningham, W.P.Cooper. T.H.Gorhani, E & Hepworth. M.T,200
12. Dr. A.K.- Environmental Chemistry. Wiley Eastern Ltd.
13. Down to Earth, Center for Science and Environment (R)
14. Gloick, H.P. 1993 Water in crisis. pacific institute for studies in Deve. Environment & Security. Stockholm Eng. Institute. Oxford University, Press. m 473p.
15. Hawkins R.E. Encyclopedia of Indian Natural History, Bombay Natural History Society, Mumbai (R)
16. Heywood, V.H. & Watson, T.T.1995 Global Biodiversity Assessment, Cambridge Univ. Press 1140p
17. Jadhav H. & Bhosale, V.H. 1995 Environmental Protection and Law. Himalaya pub. House, Delhi 284p
18. Mckinney M.L.& School R.M.1996, environmental Science systems & solutions, web enhanced edition, 639p
19. Mhadkar A.K. Matter Hazardous, Techno-Science publication(TB)
20. Miller T.G.Jr. Environment Science, Wadsworth publication co. (TB)
21. Odum E.P.1971, Fundamentals of Ecology, W.B. Saunders Co. USA,574p
22. Rao M.N. & Datta, A.K. 1987, Waste water treatment. Oxford & IBH pub.co.pvt. Ltd 345p
23. Sharma B.K. 2001, Environmental chemistry, Goel pub. House, Meerut
24. Survey of the Environment, The Hidu(M)
25. Townsend C. Harper J. And Michael Begon, Essentials of Ecology, Blackwell Science(TB)
26. Trivedi R.K.Handbook of Environment Laws, Rules, Guidlines, Compliances and Standards, Vol land II, Environment Media(R)
27. Trivedi R.K. and P.K. Goel, Introduction to air pollution, Techno-Science publication (TB)
28. Wanger K.D.1998, Environmental Management. W.B. Saunders Co. Philadelphia, USA 499p

To
Registrar
Pt. Ravishankar Shukla University
Raipur-492 010, C.G.

Raipur, dt. June 20th, 2018

I

Subject: Regarding Correction/ Modification/ Upgradation of syllabus of Under Graduate Course (Discipline-Chemisty/ Faculty-Science).

Reference: University letter no. 6507/ Acad/ CBS/2018, ,dt. 08-06-2018

Sir/ Madam,

This is in connection to the subject and reference and mentioned as above. As per the directives, meetings of Central Board of Studies (Chemistry) were held on 11th and 18th instant at School of Studies in Chemistry for correction/ modification/ upgradation of syllabus at UG level.

Accordingly, hard and soft copies of the newly designed syllabus are being sent for your kind perusals and for further and necessary action..

Sincerely,

(Dr. Manas Kanti Deb)
Chairman, Central Board of Studies
Professor & Head, School of Studies in Chemistry
Pt. Ravishankar Shukla University, Raipur-492010, C.G.
debmanas@yahoo.com
+919425503750

Enclosures:
1. New Syllabus (one Hard and one Soft copy)
2. Nine leaflets indicating justification for changes incorporated
3. One Register on Minutes of the Meetings conducted
4. Attendance record of the members

Meeting of Central Board of Studies(Chemistry): 18th June, 2018

Subject/ Faculty/ Name of Question Paper .....~~Chemistry/ Science~~.....

Existing Syllabus	New Modified Syllabus	Justification of New Modified Syllabus
B.Sc. PART-I **PAPER I (Inorganic Chem)**		
Unit-I (A: Atomic Structure) (B: Periodic Properties)	Fundamental particles removed. Atomic and ionic radii added. (Remaining part is same as existing)	Already there in Hr. Secondary syllabus To re-appropriate and updating. Unit-I, Part-B re-appropriated
Unit-II (Chemical Bonding)	No major changes compared to existing syllabus	
Unit-III (Chemical Bonding)	No major changes compared to existing syllabus	
Unit-IV (A: s-Block Elements) (B: Chemistry of Noble Gases)	Changed to- (A: s-Block Elements) (B: p-Block Elements)	'Oxidation Reduction' part moved to BSc-II. 'Acid and Bases' part moved to B.Sc-II in Part-A of Unit-V Changes have been made to maintain continuity in the topics
Unit-V (A. p-Block Elements) (B. Inorganic Chemical Analysis)	Changed into two parts as Part A- Chemistry of Noble Metals & Part B- Theoretical principles in Qualitative analysis	Reappropriation needed to strengthen the topic. Included because students do not practice much in Hr. Sec. level. (**Graphene** like **hot topic** is introduced)
Laboratory Course **(Semimicro Analysis)**	Splitted in 4 sections • Semimicro analysis • Acid-Base Titrations • Redox Titrations • Iodo/ Iodimetric Titrations	For developing enhanced experimental skills

(Signature of members of Central Board of Studies)

18.6.18

18/6/18

18.6.18

Meeting of Central Board of Studies(Chemistry): 18th June, 2018

Subject/ Faculty/ Name of Question Paper ..... Chemistry/ Science .....

Existing Syllabus	New Modified Syllabus	Justification of New Modified Syllabus
B.Sc. PART-I **PAPER II (Organic Chem)**		
Unit-I **Basics of Organic Chemistry**	Added new topics- 'influence of hybridization on bond properties' & 'nitrenes'	Important topics, for upgradation
Unit-II **Introduction to Stereochemistry**	Added new topics- 'Newmann and Sawhorse Projection formulae and their inter-converstions	Important topics, for upgradation
Unit-III **Conformational Analysis of Alkanes**	Minor addition of topics (e.g. sugars and theory of strain rings)	for upgradation
Unit-IV **Aromatic Hydrocarbons**	No change, only reappropriation	-
Laboratory Course	No major changes in the existing syllabus	-

(Signature of members of Central Board of Studies)

Meeting of Central Board of Studies(Chemistry): 18th June, 2018

Subject/ Faculty/ Name of Question Paper ..... Chemistry/Science .....

Existing Syllabus	New Modified Syllabus	Justification of New Modified Syllabus
B.Sc. PART-I **PAPER III (Physical Chem)** **Unit-I** **Mathematical Concepts for Chemists and Computers**	Computers part has been removed Added- Significant figures and their applications	Students learn now a day since primary classes. Important topic
Unit-II **Gaseous State**	No change	Appropriate
Unit-III **A. Liquid State** **B. Colloidal State**	Part B. changed to 'Colloids and Surface Chemistry*' (* brought from Unit IV of existing syllabus)	Reappropriation
Unit-IV **A. Solid State** **B. Surface Chemistry**	'Surface Chemistry' moved to Unit-III	Reappropriate
Unit-V **Chemical Kinetics**	'Complex reactions…side reactions' deleted	Less important
Laboratory Course	No drastic change made	Existing course structure is well organized

(Signature of members of Central Board of Studies)

18.6.18

18/6/18

18/6/18

NEW CURRICULUM OF B.Sc. PART I

CHEMISTRY

The new currlculam will comprise of Three theory papers of 33, 33 and 34 marks each and practical work of 50 marks. The curricuram is to be completed in 180 working days as per the UGC norms & conforming to the directives of the Govt. of Chhattisgarh.The theory papers are of 60 hrs each duration and the practical work of 180 hrs duration.

PAPER I

INORGANIC CHEMISTRY

M.M.33

UNIT-I

A. ATOMIC STRUCTURE

Bohr's theory, its limitation and atomic spectrum of hydrogen atom. General idea of de-Broglie matter-waves, Heisenberg uncertainty principle, Schrödinger wave equation, significance of Ψ and Ψ^2, radial & angular wave functions and probability distribution curves, quantum numbers, Atomic orbital and shapes of s, p, d orbitals, Aufbau and Pauli exclusion principles, Hund's Multiplicity rule, electronic configuration of the elements.

B. PERIODIC PROPERTIES

Detailed discussion of the following periodic properties of the elements, with reference to s and p-block. Trends in periodic table and applications in predicting and explaining the chemical behavior.

a) Atomic and ionic radii,
b) Ionization enthalpy,
c) Electron gain enthalpy,
d) Electronegativity, Pauling's, Mulliken's, Allred Rochow's scales.
e) Effective nuclear charge, shielding or screening effect, Slater rules, variation of effective nuclear charge in periodic table.

UNIT-II

CHEMICAL BONDING I

Ionic bond: Ionic Solids - Ionic structures, radius ratio & co-ordination number, limitation of radius ratio rule, lattice defects, semiconductors, lattice energy Born- Haber cycle, Solvation

energy and solubility of ionic solids, polarising power & polarisabilitry of ions, Fajans rule, Ionic character in covalent compounds: Bond moment and dipole moment, Percentage ionic character from dipole moment and electronegatiity difference, Metallic bond-free electron, Valence bond & band theories.

UNIT-III

CHEMICALBONDING II

Covalent bond: Lewis structure, Valence bond theory and its limitations, Concept of hybridization, Energetics of hybridization, equivalent and non-equivalent hybrid orbitals. Valence shell electron pair repulsion theory (VSEPR), shapes of the following simple molecules and ions containing lone pairs and bond pairs of electrons: H_2O, NH_3, PCl_3, PCl_5, SF_6. H_3O^+, SF_4, ClF_3, and ICl_2^- Molecular orbital theory. Bond order and bond strength, Molecular orbital diagrams of diatomic and simple polyatomic molecules N_2, O_2, F_2, CO, NO.

UNIT-IV

A. s-BLOCK ELEMENTS

General concepts on group relationships and gradation properties, Comparative study, salient features of hydrides, solvation & complexation tendencies including their function in biosystems and introduction to alkyl & aryls, Derivatives of alkali and alkaline earth metals

B. p-BLOCK ELEMENTS

General concepts on group relationships and gradation properties. Halides, hydrides, oxides and oxyacids of Boron, Aluminum, Nitrogen and Phosphorus. Boranes, borazines, fullerenes, graphene and silicates, interhalogens and pseudohalogens.

UNIT-V

A CHEMISTRY OF NOBLE GASES

Chemical properties of the noble gases, chemistry of xenon, structure, bonding in xenon compounds

B. THEORETICAL PRINCIPLES IN QUALITATIVE ANALYSIS (H_2S SCHEME)

Basic principles involved in the analysis of cations and anions and solubility products, common ion effect. Principles involved in separation of cations into groups and choice of group reagents. Interfering anions (fluoride, borate, oxalate and phosphate) and need to remove them after Group II.

REFERENCE BOOKS:

1. Lee, J. D. Concise Inorganic Chemistry ELBS, 1991.
2. Douglas, B.E. and McDaniel, D.H. Concepts & Models of Inorganic Chemistry Oxford, 1970
3. Atkins, P.W. & Paula, J. Physical Chemistry, 10th Ed., Oxford University Press, 2014.
4. Day, M.C. and Selbin, J. Theoretical Inorganic Chemistry, ACS Publications, 1962.
5. Rodger, G.E. Inorganic and Solid State Chemistry, Cengage Learning India Edition, 2002.
6. Puri, B. R., Sharma, L. R. and Kalia, K. C., Principles of Inorganic Chemistry, Milestone Publishers/ Vishal Publishing Co.; 33rd Edition 2016
7. Madan, R. D. Modern Inorganic Chemistry, S Chand Publishing, 1987.

PAPER: II

ORGANIC CHEMISTRY

UNIT-I BASICS OF ORGANIC CHEMISTRY

Hybridization, Shapes of molecules, Influence of hybridization on bond properties. Electronic Displacements: Inductive, electromeric, resonance and mesomeric effects, hyperconjugation and their applications; Dipole moment. Electrophiles and Nucleophiles; Nucleophilicity and basicity; Homolytic and Heterolytic cleavage, Generation, shape and relative stability of Carbocations, Carbanions, Free radicals, Carbenes and Nitrenes. Introduction to types of organic reactions: Addition, Elimination and Substitution reactions.

UNIT-II INTRODUCTION TO STEREOCHEMISTRY

Optical Isomerism: Optical Activity, Specific Rotation, Chirality/Asymmetry, Enantiomers, Molecules with two or more chiral-centres, Diastereoisomers, meso compounds, Relative and absolute configuration: Fischer, Newmann and Sawhorse Projection formulae and their interconversions; Erythrose and threose, D/L, d/l system of nomenclature, Cahn-Ingold-Prelog system of nomenclature (C.I.P rules), R/S nomenclature. Geometrical isomerism: cis–trans, syn-anti and E/Z notations.

UNIT-III CONFORMATIONAL ANALYSIS OF ALKANES

Conformational analysis of alkanes, ethane, butane, cyclohexane and sugars. Relative stability and Energy diagrams. Types of cycloalkanes and their relative stability, Baeyer strain theory: Theory of strainless rings, Chair, Boat and Twist boat conformation of cyclohexane with energy diagrams; Relative stability of mono-substituted cycloalkanes and disubstituted cyclohexane.

UNIT-IV CHEMISTRY OF ALIPHATIC HYDROCARBONS

A. Carbon-Carbon sigma (σ) bonds

Chemistry of alkanes: Formation of alkanes, Wurtz Reaction, Wurtz-Fittig Reaction, Free radical substitutions: Halogenation-relative reactivity and selectivity.

B. Carbon-Carbon Pi (л) bonds:

Formation of alkenes and alkynes by elimination reactions, Mechanism of E1, E2, E1cb reactions. Saytzeff and Hofmann eliminations.

Reactions of alkenes: Electrophilic additions and mechanisms (Markownikoff/ Anti - Markownikoff addition), mechanism of oxymercuration-demercuration, hydroboration-oxidation, ozonolysis, reduction (catalytic and chemical), syn and anti-hydroxylation (oxidation). 1,2-and 1,4-addition reactions in conjugated dienes and, Diels-Alder reaction; Allylic and benzylic bromination and mechanism, e.g. propene, 1-butene, toluene, ethyl benzene.

Reactions of alkynes: Acidity, Electrophilic and Nucleophilic additions. Hydration to form carbonyl compounds, Alkylation of terminal alkynes.

UNIT-V AROMATIC HYDROCARBONS

Aromaticity: Hückel's rule, aromatic character of arenes, cyclic carbocations/ carbanions and heterocyclic compounds with suitable examples. Electrophilic aromatic substitution: halogenation, nitration, sulphonation and Friedel-Craft's alkylation/acylation with their mechanism. Directive effects of the groups.

REFERENCE BOOKS:

1. Morrison, R. N. & Boyd, R. N. Organic Chemistry, Dorling Kindersley (India) Pvt. Ltd.(Pearson Education).
2. Finar, I. L. Organic Chemistry (Volume 1), Dorling Kindersley (India) Pvt. Ltd. (Pearson Education).
3. Finar, I. L. Organic Chemistry (Volume 2: Stereochemistry and the Chemistry of Natural Products), Dorling Kindersley (India) Pvt. Ltd. (Pearson Education).
4. Eliel, E. L. &Wilen, S. H. Stereochemistry of Organic Compounds, Wiley: London, 1994.

5. Kalsi, P. S. Stereochemistry Conformation and Mechanism, New Age International, 2005.
6. McMurry, J.E. Fundamentals of Organic Chemistry, 7th Ed. Cengage Learning India Edition, 2013.
7. Organic Chemistry, Paula Y. Bruice, 2nd Edition, Prentice-Hall, International Edition (1998).
8. A Guide Book of Reaction Mechanism by Peter Sykes.

PAPER - III

PHYSICAL CHEMISTRY M.M.34

UNIT-I

MATHEMATICAL CONCEPTS FOR CHEMIST

Basic Mathematical Concepts: Logarithmic relations, curve sketching, linear graphs, Properties of straight line, slope and intercept, Functions, Differentiation of functions, maxima and minima; integrals; ordinary differential equations; vectors and matrices; determinants; Permutation and combination and probability theory, Significant figures and their applications.

UNIT-II

GASEOUS STATE CHEMISTRY

Kinetic molecular model of a gas: postulates and derivation of the kinetic gas equation; collision frequency; collision diameter; mean free path; Maxwell distribution and its use in evaluating molecular velocities (average, root mean square and most probable) and average kinetic energy, law of equipartition of energy, degrees of freedom and molecular basis of heat capacities. Joule Thompson effect, Liquification of Gases.

Behaviour of real gases: Deviations from ideal gas behaviour, compressibility factor (Z), and its variation with pressure and temperature for different gases. Causes of deviation from ideal behaviour. van der Waals equation of state, its derivation and application in explaining real gas behaviour, calculation of Boyle temperature. Isotherms of real gases and their comparison with van der Waals isotherms, continuity of states, critical state, relation between critical constants and van der Waals constants, law of corresponding states.

UNIT-III

A. LIQUID STATE CHEMISTRY

Intermolecular forces, magnitude of intermolecular force, structure of liquids, Properties of liquids, viscosity and surface tension.

B. COLLOIDS and SURFACE CHEMISTRY

Classification, Optical, Kinetic and Electrical Properties of colloids, Coagulation, Hardy Schulze law, flocculation value, Protection, Gold number, Emulsion, micelles and types, Gel, Syneresis and thixotrophy, Application of colloids.

Physical adsorption, chemisorption, adsorption isotherms (Langmuir and Freundlich). Nature of adsorbed state. Qualitative discussion of BET.

UNIT-IV

SOLID STATE CHEMISTRY

Nature of the solid state, law of constancy of interfacial angles, law of rational indices, Miller indices, elementary ideas of symmetry, symmetry elements and symmetry operations, qualitative idea of point and space groups, seven crystal systems and fourteen Bravais lattices; X-ray diffraction, Bragg's law, a simple account of rotating crystal method and powder pattern method. Crystal defects.

UNIT-V

A. CHEMICAL KINETICS

Rate of reaction, Factors influencing rate of reaction, rate law, rate constant, Order and molecularity of reactions, rate determining step, Zero, First and Second order reactions, Rate and Rate Law, methods of determining order of reaction, Chain reactions.

Temperature dependence of reaction rate, Arrhenius theory, Physical significance of Activation energy, collision theory, demerits of collision theory, non mathematical concept of transition state theory.

B. CATALYSIS

Homogeneous and Heterogeneous Catalysis, types of catalyst, characteristic of catalyst, Enzyme catatysed reactions, Micellar catatysed reactions, Industrial applications of Catalysis.

REFERENCE BOOKS:

1. Atkins, P. W. & Paula, J. de Atkin's Physical Chemistry 10th Ed., Oxford University Press (2014).

2. Ball, D. W. Physical Chemistry Thomson Press, India (2007).
3. Castellan, G. W. Physical Chemistry 4th Ed. Narosa (2004).
4. Mortimer, R. G. Physical Chemistry 3rd Ed. Elsevier: NOIDA, UP (2009).
5. Engel, T. & Reid, P. Physical Chemistry 3rd Ed. Pearson (2013).
6. Puri, B.R., Sharma, L. R. and Pathania, M.S., Principles of Physical Chemistry, Vishal Publishing Co., 47th Ed. (2016).
7. Bahl, A., Bahl, B.S. and Tuli, G.D. Essentials of Physical Chemistry, S Chand Publishers (2010).
8. Rakshit P.C., Physical Chemistry, Sarat Book House Ed. (2014).
9. Singh B., Mathematics for Chemist, Pragati Publications.

PAPER - IV
LABOBATORY COURSE

INORGANIC CHEMISTRY

A. Semi-micro qualitative analysis (using H_2S or other methods) of mixtures - not more than four ionic species (two anions and two cations, excluding interfering, insoluble salts) out of the following:
Cations : NH_4^+, Pb^{2+}, Bi^{3+}, Cu^{2+}, Cd^{2+}, Fe^{3+}, Al^{3+}, Co^{2+}, Ni^{2+}, Mn^{2+}, Zn^{2+}, Ba^{2+}, Sr^{2+}, Ca^{2+}, Na^+
Anions : CO_3^{2-}, S^{2-}, SO_3^{2-}, $S_2O_3^{2-}$, NO_2^-, CH_3COO^-, Cl^-, Br^-, I^-, NO_3^-, SO_4^{2-}

(Spot tests may be carried out wherever feasible)

B. Acid-Base Titrations

- Standardization of sodium hydroxide by oxalic acid solution.
- Determination of strength of HCl solution using sodium hydroxide as intermediate.
- Estimation of carbonate and hydroxide present together in mixture.
- Estimation of carbonate and bicarbonate present together in a mixture.
- Estimation of free alkali present in different soaps/detergents

C. Redox Titrations

- Standardization of $KMnO_4$ by oxalic acid solution.
- Estimation of Fe(II) using standardized $KMnO_4$ solution.
- Estimation of oxalic acid and sodium oxalate in a given mixture.
- Estimation of Fe(II) with $K_2Cr_2O_7$ using internal (diphenylamine, anthranilic acid) and external indicator.

D. Iodo / Iodimetric Titrations

- Estimation of Cu(II) and $K_2Cr_2O_7$ using sodium thiosulphate solution iodimetrically.
- Estimation of (a) arsenite and (b) antimony iodimetrically.

- Estimation of available chlorine in bleaching powder iodometrically.
- Estimation of Copper and Iron in mixture by standard solution of $K_2Cr_2O_7$ using sodium thiosulphate solution as titrants.

ORGANIC CHEMISTRY

1. Demonstration of laboratory Glasswares and Equipments.
2. Calibration of the thermometer. 80°–82° (Naphthalene), 113.5°–114° (Acetanilide), 132.5°-133° (Urea), 100° (Distilled Water).)
3. Purification of organic compounds by crystallization using different solvents.
   - Phthalic acid from hot water (using fluted filter paper and stemless funnel).
   - Acetanilide from boiling water.
   - Naphthalene from ethanol.
   - Benzoic acid from water.
4. Determination of the melting points of organic compounds.

   Naphthalene 80°–82°, Benzoic acid 121.5°–122°, Urea 132.5°–133° Succinic acid 184.5°–185°, Cinnamic acid 132.5°–133°, Salicylic acid 157.5°–158°, Acetanilide 113.5°–114°, m-Dinitrobenzene 90°, p-Dichlorobenzene 52°, Aspirin 135°.
5. Effect of impurities on the melting point – mixed melting point of two unknown organic compounds.
   - Urea – Cinnamic acid mixture of various compositions (1:4, 1:1, 4:1).
6. Determination of boiling point of liquid compounds. (boiling point lower than and more than 100 °C by distillation and capillary method).
   - Ethanol 78°, Cyclohexane 81.4°, Toluene 110.6°, Benzene 80°.

i. Distillation (Demonstration)
   - Simple distillation of ethanol-water mixture using water condenser.
   - Distillation of nitrobenzene and aniline using air condenser.

ii. Sublimation
   - Camphor, Naphthalene, Phthalic acid and Succinic acid.

iii. Decolorisation and crystallization using charcoal.
   - Decolorisation of brown sugar with animal charcoal using gravity filtrations crystallization and decolorisation of impure naphthalene (100 g of naphthalene mixed with 0.3 g of Congo red using 1 g of decolorizing carbon) from ethanol.

7. Qualitative Analysis

Detection of elements (N, S and halogens) and functional groups (Phenolic, Carboxylic, Carbonyl, Esters, Carbohydrates, Amines, Amides, Nitro and Anilide) in simple organic compounds.

PHYSICAL CHEMISTRY

1. Surface tension measurements.
    - Determine the surface tension by (i) drop number (ii) drop weight method.
    - Surface tension composition curve for a binary liquid mixture.
2. Viscosity measurement using Ostwald's viscometer.
    - Determination of viscosity of aqueous solutions of (i) sugar (ii) ethanol at room temperature.
    - Study of the variation of viscosity of sucrose solution with the concentration of solute.
    - Viscosity Composition curve for a binary liquid mixture.
3. Chemical Kinetics
    - To determine the specific rate of hydrolysis of methyl/ethyl acetate catalysed by hydrogen ions at room temperature.
    - To study the effect of acid strength on the hydrolysis of an ester.
    - To compare the strengths of HCl & H_2SO_4 by studying the kinetics of hydrolysis of ethyl acetate.
4. Colloids
    - To prepare colloidal solution of silver nanoparticles (reduction method) and other metal nanoparticles using capping agents.

Note: Experiments may be added/ deleted subject to availability of time and facilities

PRACTICAL EXAMINATION

05 Hrs.
M.M. 50

Three experiments are to be performed

1. Inorganic Mixture Analysis, four radicals two basic & two acid (excluding insoluble, Interfering & combination of acid radicals) OR Two Titrations (Acid-Bases,Redox and Iodo/Iodimetry)

12 marks

2. Detection of functional group in the given organic compound and determine its MPt/BPt.

8 marks

O R
Crystallization of any one compound as given in the prospectus along with the determination of mixed MPt.
O R
Decolorisation of brown sugar along with sublimation of camphor/ Naphthlene.

3. Any one physical experiment that can be completed in two hours including calculations.

14 marks

4. Viva **10 marks**
5. Sessionals **06 marks**

In case of Ex-Students two marks will be added to each of the experiments

REFERENCE TEXT:

1. Mendham, J., A. I. Vogel's Quantitative Chemical Analysis 6th Ed., Pearson, 2009.
2. Ahluwalia, V. K., Dhingra, S. and Gulati, A. College practical Chemistry, University Press.
3. Mann, F.G. & Saunders, B.C. Practical Organic Chemistry, Pearson Education (2009)
4. Furniss, B.S.; Hannaford, A.J.; Smith, P.W.G.; Tatchell, A.R. Practical Organic Chemistry, 5th Ed., Pearson (2012)
5. Khosla, B. D.; Garg, V. C. & Gulati, A. Senior Practical Physical Chemistry, R. Chand & Co.: New Delhi (2011).
6. Garland, C. W.; Nibler, J. W. & Shoemaker, D. P. Experiments in Physical Chemistry 8th Ed.; McGraw-Hill: New York (2003).
7. Halpern, A. M. & McBane, G. C. Experimental Physical Chemistry 3rd Ed.; W.H. Freeman & Co.: New York (2003).

New Proposed Syllabus
For

UNDERGRADUATE PROGRAMME
(B.Sc. PROGRAM in PHYSICS)

B.Sc. Programme in Physics

Course structure

B.Sc. – Part-I

PAPER 1	Mechanics, Oscillations and Properties Of Matter
PAPER 2	Electricity and Magnetism And Electromagnetic Theory

B.Sc. – Part-II

PAPER 1	Thermodynamics, Kinetic Theory And Statistical Physics
PAPER 2	Waves, Acoustics and Optics

B.Sc.– Part-III

PAPER 1	Relativity, Quantum Mechanics, Atomic Molecular and Nuclear Physics
PAPER 2	Solid State Physics, Solid State Device And Electronics

B.Sc. Part-I

Subject: Physics

Paper-I: MECHANICS, OSCILLATIONS AND PROPERTIES OF MATTER

UNIT	Current Course	New Proposed Course	Justification
I	Laws of motion, motion in a uniform field, components of velocity and acceleration in different coordinate systems. (Cartesian, Cylindrical and Spherical) uniformly rotating frame, centripetal acceleration, Coriolis force and its applications. Motion under a central force, Kepler's laws. Gravitational law and field. Potential due to a spherical body. System of particles, center of mass, equation of motion, conservation of linear & angular momentum, conservation of energy.	***Cartesian, Cylindrical and Spherical coordinate system, Inertial and non-inertial frames of reference, uniformly rotating frame,*** Coriolis force and its applications. Motion under a central force, Kepler's laws. ***Effect of centrifugal and Coriolis forces due to earth's rotation, Center of mass (C.M), Lab and C.M frame of reference, motion of CM of system of particles subject to external forces, elastic, and inelastic collisions in one and two dimensions, Scattering angle in the laboratoryframe of reference, Conservation of linear and angular momentum,*** Conservation of energy.	**The change in Unit is due to repetition of topics already covered in detail in 12th syllabus**
II	Rigid body motion, rotational motion, moments of inertia and their products, principal moments & axes, Introductory idea of Euler's equations. potential well and periodic oscillations, case of harmonic small oscillations, differential equation and its solution, kinetic and potential energy, examples of simple harmonic oscillations, spring and mass system, simple and compound pendulum, torsional pendulum.	Rigid body motion, rotational motion, moments of inertia and their products, principal moments & axes, Introductory idea of Euler's equations. potential well and periodic oscillations, case of harmonic small oscillations, differential equation and its solution, kinetic and potential energy, examples of simple harmonic oscillations, spring and mass system, simple and compound pendulum, torsional pendulum.	**No modification required**
III	Bifilar oscillations, Helmholtz resonator, LC circuit, vibrations of a magnet, oscillations of two masses connected by a spring. Superposition of two simple harmonic motions of the same frequency, Lissajous figures, case of different frequencies. Damped harmonic oscillator', power dissipation, quality factor, examples, driven (forced), harmonic oscillator, transient and steady states, power absorption, resonance.	Bifilar oscillations, Helmholtz resonator, LC circuit, vibrations of a magnet, oscillations of two masses connected by a spring. Superposition of two simple harmonic motions of the same frequency, Lissajous figures, Damped harmonic oscillator, case of different frequencies. power dissipation, quality factor, examples, driven (forced) harmonic oscillator, transient and steady states, power absorption, resonance.	**No modification required**

IV	E as an accelerating field, electron gun, case of discharge tube, linear accelerator, E as deflecting field- CRO sensitivity, Transverse B field, 180° deflection, mass spectrograph, curvatures of tracks for energy determination, principle of a cyclotron. Mutually perpendicular E and B fields-velocity selector, its resolution. Parallel E and B fields, positive ray parabolas, discovery of isotopes, elements of mass spectrography, principle of magnetic focusing lens.	E as an accelerating field, electron gun, case of discharge tube, linear accelerator, E as deflecting field- CRO sensitivity, Transverse B field, 180° deflection, mass spectrograph, curvatures of tracks for energy determination, principle of a cyclotron. Mutually perpendicular E and B fields-velocity selector, its resolution. Parallel E and B fields, positive ray parabolas, discovery of isotopes, elements of mass spectrography, principle of magnetic focusing lens.	**No modifications.**
V	Elasticity, small deformations, Hooke's law elastic constants for an isotropic solid and relations between them beams supported at both the ends, cantilever, torsion of cylinder, bending moments and shearing forces. Kinematics of moving fluids, equations of continuity. Euler's equation, Bernoulli's theorem, viscous fluids, steamline and turbulent flow. Poiseulle's law. Capillary tube flow, Reynold's number, Stokes law, surface tension and surface energy, molecular interpretation of surface tension, pressure on a curved liquids surface, wetting.	Elasticity: ***Strain and stress, elastic limit, Hooke's law, Modulus of rigidity, Poisson's ratio, Bulk modulus, relation connecting different elastic- constants, twisting couple of a cylinder (solid and hallow), Bending moment, Cantilever, Young modulus by bending of beam,*** ***Viscosity :*** Poiseulle's equation of liquid flow through a narrow tube, equations of continuity. Euler's equation, Bernoulli's theorem, viscous fluids, steamline and turbulent flow. Poiseulle's law, ***Coefficient of viscosity,*** Stokes law, Surface tension and molecular interpretation of surface tension, Surface energy, Angle of contact, wetting.	**This Unit is rearranged according to relevant topics.**

TEXT AND REFERENCE BOOKS :

1. E M purcell, Ed Berkely physics course, vol. Mechnics (Mc. Gr. Hill) R P Feynman,
2. R B lighton and M Sands, the feynman lectures in physics, vol I (B) publications, Bombay, Delhi, Calcutta, Madras
3. D P Khandelwal, Oscillations and waves (Himalaya Publishing House Bombay)
4. R. K. Ghosh, The Mathematics of waves and vibrations (Macmillan 1975) .
5. J.C. Upadhyaya- Mechanics (Hindi and English Edition.)
6. D.S. Mathur- Mechanics and properties of matter.
7. Brij lal and subramanium- Osccillations and waves. Resnick and Halliday- Volume I
8. Physics Part –1: Resanick and Halliday.
9. Mechanics : D.S.Mathur.

B.Sc. Part-I

Subject: Physics

Paper-II: ELECTRICITY, MAGNETISM AND ELECTROMAGNETIC THEORY

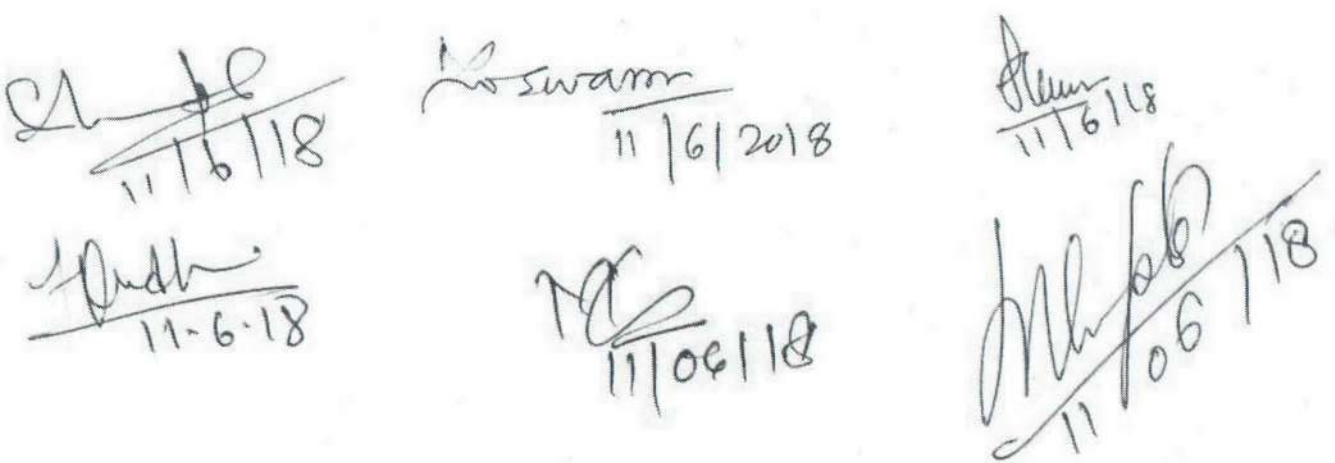
UNIT	Current Course	New Proposed Course	Justification
I	Functions of two and three variables, partial derivatives, geometrical interpretation of partial derivatives of functions of two variables. Total differential of a function of two and three variables. Repeated integrals of a function of more than one variable, definition of a double and triple integral. Scalars and vectors, dot and cross products, triple vector product, gradient of a scalar field and its geometrical interpretation, divergence and curl of a vector field, line, surface and volume integrals, flux of a vector field. Gauss's divergence theorem, Green's theorem and Stokes theorem.	Repeated integrals of a function of more than one variable, definition of a double and triple integral. Gradient of a scalar field and its geometrical interpretation, divergence and curl of a vector field, and their geometrical interpretation, line, surface and volume integrals, flux of a vector field. Gauss's divergence theorem, Green's theorem and Stokes theorem and their physical significance. **Kirchoff's law, Ideal Constant-voltage and Constant-current Sources, Thevenin theorem, Norton theorem, Superposition theorem, Reciprocity theorem, and Maximum Power Transfer theorem.**	**This Unit is upgraded. Network theorems are introduced.**
II	Coulomb's law in vacuum expressed in Vector forms calculations of E for simple distributions of charges at rest, dipole and quadrupole fields. Work done on a charge in a electrostatic field expressed as a line integral, conservative nature of the electrostatic field. Relation between Electric potential and Electric field, torque on a dipole in a uniform electric field and its energy, flux of the electric field, Gauss's law and its application for finding E for symmetric charge distributions, Gaussian pillbox ? Fields at the surface of a conductor screening of E field by a conductor, capacitors, electrostatic field energy, force per unit area of the surface of a conductor in an electric field, conducting sphere in a uniform electric field, point charge in front of a	Coulomb's law in vacuum expressed in Vector forms, calculations of E for simple distributions of charges at rest, dipole and quadrupole fields. Work done on a charge in a electrostatic field expressed as a line integral, conservative nature of the electrostatic field. Relation between Electric potential and Electric field, torque on a dipole in a uniform electric field and its energy, flux of the electric field. Gauss's law and **its application: E due to (1) an Infinite Line of Charge, (2) a Charged Cylindrical Conductor, (3) an Infinite Sheet of Charge and Two Parallel Charged Sheets,** capacitors, electrostatic field energy, force per unit area of the surface of a conductor in an electric field, conducting sphere in a uniform electric field.	**Applications of Gauss's law are specified.**

.	grounded infinite conductor.		
· III	Dielectrics parallel plate capacitor with a dielectric, electric susceptibility, permittivity and dielectric constant, polarization and polarization vector, displacement vector, molecular interpretation of Claussius-Mossotti equation. Steady current, current density J, non-steady currents and continuity equation, Kirchoff's law and analysis of multi-loop circuits, rise and decay of current in LR and CR circuits, decay constants, transients in LCR circuits, AC circuits, complex numbers and their applications in solving AC circuit problems, complex impedance and reactance, series and parallel resonance, Q factor, power consumed by an a AC circuit, power factor,.	***Dielectric constant, Polar and Non Polar dielectrics, Dielectrics and Gauss's Law, Dielectric Polarization, Electric Polarization vector P, Electric displacement vector D. Relation between three electric vectors, Dielectric susceptibility and permittivity, Polarizability and mechanism of Polarization, Lorentz local field, Claussius Mossotti equation, Debye equation, Ferroelectric and Paraelectric dielectrics,*** Steady current, current density J, non-steady currents and continuity equation, rise and decay of current in LR, CR and LCR circuits, decay constants, AC circuits, complex numbers and their applications in solving AC circuit problems, complex impedance and reactance, series and parallel resonance, Q factor, power consumed by an a AC circuit, power factor.	**This Unit is modified in accordance with the syllabus of other universities.**
IV	Force on a moving charge, Lorentz force equation and definition of B, force on a straight conductor carrying current in a uniform magnetic field, torque on a current loop, magnetic diploe moment, angular momentum and gyromagnetic ratio. $\nabla \cdot B=0$, $\nabla \times B= \mu J$. Biot and Savart's law, Ampere's law field due to a magnetic dipole, magnetization current, magnetization vector, magnetic permeability (Linear cases), interpretation of a bar magnet as a surface distribution of sinusoidal current.	***Magnetization Current and magnetization vector M, three magnetic vectors and their relationship, Magnetic permeability and susceptibility, Diamagnetic, paramagnetic and ferromagnetic substances. B.H. Curve, cycle of magnetization and hysteresis, Hysteresis loss.*** Biot-Savart's Law and its applications: B due to (1) a Straight Current Carrying Conductor and (2) Current Loop. Current Loop as a Magnetic Dipole and its Dipole Moment (Analogy with Electric Dipole). Ampere's Circuital law (Integral and Differential Forms).	**This Unit is modified in accordance with the syllabus of other universities and syllabus of different competitive exams.**
V	Electromagnetic induction, Faraday's law, electromotive force, $\varepsilon = z$ E.dr, integral and differential forms of Faraday's law Mutual and self inductance, Transformers, energy in a static magnetic field. Maxwell's displacement current, Maxwell's equations, electromagnetic field energy density. The wave equation	Electromagnetic induction, Faraday's law, electromotive force, integral and differential forms of Faraday's law Mutual and self inductance, Transformers, energy in a static magnetic field. Maxwell's displacement current, Maxwell's equations, electromagnetic field energy density. The wave equation satisfied by E and B, plane electromagnetic	**No modification required**

	satisfied by E and B, plane electromagnetic waves in vacuum, Poynting's vector.	waves in vacuum, Poynting's vector.	

TEXT AND REFERENCE BOOK :

1. Berkeley Physics Course, Electricity and Magnetism, Ed. E.M. Purcell (Mc Graw - Hill)
2. Halliday and Resnik, Physics, Vol. 2
3. D J Grifith, Introduction to Electrodynamics (Prentice-Hall of India)
4. Raitz and Milford, Electricity and Magnetism (Addison-Wesley)
5. A S Mahajan and A A Rangwala, Electricity and Magnetism (Tata Mc Graw-hill)
6. A M Portis, Electromagnetic fields.
7. Pugh & Pugh, Principles of Electricity and Magnetism (Addison-Wesley)
8. Panofsky and Phillips, Classical Electricity and Magnetism, (India Book House)
9. S S Atwood, Electricity and Magnetism (Dover).



PHYSICS

OBJECTIVES OF THE COURSE

The undergraduate training in physics is aimed at providing the necessary inputs so as to set forth the task of bringing about new and innovative ideas/concepts so that the formulated model curricula in physics becomes in tune with the changing scenario and incorporate new and rapid advancements and multi disciplinary skills, societal relevance, global interface, self sustaining and supportive learning.

It is desired that undergraduate i.e. B.Sc. level besides grasping the basic concepts of physics should in addition have broader vision. Therefore, they should be exposed to societal interface of physics and role of physics in the development of technologies.

EXAMINATION SCHEME:

1. There shall be 2 theory papers of 3 hours duration each and one practical paper of 4 hours duration. Each paper shall carry 50 marks.
2. Numerical problems of at least 30% will compulsorily be asked in each theory paper.
3. In practical paper, each student has to perform two experiments one from each groups as listed in the list of experiments.
4. Practical examination will be of 4 hours duration- one experiment to be completed in 2 hours.

   The distribution practical marks as follows:

Experiment	:	15+15=30
Viva voce	:	10
Internal assessment	:	10

5. The external examiner should ensure that at least 16 experiments are in working order at the time of examination and submit a certificate to this effect.

11/6/18 11/6/2018 11/6/18 11-6-18 11/06/18 11/06/18

B.Sc. Part-I

Paper-I

MECHANICS, OSCILLATIONS AND PROPERTIES OF MATTER

(Paper code 0793)

Unit- 1 Cartesian, Cylindrical and Spherical coordinate system, Inertial and non-inertial frames of reference, uniformly rotating frame, Coriolis force and its applications. Motion under a central force, Kepler's laws. Effect of Centrifugal and Coriolis forces due to earth's rotation, Center of mass (C.M.), Lab and C.M. frame of reference, motion of C.M. of system of particles subject to external forces, elastic, and inelastic collisions in one and two dimensions, Scattering angle in the laboratory frame of reference, Conservation of linear and angular momentum, Conservation of energy.

Unit-2 Rigid body motion, rotational motion, moments of inertia and their products, principal moments & axes, introductory idea of Euler's equations. Potential well and Periodic Oscillations, case of harmonic small oscillations, differential equation and its solution, kinetic and potential energy, examples of simple harmonic oscillations: spring and mass system, simple and compound pendulum, torsional pendulum.

Unit-3 Bifilar oscillations, Helmholtz resonator, LC circuit, vibrations of a magnet, oscillations of two masses connected by a spring. Superposition of two simple harmonic motions of the same frequency, Lissajous figures, damped harmonic oscillator, case of different frequencies. Power dissipation, quality factor, examples, driven (forced) harmonic oscillator, transient and steady states, power absorption, resonance.

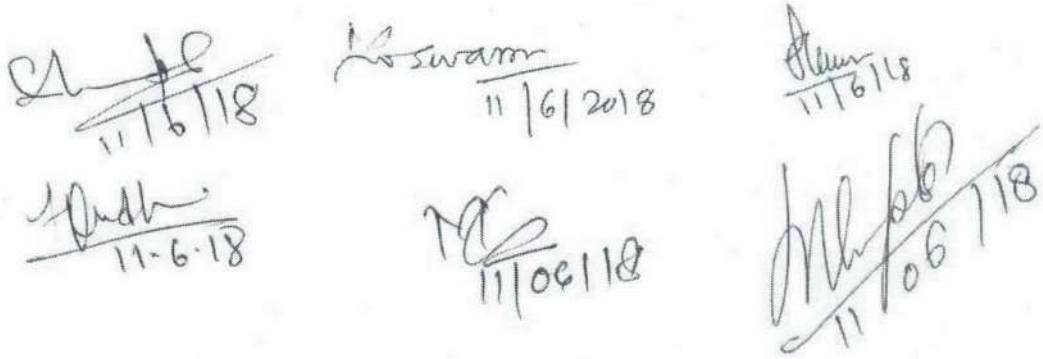
Unit-4 E as an accelerating field, electron gun, case of discharge tube, linear accelerator, E as deflecting field- CRO sensitivity, Transverse B field, 180° deflection, mass spectrograph, curvatures of tracks for energy determination, principle of a cyclotron. Mutually perpendicular E and B fields: velocity selector, its resolution. Parallel E and B fields, positive ray parabolas, discovery of isotopes, elements of mass spectrography, principle of magnetic focusing lens.

Unit-5 Elasticity: Strain and stress, elastic limit, Hooke's law, Modulus of rigidity, Poisson's ratio, Bulk modulus, relation connecting different elastic- constants, twisting couple of a cylinder (solid and hallow), Bending moment, Cantilever, Young modulus by bending of beam.

Viscosity: Poiseulle's equation of liquid flow through a narrow tube, equations of continuity. Euler's equation, Bernoulli's theorem, viscous fluids, streamline and turbulent flow. Poiseulle's law, Coefficient of viscosity, Stoke's law, Surface tension and molecular interpretation of surface tension, Surface energy, Angle of contact, wetting.

TEXT AND REFERENCE BOOKS:

1. E M Purcell, Ed Berkely physics course, vol. Mechanics (Mc. Gr. Hill) R P Feynman.
2. R B Lighton and M Sands, the Feynman lectures in physics, vol I (B) publications, Bombay, Delhi, Calcutta, Madras.
3. D P Khandelwal, Oscillations and waves (Himalaya Publishing House Bombay).
4. R. K. Ghosh, The Mathematics of waves and vibrations (Macmillan 1975).
5. J.C. Upadhyaya- Mechanics (Hindi and English Edition.)
6. D.S. Mathur- Mechanics and properties of matter.
7. Brijlal and Subramanium- Oscillations and waves. Resnick and Halliday- Volume I
8. Physics Part –1: Resnick and Halliday.



Paper-II
ELECTRICITY, MAGNETISM AND ELECTROMAGNETIC THEORY

Unit-1 Repeated integrals of a function of more than one variable, definition of a double and triple integral. Gradient of a scalar field and its geometrical interpretation, divergence and curl of a vector field, and their geometrical interpretation, line, surface and volume integrals, flux of a vector field. Gauss's divergence theorem, Green's theorem and Stoke's theorem and their physical significance. Kirchoff's law, Ideal Constant-voltage and Constant-current Sources. Thevenin theorem, Norton theorem, Superposition theorem, Reciprocity theorem and Maximum Power Transfer theorem.

Unit-2 Coulomb's law in vacuum expressed in Vector forms, calculations of E for simple distributions of charges at rest, dipole and quadrupole fields. Work done on a charge in a electrostatic field expressed as a line integral, conservative nature of the electrostatic field. Relation between Electric potential and Electric field, torque on a dipole in a uniform electric field and its energy, flux of the electric field.
Gauss's law and its application: E due to (1) an Infinite Line of Charge, (2) a Charged Cylindrical Conductor, (3) an Infinite Sheet of Charge and Two Parallel Charged Sheets, capacitors, electrostatic field energy, force per unit area of the surface of a conductor in an electric field, conducting sphere in a uniform electric field.

Unit-3 Dielectric constant, Polar and Non Polar dielectrics, Dielectrics and Gauss's Law, Dielectric Polarization, Electric Polarization vector P, Electric displacement vector D. Relation between three electric vectors, Dielectric susceptibility and permittivity, Polarizability and mechanism of Polarization, Lorentz local field, Clausius Mossotti equation, Debye equation,

Ferroelectric and Paraelectric dielectrics, Steady current, current density J, non-steady currents and continuity equation, rise and decay of current in LR, CR and LCR circuits, decay constants, AC circuits, complex numbers and their applications in solving AC circuit problems, complex impedance and reactance, series and parallel resonance, Q factor, power consumed by an a AC circuit, power factor.

Unit-4 Magnetization Current and magnetization vector M, three magnetic vectors and their relationship, Magnetic permeability and susceptibility, Diamagnetic, paramagnetic and ferromagnetic substances. B.H. Curve, cycle of magnetization and hysteresis, Hysteresis loss.

Biot-Savart's Law and its applications: B due to (1) a Straight Current Carrying Conductor and (2) Current Loop. Current Loop as a Magnetic Dipole and its Dipole Moment (Analogy with Electric Dipole). Ampere's Circuital law (Integral and Differential Forms).

Unit-5 Electromagnetic induction, Faraday's law, electromotive force, integral and differential forms of Faraday's law Mutual and self inductance, Transformers, energy in a static magnetic field. Maxwell's displacement current, Maxwell's equations, electromagnetic field energy density. The wave equation satisfied by E and B, plane electromagnetic waves in vacuum, Poynting's vector.

TEXT AND REFERENCE BOOKS:

1. Berkeley Physics Course, Electricity and Magnetism, Ed. E.M. Purcell (Mc Graw - Hill).
2. Halliday and Resnik, Physics, Vol. 2.
3. D J Grifith, Introduction to Electrodynamics (Prentice-Hall of India).
4. Raitz and Milford, Electricity and Magnetism (Addison-Wesley).
5. A S Mahajan and A A Rangwala, Electricity and Magnetism (Tata Mc Graw-hill).
6. A M Portis, Electromagnetic fields.
7. Pugh & Pugh, Principles of Electricity and Magnetism (Addison-Wesley).
8. Panofsky and Phillips, Classical Electricity and Magnetism, (India Book House).
9. S S Atwood, Electricity and Magnetism (Dover).

PRACTICALS

Minimum 16 (Eight from each group)

Experiments out of the following or similar experiments of equal standard

GROUP-A

1. Study of laws of parallel and perpendicular axes for moment of inertia.
2. Moment of inertia of Fly wheel.
3. Moment of inertia of irregular bodies by inertia table.
4. Study of conservation of momentum in two dimensional oscillations.
5. Study of a compound pendulum.
6. Study of damping of a bar pendulum under various mechanics.
7. Study of oscillations under a bifilar suspension.
8. Study of modulus of rigidity by Maxwell's needle.
9. Determination of Y, k, η by Searl's apparatus.
10. To study the oscillation of a rubber band and hence to draw a potential energy curve from it.
11. Study of oscillation of a mass under different combinations of springs.
12. Study of torsion of wire (static and dynamic method).
13. Poisson's ratio of rubber tube.
14. Study of bending of a cantilever or a beam.
15. Study of flow of liquids through capillaries.
16. Determination of surface tension of a liquid.
17. Study of viscosity of a fluid by different methods.

GROUP-B

1. Use of a vibration magnetometer to study a field.
2. Study of magnetic field B due to a current.
3. Measurement of low resistance by Carey-Foster bridge.
4. Measurement of inductance using impedance at different frequencies.
5. Study of decay of currents in LR and RC circuits.
6. Response curve for LCR circuit and response frequency and quality factor.
7. Study of waveforms using cathode-ray oscilloscope.
8. Characteristics of a choke and Measurement of inductance.
9. Study of Lorentz force.
10. Study of discrete and continuous LC transmission line.
11. Elementary FORTRAN programs, Flowcharts and their interpretation.
18. To find the product of two matrices.
19. Numerical solution of equation of motion.
20. To find the roots of quadratic equation.

11/6/18 11/6/2018 11/6/18

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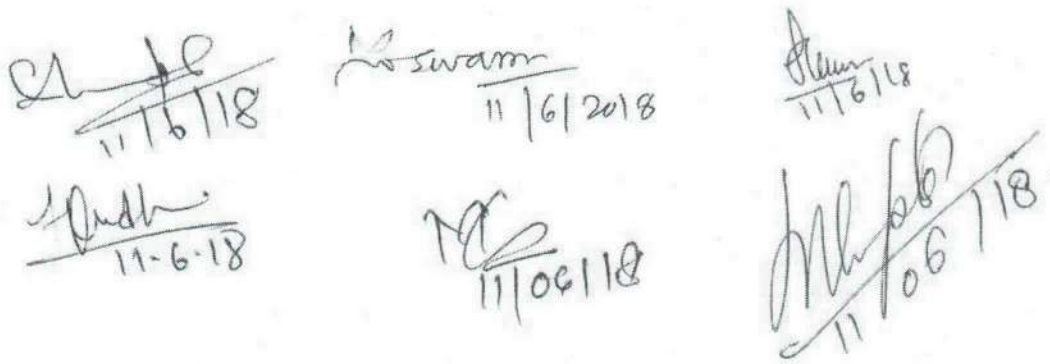
TEXT AND REFERENCE BOOKs:

1. B saraf et al Mechanical Systems(Vikas publishing House,New Delhi).
2. D.P. khandelwal, A Laboratory Manual of Physics for Undergraduate classes (Vani Publication House,New Delhi).
3. C G Lambe Elements of statistics (Longmans Green and Co London New York, Tprpnto).
4. C Dixon, Numerical analysis.
5. S Lipsdutz and A Poe, schaum's outline of theory and problems of programming with Fortran (MC Graw-Hill Book Company, Singapore 1986).



प्रपत्र

विषय / संकाय / प्रश्न–पत्र का नाम– **B.Sc. Information Technology**

क्रमांक	कक्षा का नाम	वर्तमान पाठ्यक्रम	नवीन संशोधित पाठ्यक्रम	नवीन संशोधित पाठ्यक्रम का औचित्य
1.	1st Year	FUNDAMENTAL OF I.T. COMPUTERS & PC SOFTWARE	FUNDAMENTAL OF IT, COMPUTER AND PC SOFTWARE	Updation Required
2.	1st Year	PROGRAMMING CONCEPT USING C LANGUAGE	PROGRAMMING IN 'C' LANGUAGE	Updation Required
3.	1st Year	PRACTICAL	PRACTICAL	Updation Required
4.	2nd Year	DIGITAL CIRCUITS & COMPUTER H/W	DIGITAL CIRCUITS & COMPUTER H/W	No Change
5.	2nd Year	PAPER-II (PAPER CODE - 0875)	PAPER-II (PAPER CODE - 0875)	No Change
6.	2nd Year	PRACTICAL	PRACTICAL	No Change
7.	3rd Year	AMPLIFIERS AND OSCILLATORS	AMPLIFIERS AND OSCILLATORS	No Change
8.	3rd Year	FUNDAMENTAL DATA STRUCTURE	FUNDAMENTAL DATA STRUCTURE	No Change
9.	3rd Year	PRACTICAL	PRACTICAL	No Change

केन्द्रीय अध्ययन मंडल के अध्यक्ष एवं सदस्यों का हस्ताक्षर

S.N.	Name	Designation/University/College	Signature with Date
1.	Dr. Sanjay Kumar	Head, S.o.S. in Computer Science & I.T., Pt. R.S. University, Raipur	11-06-2018
2.	Mr. Hari Shankar Prasad Tonde	Head, Dept. of Computer Science, Sarguja University, Ambikapur	11-06-18
3.	Dr. Anuj Kumar Dwivedi	Head, Dept. of Computer Science, Govt. V.B.S.D. Girls College, Jashpur Nagar, Jashpur	11/6/18
4.	Mr. L.K. Gavel	Head, Dept. of Computer Science, Govt. G.S.G. P.G. College Balod	11/06/18
5.	Dr. J. Durga Prasad Rao	Head, Dept. of Computer Science, Shri Sankracharya Mahavidyalaya, Bhilai	11/6/18

B.Sc. Part – I
INFORMATION TECHNOLOGY
PAPER - I
FUNDAMENTAL OF IT, COMPUTER AND PC SOFTWARE
(PAPER CODE - 0824)

Max Marks: 50

NOTE: The Question Paper setter is advised to prepare unit-wise question with the provision of internal choice.

UNIT - I INFORMATION TECHNOLOGY

Concepts of IT and Information System, Application of IT (in Business, Education, Medicine, Science, Governance and Agriculture), Impact of IT on society and industry, Legal and Ethical aspect of IT, Security and Threats in IT, M-Commerce, Virtual reality, Latest trend in IT, Future of IT.

UNIT - II COMPUTER NETWORK

BASIC CONCEPTS OF COMPUTER NETWORK: Internet concepts, LAN, MAN, WAN, Topology, Protocol, Transmission mode, communication process, Required elements of Data Communication.

WIRELESSCOMMUNICATION: Mobile Internet, GPS, 3G, 4G, Wi-Fi, Bluetooth, infrared, radio frequency, microwave.

SOCIAL NETWORKING: Evolution of social network sites (YouTube, Facebook, LinkedIn, Twitter), Advantages and Disadvantages of social networking sites.

UNIT - III MS-WORD

Introduction, Word Processing (MS-WORD), Advantage of word processing, Introduction and Installation, Editing a file, using paragraph styles. Newspaper style columns, Using macros, Advance word processing, Headers and footers, Finding text, Setting up printer. Mail merge and other applications, Mathematical calculator, Table handling.

UNIT - IV MS-EXCEL

Introduction to spreadsheet (MS-EXCEL), Definition and advantage of electronic worksheet, Working on spread sheets, Range and related operations, Setting saving and retrieving worksheets, Inserting, Deleting, Coping and Moving of data cells, Inserting and deleting rows and column, Protecting cells, Printing a worksheet, Erasing a worksheet in Graphs creation, Types of graphs, Creating a chart sheet 3D, Columns charts, Moving and changing the size of chart, Printing the chart.

UNIT - V MS-POWER POINT AND MS-ACCESS

MS-POWER POINT: Presenting with Power point: Creating presentation, Working with slides, Different types of slides, Setting page layout, Selecting background and applying design, Adding graphics to slide, Adding sound and movie, Creating chart and graph, Playing a slide show, Slide transition, Advancing slides, Setting time, Rehearsing timing, Animating slide, Animating objects, Running the show from window.

MS-ACCESS: Creating tables in access, Defining data types, Manipulating records.

TEXT BOOKS:

1. Computer Fundamentals, P. K. Sinha, BPB Publications, Sixth Edition.
2. Introduction to Information Technology, V. Rajaraman, PHI, Second Edition.
3. Computer Networks, Forouzan, Tata McGraw-Hill, Second, Edition.
4. Microsoft Office 2007 fundamentals, L Story, D Walls.
5. MS Office, S. S. Shrivastava, Firewall Media

11-06-2018 (Dr. A.K. Dwivedi) 11/06/18 (L.K. Gavel) 11/6/18 (Dr. T. Dongre (Pd. Rao)) Hari Shankar Prasad

B. Sc. PART - I
INFORMATION TECHNOLOGY
PAPER II
PROGRAMMING IN 'C' LANGUAGE

Max Marks: 50

NOTE: The Question Paper setter is advised to prepare unit-wise question with the provision of internal choice.

UNIT-I

Fundamentals of C Programming: Overview of C: History of 'C', Structure of 'C' program. Keywords, Tokens, Data types, Constants, Literals and Variables, Operators and Expressions: Arithmetic operators, Relational operator, Logical operators, Expressions, Operator: operator precedence and associatively, Type casting, Console I/O formatting, Unformatted I/O functions: getch(), getchar, getche(), getc(), putc(), putchar().

UNIT- II

Control Constructs: If-else, conditional operators, switch and break, nested conditional branching statements, loops: do while, while, for, Nested loops, break and continue, goto and label, exit function.

Functions: Definition, function components: Function arguments, return value, function call statement, function prototype, Types of function, Scope and lifetime of variable, Call by value and call by reference. Function using arrays, function with command line argument. User defined function: maths and character functions, Recursive function.

UNIT-III

Array: Array declaration, One and Two dimensional numeric and character arrays, Multidimensional arrays.

String: String declaration, initialization, string manipulation with/without using library function.

Structure, Union and Enum - Structure: Basics, declaring structure and structure variable, typedef statement, array of structure, array within structure, Nested structure, passing structure to function, function returning structure. **Union**: basics, declaring union and union variable, **Enum**: declaring enum and enum variable.

UNIT- IV

Pointer: Definition of pointer, Pointer declaration, Using & and * operators. Void pointer, Pointer to pointer, Pointer in math expression, Pointer arithmetic, Pointer comparison, Dynamic memory allocation functions – malloc, calloc, realloc and free, Pointer vs. Array, Array of pointer, Pointer to array, Pointers to function, Function returning pointer, Passing function as Argument to function, Pointer to structure, Dynamic array of structure through pointer to structure.

UNIT-V

File Handling and Miscellaneous Features: File handling: file pointer, File accessing functions: fopen, fclose, fputc, fgetc, fprintf, fscanf, fread, fwrite, feof, fflush, rewind, fseek, ferror. File handling through command line argument. Introduction to C preprocessor #include, #define, Conditional compilation directives: #if, #else, #elif, #endif, #ifndef etc.

TEXT BOOKS:

1. Programming in ANSI C, E Balagurusamy, Tata McGraw-Hill, Third Edition
2. Let Us C, YashwantKanetkar, Infinity Science Press, Eighth Edition.
3. Mastering C, K R Venugopal,Tata McGraw-Hill.
4. The C Programming Language, Brian W. Kernighan, Dennis M. Ritchie, Prentice Hall, Second Edition.
5. Applications Programming in ANSI C, R. Johnsonbaugh , Martin Kalin, Macmillan, Second Edition.
6. The Spirit of C, Mullish Cooper, Jaico publishing House.
7. How to solve it by Computer, R.G.Dromey, Pearson Education.

11/6/18 11/06/18 11/6/18

Practical

- At least 20 Practical based on Syllabus of Paper-I and Paper-II.

11-06-2018
(Dr. Sanjay Kumar) 11/6/2018 (Dr. A.K. Dwivedi) 11/06/18 (L.K. Gavel) 11/6/18 (Dr. J. Durga Prasad Rao)

11-06-18
Hari Shankar Prasad Pandey

Syllabus for B.A./ B.Sc. Course, 2018-19
Subject:. Statistics

Each year of B.A./B.sc. I, II, III shall have two theories and one practical course. All the Theory as well as Practical Examinations will be of 3 hours duration. In each practical examination 10% marks shall be fixed for viva –voce and 20% marks for practical record.

Scheme of Examination

	Title of the paper	MAX. Marks
B.A./B.Sc. I	**Paper-I** (Code No. 0803) **: Probability I**	50
	Paper-II (Code No. 0804)**: Descriptive Statistics I**	50
	Paper III: **Practical**- Based on Theory Papers I & II	50
	Total	**150**
B.A./B.Sc. II	**Paper-I** (Code No. 0853)**: Statistical Methods**	50
	Paper-II (Code No. 0854)**: Sampling Theory and Design of Experiments**	50
	Paper III: **Practical**- Based on Theory Papers I & II	50
	Total	**150**
B.A./B.Sc. III	**Paper I** (Code No. 0907)**: Applied Statistics**	50
	Paper II (Code No. 0908): **Statistical Quality Control and Computational Techniques**	50
	Paper III: Practical- Based on Theory Papers I & II	50
	Total	**150**

B.A./B.Sc. –I
Subject-Statistics
Paper – I (Paper Code-0803)
PROBABILITY THEORY

Unit-I

Important concepts in probability: Random experiment: trial, sample point and sample space, event, Operations of events, concepts of mutually exclusive and exhaustive events. Definition of probability: classical and relative frequency approach. Richard Von Misses, Cramer and Kolmogrove approachesto probability, merits and demerits to these approaches, any general idea to be given. Discrete probability space, Properties of probability based on axiomatic approaches, Independence of events, Conditional probability, total and compound probability rules, Baye's theorem and its applications.

Unit-II

Random variables: Definition of discrete random variable (rv); probability mass function (pmf) and cumulative distribution function (cdf). Joint pmf of several discrete rvs. Marginal and conditional pmfs. Independence of rvs. Idea of continuous random variables, probability density function, illustration of random variables and its properties. Expectation of a random variable and its properties -moments,

measures of location and dispersion, skewness and kurtosis, Moment generating function, raw and central moments, Probability generating function (pgf) and, their properties and uses.

Unit-III

Standard univariate discrete distributions: degenerate, discrete uniform, hypergeometric, Poisson, geometric and negative binomial distributions. Marginal and conditional distributions, Distributions of functions of discrete rvs, reproductive property of standard distributions.

Unit-IV

Univariate continuous distributions and their properties: Uniform, Beta, Gamma, Exponential, Normal, Cauchy, Lognormal. Moment generating function (mgf) : its properties and applications.
Tchebycheff's inequality and applications, statements and applications of weak law of large numbers and central limit theorems.

Unit-V

Four short notes, one from each unit will be asked. Students have to answer any two.

REFERENCES

1. Bhat B.R.,Srivankataramana T. and Rao Madhav K.S. (1997): Statistics; A Beachners Vol. II, New Age International (P) Ltd.
2.Chung, K.L. (1979). Elementary Probability Theory with Stochastic Processes, Springer International Student Edition.
3. Edward P.J., Ford J.S. and Lin (1974): Probability for Statistical Decision-Marketing. Prentice Hall
4. Goon A.M., Gupta M.K. and Dasgupta B.(1999): Fundamentals of Statistics, Vol. I , World Press, Calcutta
5. Mood A.M., Grabill F.A. and Bose D.C.(1974): Introduction to the theory of Statistics, Mc. Graw Hall.

ADDITIONAl REFERENCES:

6. Cook, Cramer and Clark (): Basic Statistical Computing, Chapman and Hall.
7.David Stirzaker (1994). Elementary Probability, Cambridge University Press.
8.Feller, W. (1968). An Introduction to Probability Theory and its Applications, Wiley.
9. Hoel P.G. (1971): Introduction to Mathematical Statistics
10. Mayer P.L. (1970): Introductory Probability and Statistical Applications, Addition Wesley
11.Mukhopadhyay, P. (1996). Mathematical Statistics, New Central Book Agency, Calcutta.
12.Parzen, E. (1960). Modern Probability Theory and its Applications, Wiley Eastern.
13Pitman, Jim (1993). Probability, Narosa Publishing House.

Paper – II(Paper Code-0804)
DESCRIPTIVE STATISTICS

Unit - I

Origin and Development of statistical importance, uses and limitations of Statistics. Types of Data: Concepts of a statistics population and sample from a population; qualitative and quantitative data;

nominal and ordinal data; cross sectional and time series data; discrete and continuous data; frequency and non-frequency data.
Collection and Scrutiny of Data; Primary data – designing a questionnaire and a schedule; checking their consistency. Secondary data – their major sources including some government publications. Complete enumeration, controlled experiments, observational studies and sample surveys. Scrutiny of data for internal consistency and detection of errors of recording. Ideas of cross-validation.

Presentation of Data: Construction of tables with one or more factors of classification. Diagrammatic and graphical representation of non-frequency data. Frequency distributions, cumulative frequency distributions and their graphical and diagrammatic representation – column diagram, histogram, frequency polygon and ogives. Stem and leaf chart. Box plot.

Unit -II

Analysis of Quantitative Data: Univariate data: Concepts of central tendency or location, and their measures; arithmetic, geometric and harmonic mean, median and mode.

Unit -III

Dispersion and relative measures of dispersion, skewness and kurtosis, and their measures including those based on quartiles and moments. Sheppard's corrections for moments for grouped data (without deviation).

Unit -IV

Bivariate data: Scatter diagram. Product moment correlation coefficient and its properties. Coefficient of determination. Correlation ratio. Concepts of regression. intra-class correlation coefficient with equal and unequal group sizes. Rank correlation – Spearman's and Kendall's measures. Correlation index. Principle of least squares. Fitting of linear and quadratic regression and related results. Fitting of curves reducible to polynomials by log and inverse transformation. Multivariate data: Multiple regression, multiple correlation and partial correlation in 3 variables. Their measures and related results.

Unit V

Four short notes, one from each unit will be asked. Students have to answer any two.

REFERENCES

1. Bhat B.R.,Srivankataramana T. and Rao Madhav K.S. (1997): Statistics; A Beachners Vol. II, New Age International (P) Ltd.
2.Croxton FE, Cowden DJ and Klein S: Applied General Statistics (1973): Prentice Hall of India.
3.Goon A.M., Gupta M.K., Dasgupta B. Fundamentals of Statistics, Vol. 1(1991) & Vol. 2(2001). World Press, Calcutta.
5.Gupta V.K. and Kapor S.C. : Fundamentals of Mathematical Statistics S. Chand and Sons.

ADDITIONAl REFERENCES:

6.Cook, Cramer and Clark (): Basic Statistical Computing, Chapman and Hall.
7. Mood A.M., Grabill F.A. and Bose D.C.(1974): Introduction to the theory of Statistics, McGraw Hill.
8.Snedecor GW and Cochran WG: Statistical Methods (1967) : Lowa State University Press.

9.Spiegel, MR (1967): Theory & Problems of Statistics (1967): Schaum's Publishing Series.

Paper III:
Practical : Practicals Based on Paper I & II

1. Presentation of data by Frequency tables, diagrams and graphs.
2. Calculation of Measures of Central Tendency, dispersion , skewness and kurtosis
3. Product Moment Correlation and Correlation Ratio
4. Fitting of Curves by the least square method
5. Regression of two variables
6. Spearman's Rank correlation Coefficient
7. Multiple regression of three variables
8. Multiple correlation and partial correlation
9. Evaluation of probabilities using addition and multiplication theorems, conditional probabilities and Bayes theorems
10. Exercises on mathematical expectations and finding measures of central tendency, dispersion, skewness and kurtosis of univariate probability distributions
11. Fitting of univariate and conditional distributions

B.A./B.Sc. –II
Subject: Statistics
Paper-I(Paper Code-0853)
Statistical Methods

Unit I

Sampling from a distribution : Definition of a random sample ,simulating random sample from standard distributions(uniform, Normal, Exponential) ,concept of derived distributions of a functions of random variables, concept of a statistics and its sampling distribution. Point estimate of a parameter. Properties of a good estimator, Concept of bias and standard error of an estimate .Standard errors of sample mean, sample proportion. Sampling distribution of sum of Binomial, Poisson and mean of Normal distributions. Independence of sample mean and variance in random sampling from a Normal distribution (without derivation).

Unit II

Statistical tests and interval estimation: Null and alternative hypothesis. Types of errors, level of significance, p values, one and two tailed tests, Procedure for testing of hypothesis. Statement of chi-squares, Student's t and F statistics. Testing for the single mean and variance of a univariate normal distribution, testing the equality of two means and testing for the equality of two variances of two univariate normal distributions. Related confidence intervals. Testing for the significance of sample correlation in sampling from bi-variate normal distribution and for equality of means and equality of variances in sampling from bivariate normal populations.

Unit III

Large sample tests: use of central limit theorem for testing and interval estimation of a single mean and a single proportion and difference of two means and two proportions, Fisher's Z transformation and its

Scheme & Syllabus

Subject: Electronics

Approved at Central Board of Studies meeting held at School of Studies in Electronics & Photonics on 11th June ,2018

[Constituted under Chhattisgarh VishwavidyalayaAdhiniyam 1973 Clause 34 (A)]

Jointly by
School of Studies in Electronics & Photonics
Pt. Ravishankar Shukla University
Raipur (C.G.)
&
Office of Commissioner
Department of Higher Education
Govt. of Chhattisgarh, IndrāvatiBhavan,
Naya Raipur (C.G.)

Yearly Syllabus for Undergraduates

As recommended by Central Board of Studies of Electronics
For approval of Kuladhipati, Governor of Chhattisgarh
Session 2018-19
July 2018 onwards
Class: B.Sc. Electronics

Scheme of Examination

Paper Code	Course Opted	Title of Course	Theory	Practical	Grand Total	Minimum Passing Marks
First Year						
ELB-101	Core Course	Network Analysis And Analog Electronics	**50**		**100**	**33**
ELB-102	Core Course	Linear and Digital Integrated Circuits	**50**			
ELB-103P	Core Course Practical/Tutorial	Networks Analysis and Analog Electronics Lab	**25**	**50**	**50**	**17**
ELB-104P	Core Course Practical/Tutorial	Linear and Digital Integrated Circuits Lab	**25**			
Second Year						
ELB-201	Core Course	Communication Electronics	**50**		**100**	**33**
ELB-202	Core Course	Microprocessor and Microcontrollers	**50**			
ELB-203P	Course Practical/Tutorial	Communication Electronics Lab	**25**	**50**	**50**	**17**
ELB-204P	Course Practical/Tutorial	Microprocessor& Microcontroller Lab	**25**			
Third Year						
EL301	**Skill Enhancement Course**	Industrial Electronics	**50**		**100**	**33**
EL302	**Skill Enhancement Course**	Mobile Application Programming and Introduction to VHDL	**50**			
EL303P	**Skill Enhancement CoursePractical**	Industrial Electronics Lab	**25**	**50**	**50**	**17**
EL304P	**Skill Enhancement Course Practical**	Mobile Application Programming and Introduction to VHDL Lab	**25**			

Syllabus

B.Sc. Part I

ELECTRONICS

Paper-I

ELB-101: NETWORK ANALYSIS AND ANALOGELECTRONICS

Theory: **Maximum Marks 50**

Unit-1

Basic Circuit Concepts: Voltage and Current Sources, Review of Resistors, Inductors, Capacitors. Circuit Analysis: Kirchhoff's Current Law (KCL), Kirchhoff's Voltage Law (KVL),

AC Circuit Analysis: Sinusoidal Voltage and Current, Definition of Instantaneous, Peak,Peak to Peak, Root Mean Square and Average Values. AC applied to Series RC and RL circuits: Impedance of series RC & RL circuits.AC applied to Series and parallel RLC circuit, Series and Parallel Resonance, condition for Resonance, Resonant Frequency, Bandwidth, and significance of Quality Factor (Q).

Passive Filters: Low Pass, High Pass.

Network Theorems: Principal of Duality, Superposition Theorem, Thevenin's Theorem,Norton's Theorem, Reciprocity Theorem, Millman's Theorem, Maximum Power Transfer Theorem. AC circuit analysis using Network theorems.

Unit-2

Junction Diode and its applications: PN junction diode (Ideal and practical)-constructions, Formation of Depletion Layer, Diode Equation and I-V characteristics. Idea of static and dynamic resistance, dc load line analysis, Quiescent (Q) point. Zener diode, Reverse saturation current, Zener and avalanche breakdown. Rectifiers- Half wave rectifier, Full wave rectifiers (center tapped and bridge), circuit diagrams, working and waveforms, ripple factor and efficiency. Filter-Shunt capacitor filter, its role in power supply, output waveform, and working. Regulation- Line and load regulation, Zener diode as voltage regulator, and explanationfor load and line regulation.

Unit-3

Bipolar Junction Transistor: CE, CB Characteristics and regions of operation, Transistor biasing, DC load line, operating point, thermal runaway, idea about stability and stability factor. Voltage divider bias, circuit diagrams and their working.

Field Effect Transistors: JFET, Construction, Working and Characteristics. MOSFET, Construction, Working and Characteristics.

Power Devices: UJT, Construction, Working and Characteristics. SCR, Diac, Triac, Construction, Working and Characteristics and Applications.

Unit-4

Amplifiers: Transistor biasing and Stabilization circuits- Fixed Bias and VoltageDivider Bias. Thermal runaway, stability and stability factor S. Transistor as a two port network, h-parameter equivalent circuit. Small signal analysis of single stage CE amplifier. Input and Output impedance, Current and Voltage gains. Class A, B and CAmplifiers.

Cascaded Amplifiers: Two stage RC Coupled Amplifier and its Frequency Response.

Unit-5

Feedback in Amplifiers: Concept of feedback, negative and positive feedback, advantages of negative feedback (Qualitative only).

Sinusoidal Oscillators: Barkhausen criterion for sustained oscillations. Phase shift,Weins bridge, Crystal andColpitt's oscillator. Determination of Frequency and Condition of oscillation.

Reference Books:

[1] Electric Circuits, S. A. Nasar, Schaum's outline series, Tata McGraw Hill (2004)

[2] Electrical Circuits, M. Nahvi& J. Edminister, Schaum's Outline Series, Tata McGraw-Hill (2005)

[3] Electrical Circuits, K.A. Smith and R.E. Alley, 2014, Cambridge University Press

[4] Network, Lines and Fields, J.D.Ryder, Prentice Hall of India.

[5] Electronic Devices and Circuits, David A. Bell, 5th Edition 2015, Oxford University Press.

[6] Electronic Circuits: Discrete and Integrated, D.L. Schilling and C. Belove, Tata McGraw Hill

[7] Electrical Circuit Analysis, Mahadevan and Chitra, PHI Learning

[8] Microelectronic circuits, A.S. Sedra, K.C. Smith, A.N. Chandorkar, 2014, 6thEdn., Oxford University Press.

[9] J. Millman and C. C. Halkias, Integrated Electronics, Tata McGraw Hill (2001)

[10] J. J. Cathey, 2000 Solved Problems in Electronics, Schaum's outline Series, Tata McGraw Hill (1991)

Paper- II

ELB-102: LINEAR AND DIGITAL INTEGRATEDCIRCUITS

Theory: **Maximum Marks 50**

Unit-1

Operational Amplifiers (Black box approach): Characteristics of an Ideal andPractical Operational Amplifier (IC 741), Open and closed loop configuration, Frequency Response. CMRR. Slew Rate and concept of Virtual Ground.

Applications of Op-Amps: (1) Inverting and non-inverting amplifiers, (2) Summingand Difference Amplifier, (3) Differentiator, (4) Integrator, (5) Wein bridge oscillator, (6) Comparator and Zero-crossing detector, and (7) Active low pass and high pass, Butterworth filter (1^{st} order only).

Unit-2

Number System and Codes: Decimal, Binary, Octal and Hexadecimal number systems,base conversions. Representation of signed and unsigned numbers, BCD code. Binary, octal and hexadecimal arithmetic; addition, subtraction by 2's complement method, multiplication.

Logic Gates and Boolean algebra: Truth Tables of OR, AND, NOT, NOR, NAND,XOR, XNOR, Universal Gates, Basic postulates and fundamental theorems of Boolean algebra.

Unit-3

Combinational Logic Analysis and Design: Standard representation of logic functions (SOP and POS), Minimization Techniques (Karnaugh map minimization up to 4 variables for SOP).Arithmetic Circuits: Binary Addition. Half and Full Adder.Half and Full Subtractor, 4-bit binary Adder/Subtractor.

Data processing circuits: Multiplexers, De-multiplexers, Decoders, Encoders. Clock and Timer (IC 555): Introduction, Block diagram of IC 555, Astable and Monostablemultivibrator circuits.

Unit-4

Sequential Circuits: SR, D, and JK Flip-Flops. Clocked (Level and Edge Triggered)Flip-Flops. Preset and Clear operations. Race-around conditions in JK Flip-Flop.Master-slave JK Flip-Flop.

Shift registers: Serial-in-Serial-out, Serial-in-Parallel-out, Parallel-in-Serial-out and Parallel-in-Parallel-out Shift Registers (only up to 4 bits).

Counters (4 bits): Ring Counter. Asynchronous counters, Decade Counter Synchronous Counter.

Unit-5

D-A and A-D Conversion: 4 bit binary weighted and R-2R D-A converters, circuit and working, Accuracy and Resolution. A-D conversion characteristics, successive approximation ADC. (Mention of relevant ICs for all).

Reference Books:

[1] OP-Amps and Linear Integrated Circuit, R. A. Gayakwad, 4th edition, 2000, Prentice Hall

[2] Operational Amplifiers and Linear ICs, David A. Bell, 3rd Edition, 2011, Oxford University Press.

[3] Digital Principles and Applications, A.P. Malvino, D.P.Leach and Saha, 7th Ed., 2011, Tata McGraw

[4] Fundamentals of Digital Circuits, Anand Kumar, 2nd Edn, 2009, PHI Learning Pvt. Ltd.

[5] Digital Circuits and systems, Venugopal, 2011, Tata McGraw Hill.

[6] Digital Systems: Principles & Applications, R.J.Tocci, N.S.Widmer, 2001, PHI Learning.

[7] Thomas L. Flyod, Digital Fundamentals, Pearson Education Asia (1994)

[8] R. L. Tokheim, Digital Principles, Schaum's Outline Series, Tata McGraw- Hill (1994)

ELECTRONICS LABORATORY

ELB 103P: NETWORK ANALYSIS AND ANALOG ELECTRONICS LAB

(Hardware and Circuit Simulation Software) **Max.Marks:25**

The scheme of practical examination will be as follows-

Experiment	--	**30**
Viva	--	**10**
Sessional	--	**10**
Total	--	**50**

AT LEAST 06 EXPERIMENTS FROM THE FOLLOWING BESIDES #1

1. To familiarize with basic electronic components (R, C, L, diodes, transistors), digital Multimeter, Function Generator and Oscilloscope.
2. Measurement of Amplitude, Frequency & Phase difference using Oscilloscope.
3. Verification of (a) Thevenin's theorem and (b) Norton's theorem.
4. Verification of (a) Superposition Theorem and (b) Reciprocity Theorem.
5. Verification of the Maximum Power Transfer Theorem.
6. Study of the I-V Characteristics of (a) p-n junction Diode, and (b) Zener diode.
7. Study of (a) Half wave rectifier and (b) Full wave rectifier (FWR).
8. Study the effect of (a) C- filter and (b) Zener regulator on the output of FWR.
9. Study of the I-V Characteristics of UJT and design relaxation oscillator..
10. Study of the output and transfer I-V characteristics of common source JFET.
11. Study of Fixed Bias and Voltage divider bias configuration for CE transistor.
12. Design of a Single Stage CE amplifier of given gain.
13. Study of the RC Phase Shift Oscillator.
14. Study the Colpitt's oscillator.

Reference Books:

1. Electrical Circuits, M. Nahvi and J. Edminister, Schaum's Outline Series, Tata McGraw-Hill (2005)
2. Networks, Lines and Fields, J.D.Ryder, Prentice Hall of India.
3. J. Millman and C. C. Halkias, Integrated Electronics, Tata McGraw Hill (2001)
4. Allen Mottershead, Electronic Devices and Circuits, Goodyear Publishing Corporation.

ELECTRONICS LAB

ELB 104P: LINEAR AND DIGITAL INTEGRATED CIRCUITS LAB

Max.Marks:25

At least 04 experiments each from section A, B and C

Section-A: Op-Amp. Circuits (Hardware)

1. To design an inverting amplifier using Op-amp (741,351)for dc voltage of given gain
2. (a) To design inverting amplifier using Op-amp (741,351) & study its frequency response
   (b) To design non-inverting amplifier using Op-amp (741,351) & study frequency response
3. (a) To add two dc voltages using Op-amp in inverting and non-inverting mode
   (b) To study the zero-crossing detector and comparator.
4. To design a precision Differential amplifier of given I/O specification using Op-amp.
5. To investigate the use of an op-amp as an Integrator.
6. To investigate the use of an op-amp as a Differentiator.
7. To design a Wien bridge oscillator for given frequency using an op-amp.
8. To design a circuit to simulate the solution of simultaneous equation and $1^{st}/2^{nd}$order differential equation.
9. Design a Butterworth Low Pass active Filter (1^{st} order) & study Frequency Response
10. Design a Butterworth High Pass active Filter (1^{st} order) & study Frequency Response
11. Design a digital to analog converter (DAC) of given specifications.

Section-B: Digital circuits (Hardware)

1. (a) To design a combinational logic system for a specified Truth Table.
   (b) To convert Boolean expression into logic circuit & design it using logic gate ICs.
   (c) To minimize a given logic circuit.
2. Half Adder and Full Adder.
3. Half Subtractor and Full Subtractor.
4. 4 bit binary adder and adder-subtractor using Full adder IC.
5. To design a seven segment decoder.
6. To design an AstableMultivibrator of given specification using IC 555 Timer.
7. To design a MonostableMultivibrator of given specification using IC 555 Timer.
8. To build Flip-Flop (RS, Clocked RS, D-type and JK) circuits using NAND gates.
9. To build JK Master-slave flip-flop using Flip-Flop ICs
10. To build a Counter using D-type/JK Flip-Flop ICs and study timing diagram.
11. To make a Shift Register (serial-in and serial-out) using D-type/JK Flip-Flop ICs.

Section-C: SPICE/MULTISIM simulations for electronic circuits and devices

1. To verify the Thevenin and Norton Theorems.
2. Design and analyze the series and parallel LCR circuits
3. Design the inverting and non-inverting amplifier using an Op-Amp of given gain
4. Design and Verification of op-amp as integrator and differentiator
5. Design the 1st order active low pass and high pass filters of given cutoff frequency
6. Design a Wein`s Bridge oscillator of given frequency.
7. Design clocked SR and JK Flip-Flop`s using NAND Gates
8. Design 4-bit asynchronous counter using Flip-Flop ICs
9. Design the CE amplifier of a given gain and its frequency response.

Reference Books

1. Digital Principles and Applications, A.P. Malvino, D.P.Leach and Saha, 7th Ed., 2011, Tata McGraw
2. OP-Amps and Linear Integrated Circuit, R. A. Gayakwad, 4thedn., 2000, Prentice Hall
3. R. L. Tokheim, Digital Principles, Schaum's Outline Series, Tata McGraw- Hill (1994)
4. Digital Electronics, S.K. Mandal, 2010, 1st edition, McGraw Hill

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Syllabus of Biotechnology

(B. Sc. I, II & III Year)

Session

2018-2019
2019-2020
2020-2021

BoS approved syllabus for B.Sc. Biotechnology (Academic session 2018-19, 2019-20 and 2020-21)

B.Sc.-I

BIOTECHNOLOGY

PAPER – I

BIOCHEMISTRY, BIOSTASTICS AND COMPUTERS

UNIT-I

1. Introduction to Biochemistry: History, Scope and Development.
2. Carbohydrates: Classification, Structure and Function of Mono, Oligo and Polysaccharides.
3. Lipids: Structure, Classification and Function.

UNIT –II

1. Amino acids and Proteins: Classification, Structure and Properties of amino acids, Types of Proteins and their Classification and Function.
2. Enzymes: Nomenclature and Classification of enzyme, Mechanism of enzyme action, Enzyme Kinetics and Factors affecting the enzymes action. Immobilization of enzyme and their application.

UNIT –III

1. Hormones: Plant Hormone-Auxin and Gibberellins and Animal Hormone-Pancreas and Thyroid.
2. Carbohydrates, Proteins and Lipid Metabolism - Glycolysis, Glycogenesis, Glyconeogenesis, Glycogenolysis and Krebs cycle. Electron Transport Chain and β-oxidation of Fatty acids.

UNIT-IV

1. Scope of Biostatistics, Samples and Population concept, Collection of data-sampling techniques, Processing and Presentation of data.
2. Measures of Central Tendency: Mean, Median and Mode and Standard Deviation.
3. Probability Calculation: Definition of probability, Theorem on total and compound probability.

UNIT-V

1. Computers - General introduction, Organization of computer, Digital and Analogue Computers and Computer Algorithm.
2. Concept of Hardware and Software, Input and Output Devices.
3. Application of computer in co-ordination of solute concentration, pH and Temperature etc., of a Fermenter in operation and Internet application.

List of Books

1. Nelson and Cox (2005) Principles of Biochemistry, Fourth Edition
2. Todd and Howards Mason (2004) Text book of Biochemistry, Fourth Edition
3. Lubert Stryer and Berg ((2004) Biochemistry, Fifth Edition
4. Diana Rain, Marni Ayers Barby - (2006) Textbook on Q level Programming. 4th Edition.
5. Karl Schwartz: (2006) Guide of Micro Soft. Marina Raod, 4th Edition.
6. E Balaguruswamy by Programming in BASIC (1991).
7. RC Campbell by Statistics for Biologists. .
8. P Cassel et al by Inside Microsoft Office,
9. Statistical Methods, GW Snedecor and WG Cochran.
10. AC Wardlaw by Practical Statistics for Experimental Biologists,
11. JHZar by Bio-statistical analysis
12. RR Sokal FJ Rohlf by Introduction to Biostatistics
13. L Y Kun (2003) Microbial Biotechnology: Principles and applications
14. Khan and Khanum (1994) Fundamental of Biostastics

B.Sc.-I

BIOTECHNOLOGY

PAPER–II

CELL BIOLOGY, GENETICS AND MICROBIOLOGY

UNIT-I

1. Concept of life, Cell as a basic unit of living system and Cell theory.
2. Diversity of Cell shape and size.
3. Prokaryotic cell structure: Function and ultra structure of cell (Gram positive and Gram negative Bacteria), Plasma membrane, Flagella, Pilli, Endospore and Capsule.
4. Eukaryotic cell: Plant cell wall and Plasma membrane.

UNIT-II

1. Cytoplasm: Structure and Functions of Endoplasmic reticulum, Ribosome, Golgi complex, Lysosomes, Nucleus, Mitochondria and Chloroplast.
2. Cytoskeleton: Microtubules, Microfilaments and Intermediate filaments.
3. Cell division: Mitosis and Meiosis.
4. Programmed Cell Death.

UNIT-III

1. Mendel's Laws of Inheritance.
2. Linkage and Crossing over.
3. Chromosome variation in number and structure: Deletion, Duplication, Translocation, Inversion and Aneuploidy, Euploidy (Monoploidy and Polyploidy and its importance).

UNIT-IV

1. History, Scope and Development of Microbiology.
2. Basic techniques of Microbial Culture
3. Microbial Growth & Nutrition of Bacteria: Isolation, media sterilization- physical and chemical agents, pure culture-pour plate method, streak plate method and spread plate method.
4. General features and Economic importance of Fungi, Algae and Protozoa etc.

UNIT-V

1. Bacterial Reproduction: Conjugation, Transduction and Transformation.
2. Mycoplasma – History, Classification, Structure reproduction & Diseases.
3. Viruses – Basic features, Structure, Classification, Multiplication, Bacteriophages (Morphology, life cycle, infection and medicinal importance)

List of Books

1. C.B. Power- Cell biology, First Edition (2005), Himalaya Publishing House.
2. Gereld Karp - Dell and molecular biology, 4th Edition (2005)
3. P.K. Gupta - Cell and molecular biology, Second Edition (2003), Restogi publications.
4. C.B., Oowar - Cell biology, Third Edition (2005) Himalaya Publishing Hosue.
5. S.S. Purohit - Microbiology : Fundamentals and Applications, 6th Edition (2004)
6. R.C. Dubey and D.K. Maheshwari: Practical Microbiology. S.Chand Publication.
7. R.C. Dubey and D.K. Maheshwari,Microbiology (2006). S.Chand Publication.
8. Tortora, Funke and Case - Microbiology, An introduction, sixth Edition (1995), Benjamin/Cummings Publishing Company.
9. Prescott, Harlyey and Klein - Microbiology, Third Edition, Wm. C. Brown Publishers (1996).
10. P. Chakraoborthy - Textbook of microbiology, Second Edition (2007).
11. Prescott, Harley and Klein - Microbiology. Third Edition. Wm. C. Brown.
12. Microbial Genetics, David Freifelder, John F Cronan, Stanley R Maloy, Jones and Bartlett Publishers.
13. Elements of Human Genetics. I.I. cavalla-Sfoeza, WA Benjamin Advanced Book Program.
14. S.K Jadhav and P.K. Mahish (2018) Prayogtmak Jaivprodyogiki awam Sukshmjivigyan-Chhattisgarh Hindi Granth Academy, Raipur.

List of Practical's

MICROBIOLOGY AND BIOCHEMICAL TECHNIQUES

(1) Laboratory rules, Tools, Equipment and Other requirements in Microbiological laboratory.

(2) Micrometry – Use of ocular & stage Micrometrer.

(3) Counting of bacteria by counting chamber, by plate count.

(4)Preparation of media and cultivation techniques:
- (a) Basic liquid media (broth)
- (b) Basic Solid media, (agar slants and deep tubes)
- (c) Demonstration of selective and differential media
- (d) Isolation and enumeration of micro organisms
- (e) Isolation from air and Soil

(5)Smears and staining methods:
- (a) Preparation of bacterial smear
- (b) Gram Negative & Positive staining

(6)Methods of obtaining pure cultures
- (a) Streak plate method
- (b) Pure plate method
- (c) Spread plate method
- (d) Broth cultures

(7)Growth & Biochemical techniques
- (a) Determination of bacterial growth curve
- (b) Amylase production test
- (c) Cellulose production test
- (d) Estimation of Sugar in given solution
- (e) Extraction and separation of lipids
- (f) Estimation of proteins
- (h) Mitosis and Meiosis

(8)Biostatistics:
- (a) By Manual and by computer.
- (b) Problems on mean, mode and median.

SCHEME OF PRACTICAL EXAMINATION

Time – 4 hrs. **M. M.: 50**

1. Experiment based on culture of micro-organisms	15 Marks
2. Bacterial growth/Staining techniques	10 Marks
3. Biochemical techniques	05 Marks
4. Bio statistics	05 Marks
5. Spotting	05 Marks
6. *Viva – Voce*	05 Marks
7. Record/Sessional	05 Marks

प्रपत्र

विषय / संकाय / प्रश्नपत्र का नामः **B.Sc. Part-I (Mathematics)**

Paper-I (Algebra and Trigonometry)

वर्तमान पाठ्यक्रम	नवीन संशोधित पाठ्यक्रम	नवीन संशोधित पाठ्यक्रम का औचित्य
Unit-I Symmetric, Skew symmetric, Hermitian and skew hermitian, matrices. Elementary operations on matrices, Inverse of a matrix. Linear independence of row and column matrices, Row rank, Column rank and rank of a matrix. Equivalence of column and row ranks. Eigen values, Eigen vectors and the characteristic equations of a matrix. Cayley Hamilton theorem and its use in finding inverse of a matrix.	**Unit-I** ~~Symmetric, Skew symmetric, Hermitian and skew hermitian, matrices~~. Elementary operations on matrices, Inverse of a matrix. Linear independence of row and column matrices, Row rank, Column rank and rank of a matrix. Equivalence of column and row ranks. Eigen values, Eigen vectors and the characteristic equations of a matrix. Cayley Hamilton theorem and its use in finding inverse of a matrix.	पाठ्यक्रम का वह भाग जो कक्षा–11 एवं 12 वी के पाठ्यक्रम में सम्मिलित हो चुका है, उसे हटाया गया है। इससे शेष भाग का विस्तार से अध्यापन कराया जा सकेगा।

प्रश्नपत्र का शेष भाग यथावत है।

Prof.H.K.Pathak **Prof.B.S.Thakur** **Prof.M.A.Siddiqui** **Dr.S.K.Bhatt** **Dr.R.K.Mishra** **Dr.A.K.Mishra** **S.K.Gupta** **Sangeeta Pandey**

प्रपत्र

विषय / संकाय / प्रश्नपत्र का नामः **B.Sc. Part-I (Mathematics)**

Paper-II (Calculus)

वर्तमान पाठ्यक्रम	नवीन संशोधित पाठ्यक्रम	नवीन संशोधित पाठ्यक्रम का औचित्य
Unit-III Integration of irrational algebraic functions and transcendental functions. Reduction formulae. Definite integrals. Quadrature. Rectification. Volumes and surfaces of solids of revolution.	**Unit-III** Integration of ~~irrational algebraic functions and~~ transcendental functions. Reduction formulae. Definite integrals. Quadrature. Rectification. Volumes and surfaces of solids of revolution.	पाठ्यक्रम का वह भाग जो कक्षा–11 एवं 12 वी के पाठ्यक्रम में सम्मिलित हो चुका है, उसे हटाया गया है। इससे शेष भाग का विस्तार से अध्यापन कराया जा सकेगा।
Unit-IV Degree an order of a differential equation. Equations of first order and first degree. Equations in which the variables are separable. Homogeneous equations. Linear equations and equations reducible to the linear form. Exact differential equations. First order higher degree equations solvable for x, y, p. Clairaut's form and singular solutions. Geometrical meaning of a differential equation. Orthogonal trajectories. Linear differential equations with constant coefficients. Homogeneous linear ordinary differential equations.	**Unit-IV** Degree an order of a differential equation. ~~Equations of first order and first degree. Equations in which the variables are separable. Homogeneous equations. Linear equations and~~ equations reducible to the linear form. Exact differential equations. First order higher degree equations solvable for x, y, p. Clairaut's form and singular solutions. Geometrical meaning of a differential equation. Orthogonal trajectories. Linear differential equations with constant coefficients. Homogeneous linear ordinary differential equations.	

प्रश्नपत्र का शेष भाग यथावत है।

Prof.H.K.Pathak **Prof.B.S.Thakur** **Prof.M.A.Siddiqui** **Dr.S.K.Bhatt** **Dr.R.K.Mishra** **Dr.A.K.Mishra** **S.K.Gupta** **Sangeeta Pandey**

प्रपत्र

विषय / संकाय / प्रश्नपत्र का नामः **B.Sc. Part-I (Mathematics)**

Paper-III (VECTOR ANALYSIS AND GEOMETRY)

वर्तमान पाठ्यक्रम	नवीन संशोधित पाठ्यक्रम	नवीन संशोधित पाठ्यक्रम का औचित्य
Unit-IV Plane the Straight line and the plane. Sphere. Cone. Cylinder.	**Unit-IV** ~~Plane the Straight line and the plane.~~ Sphere. Cone. Cylinder.	कक्षा–11 एवं 12 वी के पाठ्यक्रम में सम्मिलित हो चुका है, उसे हटाया गया है। इससे शेष भाग का विस्तार से अध्यापन कराया जा सकेगा।
प्रश्नपत्र का शेष भाग यथावत है।		

Prof.H.K.Pathak **Prof.B.S.Thakur** **Prof.M.A.Siddiqui** **Dr.S.K.Bhatt** **Dr.R.K.Mishra** **Dr.A.K.Mishra** **S.K.Gupta** **Sangeeta Pandey**

MATHEMATICS

There shall be three compulsory papers. Each paper of 50 marks is divided into five units and each unit carry equal marks.

B.Sc. Part-I
MATHEMATICS
PAPER - I
ALGEBRA AND TRIGONOMETRY

UNIT-I Elementary operations on matrices, Inverse of a matrix. Linear independence of row and column matrices, Row rank, column rank and rank of a matrix. Equivalence of column and row ranks. Eigenvalues, eigenvectors and the characteristic equations of a matrix. Cayley Hamilton theorem and its use in finding inverse of a matrix.

UNIT-II Application of matrices to a system of linear (both homogeneous and nonhomogeneous) equations. Theorems on consistency of a system of linear equations. Relation between the roots and coefficients of general polynomial equations in one variable. Transformation of equations. Descarte's rule of signs. Solutions of cubic equations (Cardons method), Biquadratic equation.

UNIT-III Mappings, Equivalence relations and partitions. Congruence modulo n. Definition of a group with examples and simple properties. Subgroups, generation of groups, cyclic groups, coset decomposition, Lagrange's theorem and its consequences. Fermat's and Euler's theorems. Normal subgroups. Quotient group, Permutation groups. Even and odd permutations. The alternating groups An. Cayley's theorem.

UNIT-IV Homomorphism and Isomorphism of groups. The fundamental theorems of homomorphism. Introduction, properties and examples of rings, Subrings, Integral domain and fields Characteristic of a ring and Field.

TRIGONOMETRY :

UNIT-V De-Moivre's theorem and its applications. Direct and inverse circular and hyperbolic functions. Logarithm of a complex quantity. Expansion of trigonometrical functions. Gregory's series. Summation of series.

TEXT BOOK :

1. I.N. Herstein, Topies in Algebra, Wiley Eastern Ltd., New Delhi, 1975
2. K.B. Datta, Matrix and Linear Algebra, Prentice Hall of India Pvt. Ltd.New Delhi, 2000.
3. Chandrika Prasad, Text-Book on Algebra and Theory of equations, Pothishala Private Ltd., Allahabad.
4. S.L. Loney, Plane Trigonometry Part II, Macmillan and Company, London.

REFERENCES :

1. P.B. Bhattacharya, S.K. Jain and S.R. Nagpaul, First Course in linear Algebra, Wiley Eastern, New Delhi, 1983.
2. P.B. Bhattacharya, S.K.Jain and S.R. Nagpaul, Basic Abstract Algebra (2 edition), Cambridge University Press, Indian Edition, 1997.
3. S.K. Jain, A. Gunawardena and P.B. Bhattacharya, Basic linear Algebra with MATLAB, Key College Publishing (Springer-Verlag), 2001.
4. H.S. Hall and S.R. Knight, Higher Algebra, H.M. Publications, 1994.
5. R.S. Verma and K.S. Shukla, Text Book on Trigonometry, Pothishala Pvt. Ltd., Allahabad.

B.Sc. Part-I

MATHEMATICS

PAPER - II

CALCULUS

DIFFERENTIAL CALCULUS :

UNIT-I $\varepsilon - \delta$ definition of the limit of a function. Basic properties of limits. Continuous functions and classification of discontinuties. Differentiability. Successive differentiation. Leibnitz theorem. Maclaurin and Taylor series expansions.

UNIT-II Asymptotes. Curvature. Tests for concavity and convexity. Points of inflexion. Multiple points. Tracing of curves in cartesian and polar coordinates.

INTEGRAL CALCULUS:

UNIT-III Integration of transcendental functions. Reduction formulae. Definite integrals. Quadrature. Rectification. Volumes and surfaces of solids of revolution.

ORDINARY DIFFERENTIAL EQUATIONS :

UNIT-IV Degree and order of a differential equation. Equations reducible to the linear form. Exact differential equations. First order higher degree equations solvable for x, y, p. Clairaut's form and singular solutions. Geometrical meaning of a differential equation. Orthogonal trajectories. Linear differential equations with constant coefficients. Homogeneous linear ordinary differential equations.

UNIT-V Linear differential equations of second order. Transformation of the equation by changing the dependent variable/the independent variable. Method of variation of parameters. Ordinary simultaneous differential equations.

TEXT BOOK :

1. Gorakh Prasad, Differential Calculaus, Pothishala Private Ltd. Allahabad.
2. Gorakh Prasad, Integral Calculus, Pothishala Private Ltd. Allahabad.
3. D.A. Murray Introductory Course in Differential Equations, Orient Longman (India), 1976.

REFERENCES :

1. Gabriel Klambauer, Mathematical Analysis, Marcel Dekkar, Inc. New York, 1975.
2. Murray R. Spiegel, Theory and Problems of Advanced Calculus, Schaum's outline series, Schaum Publishing Co. New York.
3. N. Piskunov, Differential and Integral Calculus, Peace Publishers, Moscow.
4. P.K. Jain and S.K. Kaushik, An Introduction to Real Analysis, S. Chand & Co. New Delhi, 2000.
5. G.F. Simmons, Differential Equations, Tata Mc Graw Hill, 1972.
6. E.A. Codington, An Introduction to Ordinary Differential Equations, Prentics Hall of India, 1961.
7. H.T.H. Piaggio, Elementary Treatise on Differential Equations and their Applications, C.B.S. Publishe & Distributors, Dehli, 1985.
8. W.E. Boyce and P.O. Diprima, Elementary Differential Equations and Boundary Value Problems, John Wiley, 1986.

12. Erwin Kreysizig, Advanced Engineering Mathematics, John Wiley and Sons, 1999.

B.Sc. Part-I

MATHEMATICS

PAPER - III

VECTOR ANALYSIS AND GEOMETRY

VECTOR ANALYSIS :

UNIT-I Scalar and vector product of three vectors. Product of four vectors. Reciprocal Vectors. Vector differentiation. Gradient, divergence and curl.

UNIT-II Vector integration. Theorems of Gauss, Green, Stokes and problems based on these.

UNIT-III General equation of second degree. Tracing of conics. System of conics. Confocal conics. Polar equation of a conic.

UNIT-IV Sphere. Cone. Cylinder.

UNIT-V Central Conicoids. Paraboloids. Plane sections of conicoids. Generating lines. Confocal Conicoids. Reduction of second degree equations.

TEXT BOOKS :

1. N. Saran and S.N. Nigam, Introduction to vector Analysis, Pothishala Pvt. Ltd. Allahabad.
2. Gorakh Prasad and H.C. Gupta, Text Book on Coordinate Geometry, Pothishala Pvt. Ltd., Allahabad.
3. R.J.T. Bell, Elementary Treatise on Coordinate Geometry of three dimensions, Machmillan India Ltd. 1994.

REFERENCES :

1. Murray R. Spiegel, Theory and Problems of Advanced Calculus, Schaum Publishing Company, New York.
2. Murray R. Spiegel, Vector Analysis, Schaum Publishing Company, New York.
3. Erwin Kreysizig, Advanced Engineering Mathematics, John Wiley & Sons, 1999.
4. Shanti Narayan, A Text Book of Vector Calculus, S. Chand & Co., New Delhi.
5. S.L. Loney, The Elements of Coordinate Geometry, Macmillan and Company, london.
6. P.K. Jain and Khalil Ahmad, A Text Book of Analytical Geometry of two Dimensions, Wiley Eastern Ltd., 1994.
7. P.K. Jain and Khalil Ahmad, A Text Book of Analytical Geometry of three Dimensions, Wiley Eastern Ltd., 1999.
8. N. Saran and R.S. Gupta, Analytical Geometry of three Dimensions, Pothishala Pvt. Ltd. Allahabad.

बी.ए./बी. एस–सी. प्रथम वर्ष
सत्र : 2018–19

विषय का नाम :– मानवविज्ञान
प्रश्न पत्र :– प्रथम
प्रश्न पत्र का नाम :– मानवविज्ञान के आधार

पूर्णांक :– 50 उत्तीर्णांक :– 17

पाठ्यक्रम

इकाई 1 – मानवविज्ञान का अर्थ एवं क्षेत्र। मानव विज्ञान का इतिहास। मानव विज्ञान की शाखाएँ –
1. सामाजिक–सांस्कृतिक मानव विज्ञान
2. शारीरिक जैविक मानव विज्ञान
3. भाषाई मानव विज्ञान

इकाई 2 – मानवविज्ञान का अन्य विषयों के साथ संबंध : जैवविज्ञान, चिकित्सा विज्ञान, सामाजिक विज्ञान, इतिहास, अर्थशास्त्र, समाजशास्त्र, मनोविज्ञान, राजनैतिक विज्ञान।

इकाई 3 – जैवकीय मानवविज्ञान के आधार
1. मानव उद्विकास, होमिनिड फासिल के संबंध में
2. मानव विभिन्नता : प्रकार एवं कारक
3. मानव अनुवांशिकी : अवधारणा, क्षेत्र एवं शाखाएँ
4. मानव संवृद्धि एवं विकास : परिभाषा, क्षेत्र, पद्धति, एवं मानव संवृद्धि एवं विकास को प्रभावित करने वाले कारक

इकाई 4 – सामाजिक–सांस्कृतिक मानवविज्ञान के आधार।
1. संस्कृति, समाज, समुदाय, समूह एवं संस्था।
2. मानव संस्थाएँ :
   परिवार : परिभाषा, प्रकार एवं परिवार के प्रकार्य।
   विवाह : परिभाषा, विवाह के स्वरूप एवं उसके प्रकार्य।
   नातेदारी : परिभाषा, प्रकार एवं प्रकार्य।
   धर्म : धर्म के उत्पत्ति संबंधी सिद्धांत।
3. तथ्य संग्रहण के आधारभूत तकनीक : अवलोकन, अनुसूची, प्रश्नावली एवं वंशावली।

ईकाई 5 – पुरातात्विक मानवविज्ञान के आधार
1. उपकरण प्रारूप एवं तकनीक : पुरापाषाणिक, मध्यपाषाणिक एवं नवपाषाणिक

2. सांस्कृतिक उद्विकास : संस्कृतियों का वृध्द रूपरेखा (पाषाण–युग से धातु–युग)
3. पुरातत्वशास्त्र में काल निर्धारक तकनीक

बी.ए./बी. एस–सी. प्रथम वर्ष
सत्र : 2018–19

विषय का नाम :– मानवविज्ञान
प्रश्न पत्र :– द्वितीय
प्रश्न पत्र का नाम :– शारीरिक/जैविकीय मानवविज्ञान

पूर्णांक :– 50 उत्तीर्णांक :– 17

पाठ्यक्रम

इकाई 1 – शारीरिक मानवविज्ञान का अर्थ एवं क्षेत्र, इतिहास एवं इसका व्यावहारिक आयाम। जैविक उद्विकास के सिद्धांत : लैमार्कवाद, नव–लेमार्कवाद, डार्विनवाद, नव–डार्विनवाद एवं उद्विकास के संश्लेषण सिद्धांत

इकाई 2 – जंतु जगत में मानव का स्थान, जीवित (लिविंग) प्राइमेट का वर्गीकरण, मनुष्य एवं कार्य की तुलनात्मक शारीरिक रचना (कपाल,पेल्विस, दंत एवं लम्बे अस्थियों के विशेष संदर्भ में)

इकाई 3 – मानव उद्विकास के जीवाश्म साक्ष्य : रामाथिथेकस, आस्ट्रेलोपिथेकस, पिथेकेन्थ्रोपस, सिनेएन्थ्रोपस, नियंडरथल, क्रोमेग्नन, ग्रिमाल्डी मानव, चांसलेड मानव।

इकाई 4 – प्रजाति की अवधारणा : प्रजाति निर्माण एवं प्रजातीय वर्गीकरण के मापदंड, यूनेस्को कथन, भारत में प्रजातीय तत्व, विश्व के प्रमुख प्रजाति।

इकाई 5 – मानव अनुवांशिकी :
1. गुणसूत्र की संरचना, डी.एन.ए. एवं आर.एन.ए.
2. मेण्डेलियन सिद्धांत
3. मानव में वंशागतिकी के प्रकार

बी.ए./बी. एस–सी. प्रथम वर्ष

सत्र : 2018–19

विषय का नाम :– मानवविज्ञान

प्रश्न पत्र :– प्रायोगिक

प्रश्न पत्र का नाम :– अस्थिशास्त्र एवं कपालमिति

पूर्णांक :– 50 उत्तीर्णांक :– 17

पाठ्यक्रम

भाग 1 – मानव कंकाल के अस्थियों का पहचान। मानव कपाल के विभिन्न संस्थितीयों का चित्रण एवं नामकरण। पेक्टोरल एवं पेल्विक गर्डल, फीमर एवं ह्यूमरस अस्थि की पहचान एवं बाह्य चित्रण।

भाग 2 – कपालमिति :

1. कपाल की अधिकत लंबाई (मैक्सिमम क्रेनियल लेंथ)
2. कपाल की अधिकतम चौड़ाई (मैक्सिमम क्रेनियल ब्रेथ)
3. माथे की अधिकतम चौड़ाई (मैक्सिमम फ्रंटल ब्रेथ)
4. चेहरे की चौड़ाई (बाई–जायगोमेटीक ब्रेथ)
5. नासिका/नाक की ऊँचाई (नेजल हाईट)
6. नासिका/नाक की चौड़ाई (नेजल ब्रेथ)
7. माथे की न्यूनतम चौड़ाई (मिनीमम फ्रंटेल ब्रेथ)
8. बाई–मेक्सिलरी ब्रेथ
9. आर्बिट की अधिकतम चौड़ाई (बाई आर्बिटल ब्रेथ)
10. महारंध्र की लंबाई (लेंथ ऑफ फोरामेन मेग्नम)

भाग 3 – कपालमीतिय देशनाएँ –

1. क्रेनियल देशना
2. नेसल देशना

केन्द्रीय अध्ययन मंडल द्वारा अनु□ांसित पाठ्यक्रम

बी.एससी.

विशय : भूविज्ञान

सत्र : 2018 – 2019

बैठक दिनांक : 11जून 2018

उपस्थित सदस्यों के नाम एवं हस्ताक्षर :

1. डॉ निनाद बोधनकर अध्यक्ष :
2. डॉ. एम.डब्लू.वाय.खान :
3. प्रो. एस.के. चन्द्राकर :
4. प्रो. प्रदीप सिंह गौर :
5. डॉ. एस.एस.भदौरिया :
6. डॉ. एस.डी.दे□ामुख :
7. डॉ. प्र□ांत श्रीवास्तव :
8. प्रो. महफूज आरिफ :

Scheme of Examination

कक्षा	प्र□नपत्र	विशय समूह	सैद्धा.अंक	प्रायो.अंक	योग
BSc. I year	I	भूगतिकी एवं भू–आकृति विज्ञान (Geodynamics & Geomorphology)	50	50	150
	II	खनिज एवं क्रिस्टल विज्ञान (Mineralogy & Crystallography)	50		
BSc. II year	I	शैलिकी (Petrology)	50	50	150
	II	संरचनात्मक भूविज्ञान (Structural Geology)	50		
BSc. III year	I	जीवाश्म विज्ञान एवं संस्तर विज्ञान (Palaeontology & Stratigraphy)	50	50	150
	II	भूसंसाधन एवं व्यावहारिक भूविज्ञान (Earth Resources & Applied Geology)	50		

-: Note :-

प्रत्येक वर्श के विद्यार्थियों हेतु पाठ्यक्रम में उल्लेखित भूवैज्ञानिक क्षेत्रीय अध्ययन अनिवार्य होगा।

कक्षा / Class- B.Sc-I

Paper –I

भूगतिकी एवं भूआकृति विज्ञान

(Geodynamics & Geomorphology)

इकाई– 01 (i) भूविज्ञान एवं परिप्रेक्ष्य; सौरमण्डल में सूर्य की स्थिति ; परिमाण, आकार, संहति, घनत्व।

(ii) पृथ्वी की उत्पत्ति

(iii) पृथ्वी की आंतरिक संरचना, भूपर्पटी, प्रवार एवं क्रोड

(iv) पृथ्वी की आयुः निर्धारण की विघटनाभिक विधियॉ

(v) वायुमण्डल, जलमण्डल एवं जैवमण्डल का निर्माण एवं संगठन

इकाई– 02 (i) प्लेटविवर्तनिकी का प्रारंभिक– अध्ययन

(ii) महाद्वीपीय विस्थापन की अवधारणायें एवं सिद्धान्त

(iii) समस्थैतिकी की अवधारणायें एवं सिद्धान्त

(iv) समुद्रतल विस्तारण की साक्ष्य

(v) समुद्र, महाद्वीप एवं पर्वतों की उत्पत्ति

इकाई– 03 (i) भूकम्पः भूकम्प की पट्टियॉ, भूकम्प की तीव्रता

(ii) ज्वालामुखीः प्रकार एवं विवरण

(iii) अंतःसमुद्रीपर्वतों, चापाकार द्वीपमालाओं एवं खाइयों का उद्भव, विवरण एवं महत्व

(iv) महाद्वीपीय तटीय क्षेत्रों की विवर्तनिकी : सक्रिय तट एवं सीमांतीय द्रोणियॉ

(v) नवविवर्तनिकी : सक्रियभ्रंश, अपवाह परिवर्तन

इकाई– 04 (i) भूआकृति विज्ञान की मूलभूत धारणायें

(ii) भूआकृतिक कारक एवं शैल अपक्षय की प्रक्रियायें,

(iii) नदी के भूवैज्ञानिक कार्य एवं नदीय भूआकृतियॉ

(iv) वायु के भूवैज्ञानिक कार्य एवं वायुजनित भूआकृतियॉ

(v) हिमनदों के भूवैज्ञानिक कार्य एवं हिमनदजनित भूआकृतियॉ

इकाई– 05 (i) समुद्र के भूवैज्ञानिक कार्य एवं तटीय भूआकृतियॉ

(ii) भूमिगत जल के भूवैज्ञानिक कार्य एवं कार्स्टस्थलाकृति

(iii) ज्वालामुखीय भूआकृतियॉ

(iv) पृथ्वी का उष्माबजट एवं वैश्विक जलवायु परिवर्तन

(V) भारत का भूआकृति विभाजन

प्रायोगिक कार्य–

(1) भूआकृतिक संरचनाओं को प्रदर्शित करने वाले प्रादर्शो का अध्ययन

(2) स्थलाकृतिक मानचित्रों का अध्ययन एवं विभिन्न पैमानों पर सूचक–निर्धारण की जानकारियॉ

(3) भूआकृतिक–मानचित्रों में विभिन्न भूआकृतियों एवं प्रवाह प्रणालियों का अध्ययन

(4) भारत के रेखित–मानचित्र में मुख्य पर्वतों, झीलों एवं नदियों को अंकित करना

(5) भारत के रेखित मानचित्र में भूकम्प प्रेक्षणालयों को अंकित करना

(6) भारतीय महाद्वीपों में आये भूकम्पों का अधिकेन्द्र एवं तीव्रता को मानचित्र में अंकित करना।

(7) आकारमितिक विश्लेषण

Class- B.Sc-I

Paper –I

(Geodynamics & Geomorphology)

Unit:1

(i) Geology & it perspectives. Earth in the solar system; size, shape, mass, & density.

(ii) Origin of Earth.

(iii) Internal structure of Earth, Crust, Mantle and Core.

(iv) Age of Earth: with special emphasis on Radioactive dating.

(v) Formation & composition of Hydrosphere, & Biosphere & Atmosphere.

Unit:2

(i) Elementary idea about Plate-Tectonics.

(ii) Concept & theories of continental-drift

(iii) Concept & theories of lsostasy.

(iv) Evidences of Sea-floor spreading.

(v) Origin of oceans, continents & mountains.

Unit:3

(i) Earthquakes, Earthquake Belts, measurement of Earthquakes.

(ii) Volcanoes: Types & distribution.

(iii) Mid –oceanic- ridges, trenches & island arc; origin, distribution & importance.

(iv) Tectonic of continental margins; Active margins & marginal basins.

(v) Neo-tectonics; active faults, drainage changes.

Unit:4

(i) Fundamental concepts of Geomorphology.

(ii) Geomorphic agents & processes of rock-weathering.

(iii) Geological work of rivers; fluvial land forms.

(iv) Geological work of wind; Aeolian land forms.

(v) Geological work of Glaciers; glacial land forms.

Unit:5

(i) Geological work of oceans; coastal land forms.

(ii) Geological work of Ground water. Karst topography.

(iii) Volcanic land forms.

(iv) Earth's heat budget & global climatic changes.

(v) Physiographic divisions of India.

PRACTICALS:

(1) Study of models showing various Geomorphic features.

(2) Numbering, Indexing of topographic maps on various scales.

(3) Interpretation of various Geomorphic landforms & drainage pattern on topographic maps.

(4) Plotting of major mountain Ranges, Lakes & rivers on outline map of India.

(5) Plotting of seismic observatories on outline map of India.

(6) Plotting of epicenters & magnitude of major earthquakes of Indian subcontinents.

(7) Morphometric analysis.

Suggested Readings:-

भौतिक–भूविज्ञान	–	डॉ.मुकुल घोष–
भौतिक–भूविज्ञान	–	जे.पी. तिवारी एव बी.के. सिंह–
भूआकृति–विज्ञान	–	डॉ.सविन्द्र सिंह
भूविज्ञान एक परिचय	–	डॉ.विद्यासागर दुबे
Physical Geology	-	Miller
Principles of physical geology	-	A. Holmes
An introduction to physical geology-		A.K. Dutta
Principles of Geomorphology	-	W.D. Thornbury
Principles of Geomorphology	-	A.F. Ahmed

कक्षा / Class- B.Sc-I

Paper –II

खनिज एवं क्रिस्टल विज्ञान

(Mineralogy & Crystallography)

इकाई– 01
(i) खनिज एवं क्रिस्टल की परिभाषा।
(ii) क्रिस्टल संरचना एवं एकांक कोष।
(iii) क्रिस्टल के तत्व, क्रिस्टल रूप।
(iv) क्रिस्टलीय अक्ष एवं अक्षीय कोण।
(v) क्रिस्टल नोटेशन, अन्तःखण्डीय अनुपात एवं सूचकांक

इकाई– 02
(i) क्रिस्टल विज्ञान के नियम।
(ii) क्रिस्टलीय सममिति।
(iii) क्रिस्टलों का वर्गीकरण। क्रिस्टल समुदायों के सामान्यवर्ग की सममिति।
(iv) सामान्य वर्ग के रूप।
(v) क्रिस्टलों में यमलन।

इकाई– 03
(i) प्रकाश की प्रकृति, प्रकाश का परावर्तन एवं अपवर्तन।
(ii) अपवर्तनांक, क्रांतिक कोण, पूर्ण आंतरिक परावर्तन एवं बेके प्रभाव।
(iii) द्वि–अपवर्तन, निकॉल प्रिज्म की रचना एवं कार्य प्रणाली।
(iv) ध्रुवण सूक्ष्मदर्शी : अवयव एवं कार्यप्रणाली।
(v) खनिजों के प्रकाशीय गुण।

इकाई– 04
(i) सिलिकेट संरचनाएं
(ii) खनिजों में बंध।
(iii) समाकृतिकता, बहुरूपता एवं कूटरूपता।
(iv) ठोस–विलयन
(v) खनिजों के भौतिक गुण।

इकाई– 05 निम्नलिखित खनिज समूहों के संगठन, भौतिक एवं प्रकाशकीय गुणों का अध्ययन–

(i) ऑलिवीन्, गार्नेट एवं अभ्रक समूह।

(ii) पायरॉक्सीन।

(iii) एम्फीबोल।

(iv) फेल्सपार।

(v) सिलिका।

प्रायोगिक कार्य–

(1) क्रिस्टल मॉडल में सममिति तत्वों का अध्ययन।

(2) क्रिस्टल समुदायों की मूल आकृतियों का अध्ययन।

(3) यूलर प्रमेय का सत्यापन।

(4) प्रमुख शैलकर खनिजों का स्थूलदर्शी अध्ययन।

(5) ध्रुवण–सूक्ष्मदर्शी की सहायता से प्रमुख शैलकर खजिनों के प्रकाशीय गुणों का अध्ययन।

(6) सात दिवसीय भूवैज्ञानिक क्षेत्रीय अध्ययन

Class- B.Sc-I

Paper –II

(Mineralogy & Crystallography)

Unit:1

(i) Definition of Mineral and Crystal.

(ii) Crystal structures, Unit cells

(iii) Elements of crystal. Crystal forms.

(iv) Crystallographic axes and axial angles.

(v) Parameters and indices of crystal notation

Unit:2

(i) Laws of Crystallography

(ii) Crystal symmetry

(iii) Classification and symmetry of normal classes of seven crystal systems

(iv) Forms of normal classes.

(v) Twinning in crystals

Unit:3

(i) Nature of light : reflection and refraction of light.

(ii) Refractive index. Critical angles. Total internal reflection and Becke effect.

(iii) Double refraction. Nicol prism it's construction and working.

(iv) Polarizing Microscope- its parts & functions.

(v) Optical properties of minerals.

Unit:4

(i) Silicate structures.

(ii) Bonding in Minerals.

(iii) Isomorphism. Polymorphism and Pseudomorphism.

(iv) Solid solution

(v) Physical properties of minerals

Unit:5 Study of Composition, physical and optical properties of the following Mineral groups:

(i) Olivine, Garnet and Mica groups.

(ii) Pyroxenes

(iii) Amphiboles

(iv) Feldspars

(v) Silica

PRACTICALS-

(1) Study of symmetry elements in crystal models.

(2) Study of Fundamental forms of normal classes of all seven crystal system.

(3) Verification of Euler's theorem.

(4) Study of Physical properties of rock forming minerals.

(5) Study of the optical properties of important rock forming minerals using polarizing Microscopes.

(6) Geological excursion for seven days.

Suggested Readings:

Rutley's elements of Mineralogy	:	Read, H.D.
Dana's text book of Mineralogy	:	Ford W.E.
खनिज तथा क्रिस्टल विज्ञान	–	डॉ.बी.सी. जैश
खनिज विज्ञान के सिद्धांत	–	डॉ. ए.सी. अग्रवाल
प्रायोगिक भू–विज्ञान (भाग–1)	–	डॉ. र. प्र. मांजरेकर
प्रकाशीय खनिज विज्ञान के मूल तत्व	–	विंचेल

B. Sc. Bioscience

Scheme of Examination

B.Sc. I Year				
Paper	**Name of Paper**	**Max Marks**	**Total Marks**	**Min Marks**
Paper – I	Cell Biology and Genetics	50	100	33
Paper – II	Biodiversity and Systematics of Plants and Microbes	50		
Practical	Based on Paper - I & - II		50	17
B.Sc. II Year				
Paper – I	Ecology, Environmental Biology, Evolution and Behaviour	50	100	33
Paper – II	Biodiversity and Systematics of Invertebrates and Vertebrates	50		
Practical	Based on Paper - I & - II		50	17
B.Sc. III Year				
Paper – I	Plant and Animal Physiology, Development and Biochemistry	50	100	33
Paper – II	Biostatistics, Computer and Bioinformatics	50		
Practical	Based on Paper - I & - II		50	17

Syllabus

B.Sc. I Year

Paper – I	Cell Biology and Genetics
Unit – I	Cell wall and Cell membrane; Structural components, organization and function. Cytoskeletons. Structure and function of Nucleus, nuclear pore complex, Nucleolus and other subnuclear organelles.
Unit – II	Structure and function of Endoplasmic reticulum, Golgi bodies, Lysosomes, Peroxisomes, Ribosomes, Chloroplast and Mitochondria.
Unit – III	Structure and organization of chromosomes. Cell division in prokaryotes and eukaryotes. Structure, types and function of DNA and RNA. Genetic code. Programmed cell death and Apoptosis. Identification of the genetic material: Experiments of Griffith.
Unit – IV	Molecular mechanism of recombination: Homologous and site specific recombination. Recombination in bacteria: Conjugation, ransformation, Transduction. Basic concept of genetics. Mendelian Genetics: Principle of segregation and independent assortment, monohybrid, dihybrid and trihybrid cross, epistasis.
Unit – V	Mutation: Point mutations, base substitutions, base addition and deletion, Mutant phenotypes and their detection, Spontaneous mutation, Induced mutations, molecular mechanisms of mutations. Concept of transgenic animals and plants.

Paper – II	Biodiversity and Systematics of Microbes and Plants
Unit – I	Bacteria: General characteristics, Structure, nutrition, reproduction. Classification of bacteria- outline of the prokaryotes as per Bergey's Manual 2001. Economic importance of bacteria Virus: General characteristics, structure and classification of viruses. Bacteriophage: λ phage, structure and life cycle. Plant virus: TMV structure and life cycle. Animal virus: HIV structure and life cycle.
Unit – II	Algae: General characters, classification and economic importance, important features and life history of Chlorophyceae; Volvox, Oedogonium. Xanthophycae; Vaucheria. Pheophyceae; Sargusum. Rhodophycae; Polysiphonia.
Unit – III	Fungi: General characters, classification and economic importance, important features and life history of Mastogomycotina; Pythium, Zygomycotina; Mucor. Ascomycotina; Peziza. Basidiomycotina; Agaricus. Deuteromycotina; Colletotrichum. General characters of Lichen.
Unit – IV	Bryophyta: Structure, reproduction and classification of Hepaticopsida- Marchantia; Anthocerotopsida- Anthoceros; Bryopsida- Funaria. Pteridophyta: Important characteristics of Psilopsida, Lycopsida, Sphenopsida, Pteropsida, Lycopodium, Selaginella, Pteris and Marsilea.
Unit – V	General feature of Gymnosperm and their classification: Evolution and diversity of gymnosperm. Geological time scale, fossilization and fossil Gymnosperm. Morphology of vegetative and reproductive parts; anatomy of

	roots, stem and leaf, reproduction and life cycle of Pinus, Cycas and Ephedera. Classification of angiosperm: Salient features of the systems proposed by Benthem and Hooker, and Engler and Prantl. General account of the families: Brassicaceae, Malvaceae, Fabaceae, Apiaceae, Acanthaceae, Apocyanaceae, Solanaceae, Euphorbiaceae, Liliacea, and Poacea.

Practical	1. Preparation of temporary smear of salivary gland chromosome of Drosophila. 2. Identification of mutant phenotypes of Drosophila / Arabidopsis stock maintained in the department. 3. Bacterial culture liquid and plate for mutation studies. 4. Study of cell structure and measurement from onion leaf peels: demonstration of staining and mounting methods. 5. Study of plastids to examine pigment distribution in plants (Cassia / *Lycopersicon capsicum*). 6. Determination of hill activity in chloroplast of spinach. 7. Isolation and staining of mitochondria using Janus green. 8. Isolation of microorganisms from soil, air and water 9. Microbial culture, staining and identification 10. Study of specimens of representative examples of different class. 11. Study of permanent slides of different material of representative examples as per theory syllabus. 12. Study of disease symptoms in plants. 13. Isolation of Bacteria from various sources and their identification. 14. Isolation of Fungi from various sources and their identification. 15. Examination of fungal flora of different local ponds 16. Morphology and anatomy of Marchantia and Anthoceros 17. Morphology and anatomy of Selaginella and Marsilea 18. Morphology and anatomy of Cycas, Pinus and Ephedra 19. Study of vegetative and reproductive parts of species belonging to families

Books Recommended	1. Antherly, A.G., Girton J.R. and Mc Donald, 1999. The Science of Genetics. Saunders College Publishing Co. Forth Worth, USA. 2. Buchanan, B.B., Gruissem, W. and Jones, R.L. 2000. Biochemistry and Molecular Biology of Plants. American Society of Plant Physiologists, Maryland, USA. 3. David E. Sadava. 1993, Cell Biology: Organelles Structure and Function. Jones and Bartlett Publishers 4. Gardeners, J., Simmons, H.J. and Snustad, D.P. 1991. Principles of Genetics (8^{th} Ed.). John Wiley and Sons N.Y. 5. Lowey 1991. Cell Structure and Function – Science 6. Robertis D. – Cell Biology, Science Publication. 7. Sharma, A.K. and Sharma, A. 1999. Plant Chromosome: Analysis, Manipulation and Engineering, Harwood Academic Publishers, Australia. 8. Singh, B.P. – Fundamentals of Genetics. 9. Snustad, D.P., and Simmons, M.J. 2000. Principles of Genetics (2^{nd} Ed.). John Wiley and Sons. Inc., USA. 10. Verma, P.C. And Agrawal , V.K. – Cell Biology, Genetics, Molecular Biology, Evolution & Ecology, S.Chand Publication. 11. General microbiology By Pawar and Daginawala 12. Microbiology by Pelczar and Reid 13. Microbiology by PD Sharma 14. Saxena and Sarbhai – A textbook of Botany (Angiosperms) 15. Bendre and Kumar – Economic Botany 16. Singh and Jain – Taxonomy of Angiosperms 17. Pandey, B.P. – Textbook of Botany 18. Vashishta, B.R. – Bryophyta 19. Vashishta, P.C. – Pteridophyta 20. Vashishta, P.C. – Gymnosperms

Proposed Syllabus and Structure

For

B.Sc. with Botany

Pt. Ravishankar Shukla University,

Raipur

B.Sc.- I (BOTANY) PAPER-I

BACTERIA, VIRUSES, FUNGI, LICHENS AND ALGAE

UNIT-I

VIRUSES: General characteristics, types of viruses based on structure and genetic material. Multiplication of viruses (General account), Lytic and Lysogenic cycle. Economic importance. Structure and multiplication of Bacteriophages. General account of Viroids, Virusoids, Prions, and Cyanophages. Mycorrhiza-Types and Significance.

UNIT –II

BACTERIA: General characteristics and classification (on the basis of morphology), fine structure of bacterial cell, Gram positive and Gram negative bacteria, mode of nutrition and reproduction vegetative, asexual and recombination (Conjugation, transformation and transduction), Economic importance. Microbial Biotechnology, *Rhizobium, Azatobactor, Anabena.*

UNIT-III

FUNGI: General account of habit and habitat, structure (range of thallus organization), cell wall composition, nutrition and reproduction in fungi. Heterothallism and Parasexuality. Outlines of classification of fungi. Economic importance of fungi. Life cycles of *Saprolegnia, Albugo,, Aspergillus, Peziza, Agaricus, Ustilago, Puccinia, Alternaria and Cercospora.* VAM Fungi

UNIT-IV

ALGAE: Algae: General characters, range of thallus organization, Gaidukov phenomenon, reproduction, life cycle patterns and economic importance.Classification, Systematic position, occurrence, structure and life cycle of following genera : *Nostoc, Gloeocaspsa, Volvox,, Oedogonium, Vaucheria, Chara, Ectocarpus, Polysiphonia.*

UNIT –V

Lichens- General account, types, structure, nutrition, reproduction and economic importance. Mycoplasma: Structure and importance. Blue Green Algae (BGA) in nitrogen economy of soil and reclamation of Ushar land.Mushroom Biotechnology

Books Recommended:

Dubey R.C. and Maheshwari D.K. ***A text book of Microbiology,*** S. Chand Publishing, New Delhi

Presscott, L. Harley, J.and Klein, D. ***Microbiology***, 7th edition, Tata Mc Graw-Hill Co.New Delhi.

Sharma P.D., ***Microbiology and Plant pathology,*** Rastogi Publication. New Delhi.

Alexopolous, C.J. Mims, C.W. and Blackwell, MM. ***Introduction to Mycology,*** John Wiley & Sons.

Dubey H.C. ***An Introduction to Fungi,*** Vikas Publishing, New Delhi

Mehrotra R.S. & Agrawal A., ***Plant Pathology,*** Tata McGraw, New Delhi

Sharma P.D. ***Plant Pathology***, Rastogi Publishers, Meruth.

Sristava, H.N. ***Fungi***, Pradeep Publications, Jalandhar

Webster, J. & Weber, R. ***Introduction to Fungi***, Cambridge University Press, Cambridge

Kumar H.D. ***Introduction to phycology***, Aff. East-west Press, New Delhi

Lee RE, ***Phycology***, Cambridge University Press U.K.

Srivastava, H.N., ***Algae***, Pradeep Publications, Jalandhar

Pandey S.K. Quick ***Concept of Botany***, Lambert Academic publishing, Germany

Pandey S.N., Mishra S,P. & Trivedi P.S. ***A Text Book of Botany*** (Vol.-I), Vikas Publishing, New Delhi

Singh, Pandey and Jain, ***A Text book of Botany,*** Rastogi Publication, Meerut.

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(Mrs. Sanchal Moghe)

(Mr. Shivakant Mishra)

(Mr Sudheer Tiwari)

Govt. Bilasa Girls College, Bilaspur

B.Sc.-I (BOTANY) PAPER –II

(BRYOPHYTES, PTERIDOPHYTES, GYMNOSPERMS AND PALAEOBOTANY)

UNIT –I

BRYOPHYTA: General characteristics, affinities, range of thallus organization, general classification and economic & ecological importance, Systematic position, occurrence, morphology anatomy and reproductive structure in *Riccia, Marchantia, Pellia, Anthoceros, Funaria.* Vegetative reproduction in Bryophytes, Evolution of sporophytes.

UNIT-II

PTERIDOPHYTES: General characteristics, affinities, economic importance and classification, Heterospory and seed habit, stellar system in Pteridophytes, Aposory and apogamy, Telome theory, *Azolla* as Biofertilizer.

UNIT-III

Systematic position, occurrence. Morphology, anatomy and reproductive structure of *Psilotum, Lycopodium, selaginella, Equisetum, Marsilea.*

UNIT-IV

Gymnosperm: General characteristics, affinities, economic importance and classification, Morphology, anatomy and reproduction in *Cycas, Pinus* and *Ephedra.*

UNIT-V

PALAEOBOTANY: Geological time scale, types of fossils and fossilization, Rhynia, study of some fossil gymnosperms. *Lygenopteris*

Books Recommended:

Parihar, N.S. ***The Biology and Morphology of Pteridophytes,*** Central Book Depot, Allahabad.

Parihar,N.S. ***An introduction to Bryophyta Vol.I:Bryophytes*** Central Book Depot, Allahabad.

Sambamurty,AVSS, ***A textbook of Bryophytes, Pteridophytes, Gymnosperms and Palaeobotany***, IK International Publishers.

Pandey SN, Mishra SP and Trivedi PS ***A text Book of Botany (Vol.II)***, Vikas Publishing, New Delhi

Bhatanagar, SP and Moitra, A. ***Gymnosperm***, New Age International (P) Ltd., Publishers, New Delhi

Biswas C. and Johri BM, ***The Gymnosperms***, Springer-Verlag, Germany.

Srivastava, HN, ***Palaeobotany***, Pradeep Publications Jalandhar

Srivastava, HN, Bryophyta, Pradeep Publications Jalandhar

Singh, Pandey and Jain, ***A Text Book of Botany***, Rastogi Publication, Meerut

Sristava, HN, ***Fundamentals of Pteridophytes,*** Pradeep Publications, Jalandhar

B.Sc. I (BOTANY)

PRACTICAL

Study of external (Morphorgical) and internal (microscopic/anatomical) features of representative gerera given in the theory.

1. Algae: Gloeocapsa, Scytonema, Gloeotrichia, Volvox, Oedogonium, Vaucheria, Chara, Ectocarpus, Sargassum, Batrachosperrmum
2. Gram staining
3. Fungi: Albugo, Aspergillus, Peziza, Agaricus, Puccinia, Alternaria and Cercospora
4. Bryophyta: Riccia, Marchantia, Pellia, Anthoceros, Sphagnum, Funaria
5. Pteridophyta: Lycopodium, Selaginella, Equsetum, Marsilea.
6. Gymnosperm: Cycas, Pinus, Epherda.

PRACTICAL SCHEME

TIME: 4 Hrs. **M.M. : 50**

1.	Algae/Fungi/Gram Staining	10
2.	Bryophyta/Pteridophyta	10
3.	Gymnosperm	10
4.	Spotting	10
5.	Viva-Voce	05
6.	Sessional	05

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(Mr. Shivakant Mishra)

(Mr Sudheer Tiwari)

Govt. Bilasa Girls College, Bilaspur

Scheme &Syllabus

Subject: Microbiology

Approved at Central Board of Studies meeting held at School of studies in Life science at Pt. Ravishankar Shukla University Raipur on august 21,2018

MICROBIOLOGY

BSc-1st

Paper- I: General Microbiology & Basic Technique

UNIT-1: Fundamental, History & Developments

Introduction to major groups of microorganisms and fields of Microbiology; Historical development, Contributions of Pioneers (Louis Pasteur, Edward Jenner, Anton Von Leewenhoeck and Alexander Flemming). Beneficial and harmful microbes and its role in daily life.

UNIT-2: Basic Microbial Techniques

Methods of studying microorganism; Sterilization Techniques (Physical & Chemical Sterilization). Pure culture isolation Technique: Streaking,Waksman serial dilution and plating methods. cultivation, maintenance and preservation of pure cultures. Culture media & conditions for microbial growth. Staining technique: simple staining, Differential (gram staining), negative staining and acid fast staining.

UNIT-3: Virology & Bacteriology

Diversity of microbial world; Principle and classification of Viruses and Bacteria. Structure, Multiplication and Economic importance of viruses (TMV, Influenza virus & T_4-Phage). Structure & Functional organization of Bacteria, Cell wall of Gram Positive & Gram Negative bacteria; Economic importance of Bacteria.

UNIT-4: Mycology

General characteristics and classification of Fungi; Structure and Reproduction of fungi (*Rhizopus, Penicillium, Aspergillus, Yeast & Agaricus*). Common fungal disease of crops (Late & Early blight of potato, Smut of Rice, Tikka and Red rot of Sugarcane). Structure, reproduction and economic aspect of Lichens.

UNIT-5: Phycology & Protozoology

General characteristics and classification of Algae and Protozoa; General account & economic importance of Cyanobacteria (*Microcystis, Ocillitoria, Nostoc & Anabaena)* and Protozoa *(Amoeba, Paramoecium, Euglena and plasmodium).*

Text Books Recommended:

1. General microbiology; Vol I & II, Powar C. B. and Daginawala H. I., Himalaypub.house, Bombay.
2. A textbook of Microbiology; Dubey &Maheshwari.
3. Microbiology: An Introduction; G. Tor tora, B. Funke, C. Benjamin Cummings.
4. General Microbiology; Seventh edition by Hans G Schlegel, CambridgeUniversity Press.
5. Practical Microbiology; Dubey and Maheshwari.
6. Handbook of Microbiology; Bisen P.S., Varma K., CBS Publishers and Distributors, Delhi. GeneralMicrobiology by Brock.
7. General Microbiology by Pelzar et al.
8. Introduction on Microbial Techniques by Gunasekaran.

Paper- II: Biochemistry and Physiology

UNIT-1: CARBOHYDRATES AND PROTEINS

Structure, classification and properties of Carbohydrates – Monosaccharide, Oligosaccharides (Disaccharides) and Polysaccharides. Structure, classification and properties of Protein - Amino acids, peptides and Proteins (Primary, Secondary, Tertiary and Quaternary structure).

UNIT-2: LIPIDS AND NUCLEIC ACIDS

Structure, classification and properties of Lipids; Saturated and Unsaturated fatty acids. Structure and properties of Nucleotides. Structure and forms of DNA; Replication of DNA. Types, Structure and Function of RNA.

UNIT-3: ENZYMES

Structure, Nomenclature, Classification and Properties of Enzymes. Mechanism of enzyme action, Enzyme kinetic: Michaelis-Menten. Equation & derivation, Enzyme inhibition, Lineweaver-Burk Plot (LB plot). Co-enzymes and their role; Allosteric enzymes and Isoenzyme. Extracellular enzymes and their role.

UNIT-4: MICROBIAL METABOLISM

Bacterial photosynthesis and Chemosynthesis: Glycolysis, TCA cycle and Oxidative Phosphorylation. Anaerobic catabolism of glucose; Fat Biosynthesis,alpha and beta oxidation of fatty acids. Deamination, trasns-amination and Urea cycle.

UNIT-5: GROWTH PHYSIOLOGY & TRANSPORT SYSTEM

Bacterial cell division, Genome replication and Growth Phases, Conditions for growth. Plasma membrane & Transport system, types of transport (Passive and active). Diffusion (simple & facilitated), Concept of Uniport, Antiport and Symport;

Text Books Recommended:

1. General Biochemistry by A.C. Deb.
2. Biochemistry by Lehninger (Kalyani publication)
3. Biochemistry by U. Satyanarayan.
4. Microbiology by Anantanarayan and Panikar.
5. Fundamentals of Biochemistry; J L Jain, Sunjay Jain, Nitin Jain; S. Chand & Company Ltd
6. Practical Biochemistry: Principles and Techniques; *5th Edition*; Keith Wilson and John Walker
7. Biophysical Biochemistry: Principles and Techniques; AvinashUpadhyay, KakoliUpadhyay and Nirmalendu Nath; Himalaya Publishing House.

PRACTICAL

M. M. 50

Basic information about autoclave, hot air oven, laminar air flow and other laboratory instruments
Preparation of solid/liquid culture media.
Isolation of single colonies on solid media.
Enumeration of bacterial numbers by serial dilution and plating.
Simple and differential staining.
Measurement of microorganism (micrometry) and camera Lucida drawing of isolated organism.
Determination of bacterial growth by optical density measurement.
General and specific qualitative test for carbohydrates
General and specific qualitative test for amino acids
General and specific qualitative test for lipids
Estimation of protein
Estimation of blood glucose
Assay of the activity of amylases
Assay of the activity of Phosphates

Scheme of Practical Examination

Time - 4 hours M.M. 50

1. Exercise on Microbiological methods	10
2. Exercise on Biochemical tests	10
3. Exercise on staining method	05
4. Spotting (1-5)	10
5. Viva-Voce	05
6. Sessional	10
Total	50

Zoology
B.Sc. Part I 2018-19
Paper I
(Cell Biology and Non-chordata)

Unit:I

1. The cell (Prokaryotic and Eukaryotic)
2. Organization of Cell: Extra-nuclear and nuclear
   Plasma membrane, Mitochondria, Endoplasmic reticulum, Golgi body, Ribosome and Lysosome).
3. Nucleus, Chromosomes, DNA and RNA

Unit:II

1. Cell division (Mitosis and Meiosis).
2. An elementary idea of Cancer cells And Cell transformation.
3. An elementary idea of Immunity: Innate & Acquired Immunity, Lymphoid organs, Cells of Immune System, Antigen, antibody and their interactions

Unit:III

- General characters and classification of Phylum Protozoa, Porifera, and Coelenterata up to order.

2. Protozoa: Type study - Paramecium,
2. Porifera: Type study - Sycon.
3. Coelenterata: Type study - Obelia

Unit: IV

- General characters and classification of Phylum Platyhelminthes, Nemathelminthes, Annelida and Arthropoda up to order.

2. Platyhelminthes and Nemathelminthes: Type Study – Fasciola, Ascaris
3. Annelida: Type Study - Pheretima.
4. Arthropoda: Type Study - Palaemone.

Unit:V

- General characters and classification of Phylum Mollusca and Echinodermata up to order.

2. Mollusca: Type Study - Pila.
3. Echinodermata- Type Study- Asterias (Starfish).

Zoology
B.Sc. Part I 2018-19
Paper II
(Chordata and Embryology)

Unit:I

1. Classification of Hemichordata
2. Hemichordata- Type study-Balanoglossus
3. Classification of Chordates upto orders..
4. Protochordata-Type study - Amphioxus.
5. A comparative account of Petromyzon and Myxine.

Unit-II

1. Fishes-Skin & Scales, migration in fishes, Parental care in fish.
2. Amphibia-Parental care and Neoteny.
3. Reptilia- Poisonous & Non-poisonous Snakes, Poison apparatus, snake venom and Extinct Reptiles

Unit-:III

1. Birds- Flight Adaptation, Migration, and Perching mechanism, Discuss-Birds are glorified reptiles.
2. Mammals-Comparative account of Prototheria, Metatheria, Eutheria and Affinities.
3. Aquatic Mammals and their adaptations.

Unit:IV

1. **Fertilization**
2. Gametogenesis, Structure of gamete and Typesof eggs
3. Cleavage
4. Development of Frog up to formation of three germ layers.
5. Parthenogenesis

Unit:V

1. Embryonic induction, Differentiation and Regeneration.
2. Development of Chick (a) up to formation of three germ layers, (2) Extra-embryonic membranes.
3. Placenta in mammals.

Zoology
B.Sc. Part I 2018-19
Practical

The practical work will, in general be based on the syllabus prescribed in theory and the candidates will be required to show knowledge of the following:-

- Dissection of Earthworm, Cockroach, Palaemon and Pila
- Minor dissection—appendages of Prawn & hastate plate, mouth parts of insects, radulla of Pila.

(Alternative methods: By Clay/Thermacol/drawing/Model etc.)

- Adaptive characters of Aquatic, terrestrial, aerial and desert animals.
- Museum specimen invertebrate
- Slides- Invertebrates, frog embryology, Chick embryology and cytology,

Scheme of Practical Exam	**Time: 3hrs**
1. Major Dissection	10 Marks
2. Minor Dissection	05 Marks
3. Comments on Excersice based on Adaptation	04 Marks
4. Cytological Preparation	05 Marks
5. Spots-8 (Slides-4, Specimens-4)	16 Marks
6. Sessional	10 Marks

प्रपत्र

विषय / संकाय / प्रश्न–पत्र का नाम– **B.Sc. Computer Science**

कमांक	कक्षा का नाम	वर्तमान पाठ्यक्रम	नवीन संशोधित पाठ्यक्रम	नवीन संशोधित पाठ्यक्रम का औचित्य
1.	1st Year	COMPUTER HARDWARE	COMPUTER FUNDAMENTAL	Updation Required
2.	1st Year	COMPUTER SOFTWARE	PROGRAMMING IN 'C' LANGUAGE	Updation Required
3.	1st Year	PRACTICAL	PRACTICAL	Updation Required
4.	2nd Year	COMPUTER HARDWARE	COMPUTER HARDWARE	No Change
5.	2nd Year	COMPUTER SOFTWARE	COMPUTER SOFTWARE	No Change
6.	2nd Year	PRACTICAL	PRACTICAL	No Change
7.	3rd Year	COMPUTER HARDWARE	COMPUTER HARDWARE	No Change
8.	3rd Year	COMPUTER SOFTWARE	COMPUTER SOFTWARE	No Change
9.	3rd Year	PRACTICAL	PRACTICAL	No Change

केन्द्रीय अध्ययन मंडल के अध्यक्ष एवं सदस्यों का हस्ताक्षर

S.N.	Name	Designation/University/College	Signature with Date
1.	Dr. Sanjay Kumar	Head, S.o.S. in Computer Science & I.T., Pt. R.S. University, Raipur	11-06-2018
2.	Mr. Hari Shankar Prasad Tonde	Head, Dept. of Computer Science, Sarguja University, Ambikapur	11.06.18
3.	Dr. Anuj Kumar Dwivedi	Head, Dept. of Computer Science, Govt. V.B.S.D. Girls College, Jashpur Nagar, Jashpur	11/6/18
4.	Mr. L.K. Gavel	Head, Dept. of Computer Science, Govt. G.S.G. P.G. College Balod	11/06/18
5.	Dr. J. Durga Prasad Rao	Head, Dept. of Computer Science, Shri Sankracharya Mahavidyalaya, Bhilai	11/6/18

B.Sc. PART - I
COMPUTER SCIENCE
PAPER - I
COMPUTER FUNDAMENTAL
(PAPER CODE - 0805)

Max Marks: 50

NOTE: The Question Paper setter is advised to prepare unit-wise question with the provision of internal choice.

UNIT - I Classification and Organization of Computers

History of computer, Generation of computer, Calculator vs. Computer, Digital and Analog computers and its evolution. Major components of digital computers; Memory addressing capability of CPU, Word length and processing speed of computes, Microprocessors, Single chipMicrocomputer, Large and small computers, Users interface, Hardware, software and firmware, multi programming multi user system, Dumb smart and intelligent terminals, computer network and multi-processing, LAN parallel processing,Flynn's classification of computers, Control flow and data flow computers

UNIT - II Central Processing Unit

Parts of CPU- ALU,Control Unit, Registers;Architecture of Intel 8085 microprocessor, Instructions for Intel 8085 microprocessor, Instruction Word size, Various addressing mode,Interrupts,Some special Control signals, Insiruction cycle, fetch and execute operation, Timing Diagram, Instruction flow and data flow.

UNIT - III Memory

Memory hierarchy, Primary andSecondary Memory, Cache memory, Virtual Memory,Direct Access Storage Devices (DASD), Destructive and Nondestructive Readout, Program and data Memory, Memory Management Unit (MMU), PCMCIA Cards and Slots.

UNIT - IV I/O Devices

I/O devices- Keyboard, Mouse, Monitor, Impact and Non-ImpactPrinters, Plotter, Scanner, other Input/output devices: Scan method of Display- Raster Scan, Vector Scan, Bit Mapped Scan, CRT Controller, I/O Port- Programmable and Non Programmable I/O ports, Inbuilt I/O ports- Parallel and Serial ports, USB, IEEE 1394, AGP, Serial data transfer scheme, Micro controller, Signal Processor, I/O processor, Arithmetic Processor.

UNIT-V SOFTWARE AND PROGRAMMING TECHNIQUES

Application and System Software: Introduction, Example, Difference etc., Introduction to Open Source Software such as Unix/Linux (Ubuntu), Libre office etc., Introduction to Machine Language, Assembly Language and High Level Language, Programming Techniques, Stack, Subroutine, Debugging of programs, Macro, Program Design, Software development, Flow Chart, Multi programming, Multiuser, Multitasking Protection, Operating system and Utility programs, Application packages.

TEXT BOOKS:

1. Computer Fundamentals, P. K. Sinha, BPB Publications, Sixth Edition.
2. Computer Fundamentals Architecture and Organization, B. Ram, New Age International Publishers, Fifth Edition.
3. Fundaments of Computers, V. Rajaraman, PHI, Sixth Edition.
4. Computers Today, Donald H. Sanders, McGraw-Hill, Third Edition.
5. IBM PC and Clones, B Govindarajalu, McGraw-Hill, Second Edition
6. UNIX Concepts and Applications, Sumitabha Das, Tata McGraw-Hill, Fourth Edition.

11-06-2018 11/6/18 11-06-18 11/6/18 (Dr. A.K. Dwivedi) 11/6/18

B.Sc. PART - I
COMPUTER SCIENCE
PAPER II
PROGRAMMING IN 'C' LANGUAGE
(Paper Code - 0806)

Max Marks: 50

NOTE: The Question Paper setter is advised to prepare unit-wise question with the provision of internal choice.

UNIT-I

Fundamentals of C Programming: Overview of C: History of 'C', Structure of 'C' program. Keywords, Tokens, Data types, Constants, Literals and Variables, Operators and Expressions: Arithmetic operators, Relational operator, Logical operators, Expressions, Operator: operator precedence and associatively, Type casting, Console I/O formatting, Unformatted I/O functions: getch(), getchar, getche(), gets(), putc(), putchar().

UNIT- II

Control Constructs: If-else, conditional operators, switch and break, nested conditional branching statements, loops: do while, while, for, Nested loops, break and continue, goto and label, exit function.
Functions: Definition, function components: Function arguments, return value, function call statement, function prototype, Types of function, Scope and lifetime of variable, Call by value and call by reference. Function using arrays, function with command line argument. User defined function: maths and character functions, Recursive function.

UNIT-III

Array: Array declaration, One and Two dimensional numeric and character arrays, Multidimensional arrays.
String: String declaration, initialization, string manipulation with/without using library function.
Structure, Union and Enum - Structure: Basics, declaring structure and structure variable, typedef statement, array of structure, array within structure, Nested structure; passing structure to function, function returning structure. **Union**: basics, declaring union and union variable, **Enum**: declaring enum and enum variable.

UNIT- IV

Pointer: Definition of pointer, Pointer declaration, Using & and * operators. Void pointer, Pointer to pointer, Pointer in math expression, Pointer arithmetic, Pointer comparison, Dynamic memory allocation functions – malloc, calloc, realloc and free, Pointer vs. Array, Array of pointer, Pointer to array, Pointers to function, Function returning pointer, Passing function as Argument to function, Pointer to structure, Dynamic array of structure through pointer to structure.

UNIT-V

File Handling and Miscellaneous Features: File handling: file pointer, File accessing functions: fopen, fclose, fputc, fgetc, fprintf, fscanf, fread, fwrite,beof, fflush, rewind, fseek, ferror. File handling through command line argument. Introduction to C preprocessor #include, #define, Conditional compilation directives: #if, #else, #elif, #endif, #ifndef etc.

TEXT BOOKS:

1. Programming in ANSI C, E Balagurusamy, Tata McGraw-Hill, Third Edition.
2. Let Us C, YashwantKanetkar, Infinity Science Press, Eighth Edition.
3. Mastering C, K R Venugopal,Tata McGraw-Hill.
4. The C Programming Language, Brian W. Kernighan, Dennis M. Ritchie, Prentice Hall, Second Edition.
5. Applications Programming in ANSI C, R. Johnsonbaugh , Martin Kalin, Macmillan, Second Edition.
6. The Spirit of C, Mullish Cooper, Jaico publishing House.
7. How to solve it by Computer, R.G.Dromey, Pearson Education.

11/6/18
(Dr. A.K. Dwivedi)

11-06-2018

11/06/18

11-06-18
Hemi Shankar Prasad Tada

11/6/18

Practical

- At least 20 Practical based on Syllabus of Paper-I and Paper-II.

11-06-2018
(Dr. Sanjay Kumar)

11/6/2018
(Dr. A.K. Dwivedi)

11/6/18
(L.K. Gavel)

11/6/18
(Dr. T. Durga Prasad Rao)

11-06-18
Hari Shankar Prasad Tandel