

B.A. PART I

ENVIRONMENTAL STUDIES

Teaching : 3 periods / week in Annual System

Maximum Marks : 100

Examination duration : 2 hours

Objective type multiple choice question papers, 1 mark for each right answer, 20 questions from each Unit.

Unit I : Multidisciplinary Nature of Environmental Studies : Definition, scope and importance; Human Population and Environment; Environment and Human Health; Legal Issues and Environment : Environment Protection Act; Environmental Ethics : Issues and possible solutions.

Unit II : Natural Resources : Renewable and Non-Renewable : Forest Resources - Use and over exploitation, deforestation, introduction to afforestation activities in India.

Water Resources - Use and over utilization of surface and ground water; floods and droughts

Mineral Resources - Use and exploitation, environmental effects of extracting and using mineral resources, case studies.

Food Resources - World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems.

Energy Resources - Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources, case studies.

Land Resources - Land as a resource, degradation, man induced landslides, soil erosion and desertification.

Unit III : Ecosystems : Concept of an ecosystem, Structure and function of ecosystem, Producers, consumers and decomposers; abiotic factors; food chain and web; ecological pyramids; energy flow.

Pollution – Definition, causes, effects and management strategies for (i) Air Pollution, (ii) Water Pollution, (iii) Soil Pollution, (iv) Noise Pollution, (v) Thermal Pollution, (vi) Nuclear hazards.

Solid waste management – Causes, effects and management strategies for urban and industrial wastes.

Unit IV : Biodiversity and its conservation : Introduction, definition, levels (genetic, species and ecological), Importance of biodiversity; Status – Global, National and Local; Threats to biodiversity – habitat loss, poaching of wildlife, man-wildlife conflicts. Endangered and endemic species of India.

Unit V : Sports for human welfare : Sports in relation to Philosophy; Sports and health fitness; Social values for sports and sportspersons, Role of sports in personality development; Sports as recreation.

India's policies for Sports : Central and State Governments; introduction to sports support facilities in India.

History and Traditional Sports of India – Kabaddi, Kho-Kho, Mallakhamb, Jallikattu.

B.A. / B.Sc. I Year 2020-21
ECONOMICS

| Part | Total no. Q. | Marks each Q. | Total Marks |
|------|--------------|---------------|-------------|
| A | 10 | 2 | 20 |
| B | 5 | 7 | 35 |
| C | 3 | 15 | 45 |
| | | Total | 100 |

ECONOMICS

PAPER I

HISTORY OF ECONOMIC THOUGHT

Max. Marks: 100

Time : 3 Hours

- Unit 1 : Meaning and Importance of History of Economic Thought, History of Economic Analysis and Economic History, Mercantilism, Physiocrats, Adam Smith
- Unit 2 : David Ricardo, Thomas Robert Malthus, Sismondi, JS Mill
- Unit 3 : Utopian socialists – Robert Owen, Charles Fourier and Perirre Joseph Proudhon ; Friedrich List, Karl Marx – an Elementary Treatment
- Unit 4 : Austrian School : Karl- Menger, Friedrich- Von Wieser, Eugen von Bohm-Bawerk and Alfred Marshall
- Unit 5 : Indian Economic Thought : Kautilya, Mahadev Govind Ranade, Gopal Krishna Gokhale, Mahatma Gandhi and Jawahar Lal Nehru, Dr. B.R. Ambedkar.

RECOMMENDED READINGS

Gide and Rist : History of Economic Doctrines

Haney, L.N. : History of Economic Thought

Eric Roll : History of Economic Thought

Ghosh, B.N. and Ghosh, R.R. : Concise History of Economic Thought, (Himalaya Publishing House), Delhi

Loknathan, V. : A History of Economic Thought, S. Chand, Delhi

वैश्व, एम.सी. : आर्थिक विचारों का इतिहास

हजेला, टी.एन. : आर्थिक विचारों का इतिहास

श्रीवास्तव , एस. के. : आर्थिक विचारों का इतिहास (हिन्दी एवं अंग्रेजी) , चौद दिल्ली

अर्थशास्त्र

प्रथम प्रश्न-पत्र

आर्थिक विचारों का इतिहास

समय— 3 घण्टे

पूर्णांक— 100

- इकाई 1 — आर्थिक विचारों के इतिहास का अर्थ एवं महत्व । आर्थिक विश्लेषण का इतिहास एवं आर्थिक इतिहास । वणिकवाद, प्रकृतिवाद, एडमस्मिथ
- इकाई 2 — डेविड रिकार्डो, टॉमस रॉबर्ट माल्थस, सिसमण्डी, जे.एस. मिल
- इकाई 3 — कल्पनावादी समाजवादी— रॉबर्ट ओवेन, चार्ल्स फूरिये और पेरी जोसफ प्रूथों, फ्रेड्रिक लिस्ट, कार्ल मार्क्स — प्रारम्भिक विश्लेषण
- इकाई 4 — आस्ट्रियन सम्प्रदाय — कार्ल मेंजर फ्रेडरिक वॉन वीजर, यूजिन वॉन बॉम बॉवर्क और एल्फ्रेड मार्शल
- इकाई 5 — भारतीय आर्थिक विचार कौटिल्य, महादेव गोविन्द रानाडे, गोपाल कृष्ण गोखले, महात्मा गांधी, जवाहरलाल नेहरू, और डॉ. बी.आर. अम्बेडकर

आवश्यक पाठ्य सामग्री

वैश्व, एम.सी. : आर्थिक विचारों का इतिहास

हजेला, टी.एन. : आर्थिक विचारों का इतिहास

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Gide and Rist : History of Economic Doctrines

Haney, L.N. : History of Economic Thought

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Ghosh, B.N. and Ghosh, R.R. : Concise History of Economic Thought, (Himalaya Publishing House), Delhi

Loknathan, V. : A History of Economic Thought, S. Chand, Delhi

ECONOMICS PAPER II ECONOMIC THEORY I

Max. Marks: 100

Time: 3 Hours

Unit 1 : Economics – A Logic of choice, Positive and Normative approaches ; Macro and Micro Economics ; Methods of Economic Analysis – Inductive and Deductive : Statics and Dynamics

REQUIRED READINGS

Seth, M.L.: Principles of Economics, Chaps. 1,2,3,4,5

Nathuramka: Micro Economics (Hindi) Chaps. 4,5,6,7,8

- Unit 2 : Theory of Demand – Law of Demand, Utility Approach, Indifference Curve Approach, Elasticity of Demand : Price, Income and Cross Elasticity, Revenue-Total, Marginal and Average, Concept of Consumer’s surplus
REQUIRED READINGS
Nathuramka: Micro Economics (Hindi) Chaps. 11,12,13,14&15
- Unit 3 : Theory of Production – Introduction, Laws of Returns to Factors and Returns to scale
Cost- Short- run and Long run
Concept of Isoquants, Isocosts and Production Possibility curves
REQUIRED READINGS
Nathuramka: Chaps. 24,25,26,& 27
- Unit 4 : The Commodity Market- Market Demand and Market Supply, Price and Output determination under perfect Competition, Simple and Discriminatory Monopoly, Monopolistic Competition, Chamberlin’s Group Equilibrium.
REQUIRED READINGS
Nathuramka: Chaps. 32,33,34
- Unit 5 : The Factor Market- Marginal Productivity Theory of Distribution.
Rent – Ricardian, Quasi- Rent and Modern Theories. Profit: Dynamic, Risk and Uncertainty Theories; Wages: Meaning, Nominal and Real Wage Rate. Modern theory of Wages.
REQUIRED READINGS
Nathuramka : 38,40,43
RECOMMENDED READINGS
Samuelson and Nordhaus : Economics, Latest English or Hindi Edition

द्वितीय प्रश्न –पत्र
आर्थिक सिद्धांत 1

समय: 3 घण्टें

पूर्णांक: 100

- इकाई 1 – अर्थशास्त्र – चयन का एक तर्क , वास्तविक विज्ञान एवं आदर्श विज्ञान के दृष्टिकोण; समष्टि एवं व्यष्टि अर्थशास्त्र , आर्थिक विश्लेषण की विधियां– आगमन एवं निगमन, स्थैतिक एवं प्रावैगिक अर्थशास्त्र
- इकाई 2 – मांग का सिद्धांत – मांग का नियम, उपयोगिता दृष्टिकोण, उदासीन वक्र दृष्टिकोण मांग की लोच : कीमत ,आय एवं तिरछी लोच
आगम-‘सकल, सीमान्त एवं औसत, उपभोक्ता की बचत की अवधारणा
- इकाई 3 – उत्पादन का सिद्धांत – परिचय; साधनों के प्रतिफल एवं पैमाने के प्रतिफल के नियम, लागत – अल्पकालीन तथा दीर्घकालीन
समोत्पाद- वक्र, समलागत रेखा एवं उत्पादन – सम्भावना वक्र की अवधारणाएं

इकाई –4 वस्तु बाजार : बाजार मांग व बाजार पूर्ति । पूर्ण प्रतियोगिता एवं साधारण तथा विभेदात्मक एकाधिकार में कीमत एवं उत्पादन का निर्धारण
एकाधिकारिक प्रतियोगिता, चेम्बरलिन का सामूहिक साम्य

इकाई – 5 साधन – बाजार : वितरण का सीमान्त उत्पादकता सिद्धांत लगान– रिकार्डो का सिद्धांत, आभास लगान एवं आधुनिक सिद्धांत। लाभ – प्रावैगिक, जोखिम एवं अनिश्चितता का सिद्धांत, मजदूरी–अर्थ; मौद्रिक एवं वास्तविक मजदूरी दर, मजदूरी का आधुनिक सिद्धांत

अनुशंसित पुस्तकें –

Nathuramka : Micro Economics (Hindi)

B.A. / B.Sc. II Year 2020-21

ECONOMICS

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|------|--------------|---------------|-------------|
| A | 10 | 2 | 20 |
| B | 5 | 7 | 35 |
| C | 3 | 15 | 45 |
| | | Total | 100 |

PAPER I

ECONOMICS OF DEVELOPMENT AND PLANNING IN INDIA

Max. Marks: 100

Time: 3 Hours

- Unit : 1 Economic Growth, Development and Progress: Meaning and Measurement of Economic Development, Meaning of Vicious circle, Capital Formation and Human Resource Development, Resource mobilization
- Unit : 2 Factors of Economic Growth : Economic factors -Natural resources, capital accumulation, organization, Technological Progress, Division of Labour and scale of Production, structural changes.
Non Economic factors- Religious–Cultural Attitudes, Social factors, Social values attitudes and institutions, Human factors: political and administrative changes.
Structural changes under development, changes in the composition of production, shifts in the structure of product use, shifts the structure of consumption, changes in the structure of employment, structure of investment, shifts in the structure of foreign trade
- Unit : 3 Theories of Development : Rostow’s Theory of Historical Stages of Growth, Balanced and unbalanced Growth, Choice of Technique : Capital intensive and Labour Intensive
- Unit : 4 Economic Planning: Meaning, Need, objective and its relevance.
Planning under mixed Economy, Prerequisites of effective planning. The Indian Planning System : Planning Commission, plan formulation and Evaluation. Niti Ayog: Objectives and difference between Planning Commission and Niti ayog
- Unit : 5 Environment and Development, Sustainable economic development, Problems of environment. Human and environment, Proper use and efficient management of natural resources, National efforts to reduce pollution

REQUIRED READINGS

Thirlwall, A.F. (2004)- Growth & Development, Wiled Palgrave McMillan Chs 1.2.3

Todaro, M.P. Smith, S.C. (2004)-Economic Development (8th ed)Pearson Education LPE Cha 2,4

Jhingan, M.L. : vikas evam Niyojan ka Arthashastra, Vrinda Publications, New Delhi

Seth, M. L. : thory and Practice of economics Planning,S. Chand & Co. New Delhi

Meir & Baldwin : Economic Development Theory, History &v policy

Dominick Salvatore & Edward Dowling:Development Economics (Schaum`s outline series)

Planning Commission, Government of India: current five plan

Government of Rajasthan : Current five year plan of Rajasthan

Sanskar, U : Environmental Economics, Oxford University press

Raghuvanshi , A. & Raghuvanshi C.L. Paryavaran & Pradushan, Madhya

अर्थशास्त्र
प्रथम प्रश्न – पत्र
विकास का अर्थशास्त्र एवं भारत में नियोजन

पूर्णांक : 100
समय : 3 घण्टे

- इकाई 1 – आर्थिक वृद्धि, विकास और प्रगति: अर्थ एवं आर्थिक विकास का माप, गरीबी-दुश्चक्र का अर्थ, पूंजी निर्माण एवं मानव संसाधन विकास, संसाधन गतिशीलता
- इकाई 2 – आर्थिक वृद्धि के कारक: आर्थिक कारक-प्राकृतिक साधन, पूंजी-निर्माण; संगठन, प्रौद्योगिकीय उन्नति, श्रम विभाजन एवं उत्पादन का पैमाना; संरचनात्मक परिवर्तन; गैर आर्थिक कारक-धार्मिक, सांस्कृतिक वृत्तियाँ, सामाजिक कारक; सामाजिक मूल्य, वृत्तियाँ एवं संस्थाएँ, मानवीय कारक; राजनैतिक एवं प्रशासनिक परिवर्तन; विकास के अन्तर्गत संरचनात्मक परिवर्तन-उत्पादन की रचना में परिवर्तन; उत्पाद प्रयोग की संरचना में परिवर्तन; उपभोग की संरचना में परिवर्तन; रोजगार की संरचना में परिवर्तन; निवेश की संरचना; विदेशी व्यापार की संरचना में परिवर्तन:
- इकाई 3 – विकास के सिद्धान्त: वृद्धि की ऐतिहासिक अवस्थाओं का रोस्टोव का सिद्धान्त, सन्तुलित एवं असन्तुलित वृद्धि, तकनीकी विकल्प – पूंजी गहन एवं श्रम गहन
- इकाई 4 – आर्थिक नियोजन-अर्थ, आवश्यकता, उद्देश्य एवं इसकी महत्ता: मिश्रित अर्थव्यवस्था में नियोजन; प्रभावी नियोजन की पूर्व आवश्यकताएं; भारतीय नियोजन प्रणाली: योजना आयोग, योजना निर्माण एवं मूल्यांकन, नीति आयोग- उद्देश्य तथा योजना आयोग एवं नीति आयोग में अंतर
- इकाई 5 – पर्यावरण एवं विकास, संधारणीय आर्थिक विकास , पर्यावरण की समस्याएं; मानव एवं पर्यावरण; प्राकृतिक संसाधनों का उचित उपयोग एवं प्रभावी प्रबन्ध, प्रदूषण निवारण हेतु राष्ट्रीय प्रयास

अनुशासित पुस्तकें –

झिंगन, एम.एल. – विकास एवं नियोजन का अर्थशास्त्र , वृदा प्रकाशन , नई दिल्ली ।
सेठ, एम.एल. : आर्थिक नियोजन के सिद्धान्त एवं व्यवहार, एस.चांद एण्ड कम्पनी, नई दिल्ली ।
मायर एवं वाल्डविन : आर्थिक विकास सिद्धान्त, इतिहास एवं नीति
डॉमिनिक साल्वाटोर एवं एडवर्ड डाउलिंग विकास अर्थशास्त्र (सोम-श्रृंखला)
योजना आयोग, भारत सरकार : वर्तमान योजना
राजस्थान सरकार : राजस्थान की वर्तमान पंचवर्षीय योजना
संकर यू: पर्यावरणीय अर्थशास्त्र, ऑक्सफोर्ड विश्वविद्यालय मुद्रणालय
रघुवंशी, ए.एवं. रघुवंशी, सी.एल. पर्यावरण एवं प्रदूषण, मध्यप्रदेश ग्रंथ अकादमी, भोपाल

B.A. / B.Sc. II Year
ECONOMICS
PAPER II
ECONOMIC THEORY II

Max. Marks: 100

Time : 3 Hours

Unit 1 : Introduction to Macro Economics: Meaning, Scope, Importance, Limitations; Difference between Macro and Micro Economics, National Income: concepts relating National Product/National Income, Measurement

- of National Income, difficulties and precautions in measurement of National Income, National Income and Economic Welfare
- Unit 2 : Determinants of National Income- Consumption Function; simple Keynesian consumption Function: Factors affecting saving–Consumption : Concept of simple Multiplier, Investment Function: Meaning, Determination of level of Investment ; Equality between Saving and Investment
- Unit 3 : Money and Prices : concept of Money supply, Value of Money and its Measurement with Index Numbers, Quantity Theory of Money, Fisher and Cambridge Versions Commercial Banking : Principles of Commercial Banking Functions of Commercial Bank, Credit Creation
- Unit 4 : International Trade: Meaning, Difference between International and Domestic Trade, Theory of Comparative Advantage, Balance of Trade and Balance of Payments Foreign Exchange: Determination of Exchange Rate- Mint Par Theory and Purchasing Power Parity Theory : Objectives and Methods of Exchange Control
- Unit 5 : Public Finance : Meaning, Difference between Private and Public Finance : Public Revenue and its Sources : Tax and Non- Tax ; Sources of Public Debt; Types and Role of Public Expenditure

RECOMMENED READINGS

- Samuelson & Nordhaus : Economics (H&E)
 Chandler, L.V. Economics of Money and Banking .
 Hansen, A. : Guide to keynes.
 Dernburg and McDougall: Macro Economics.

Ellsworth, P.T. and Leith, J.L. : The International Economy

REQUIRED READINGS

- Seth M.L. : Mudra evam Banking (H&T)
 Sethi, T.T. : Macro Economics (Hindi)
 Vaishya, M.C. : Macro Economics (Hindi)

द्वितीय प्रश्न – पत्र आर्थिक सिद्धांत 2

पूर्णांक : 100
 समय : 3 घण्टे

- इकाई 1 : समष्टि अर्थशास्त्र का परिचय : अर्थ , क्षेत्र , महत्व एवं सीमाएं ।
 समष्टि एवं व्यष्टि अर्थशास्त्र मे अन्तर, राष्ट्रीय आय: राष्ट्रीय उत्पाद / राष्ट्रीय आय से सम्बन्धित अवधारणाएं; राष्ट्रीय आय का माप; कठिनाइयां एवं सावधानियां, राष्ट्रीय आय एवं आर्थिक कल्याण
- इकाई 2 – राष्ट्रीय आय के निर्धारक तत्व – उपभोग फलन : केंज का साधारण उपभोग फलन; बचत/उपभोग को प्रभावित करने वाले घटक, सरल गुणक की अवधारणा; निवेश फलन : अर्थ, निवेश के स्तर का निर्धारण, बचत एवं निवेश के बीच समानता
- इकाई 3 – मुद्रा एवं कीमत स्तर: मुद्रा की पूर्ति की अवधारणा: मुद्रा का मूल्य एवं सूचकांक द्वारा इसका मापन; मुद्रा का परिमाण सिद्धांत – फिशर एवं केम्ब्रिज विचारधारणं
 व्यापारिक बैंकिंग : व्यापारिक बैंकिंग के सिद्धांत; व्यापारिक बैंक के कार्य, साख निर्माण

- इकाई 4 : अन्तर्राष्ट्रीय व्यापार : अर्थ, अन्तर्राष्ट्रीय एवं घरेलू व्यापार—अन्तर, तुलनात्मक लाभ का सिद्धान्त, व्यापार सन्तुलन एवं भुगतान सन्तुलन
विदेशी विनियम: विनिमय दर का निर्धारण; टकसाली समता सिद्धान्त और क्रय शक्ति समता सिद्धान्त , विनिमय नियंत्रण के उद्देश्य एवं विधियां
- इकाई 5 – सार्वजनिक वित्त : अर्थ, सार्वजनिक एवं निजी वित्त में अन्तर। सार्वजनिक आय एवं इसके स्रोत : कर एवं गैर कर । सार्वजनिक ऋण के स्रोत । सार्वजनिक व्यय के प्रकार एवं इसकी भूमिका

RECOMMENED READINGS

Jhingan M.L. Macroeconomic Theory, (Hindi/ English), xi ed. Vrinda Publications

Vaish M.C. Samasti Arthshastra, (Hindi/ English)

Sethi T.T. Macro Arthshastra, (Hindi/ English)

Samuelson & Nordhaus : Economics (H&E)

Dernburg and McDougall: Macro Economics

B.A. / B.Sc. III Year 2020-21

ECONOMICS

| Part | Total no. Q. | Marks each Q. | Total Marks |
|------|--------------|---------------|-------------|
| A | 10 | 2 | 20 |
| B | 5 | 7 | 35 |
| C | 3 | 15 | 45 |
| | | Total | 100 |

ECONOMICS

PAPER I

HISTORY OF ECONOMIC THOUGHT

Max. Marks: 100

Time : 3 Hours

- Unit 1 : Meaning and Importance of History of Economics Thought, History of Economic Analysis and Economic History, Mercantilism, Physiocrats, Adam Smith
- Unit 2 : David Ricardo, Thomas Robert Malthus, Sismondi, JS Mill
- Unit 3 : Utopian socialists – Robert Owen, Charles Fourier and Perierre Joseph Proudhon ; Friedrich List, Karl Marx – an Elementary Treatment
- Unit 4 : Austrian School : Karl- Menger, Friedrich- Von Wieser, Eugenvon Bohm-Bawerk and Alfred Marshall
- Unit 5 : Indian Economic Thought : Kautilya, Mahadev Govind Ranade, Gopal Krishna Gokhale, Mahatma Gandhi and Jawahar Lal Nehru.

RECOMMENDED READINGS

Gide and Rist : History of Economic Doctrines

Haney, L.N. : History of Economic Thought

Eric Roll : History of Economic Thought

Ghosh, B.N. and Ghosh, R.R. : Concise History of Economic Thought, (Himalaya Publishing House),

Delhi Loknathan, V. : A History of Economic Thought, S. Chand, Delhi

वैश्व, एम.सी. : आर्थिक विचारों का इतिहास

हजेला, टी.एन. : आर्थिक विचारों का इतिहास

श्रीवास्तव , एस. के. : आर्थिक विचारों का इतिहास ;हिन्दी एवं अंग्रेजी, चॉद दिल्ली

अर्थशास्त्र

प्रथम प्रश्न-पत्र

आर्थिक विचारों का इतिहास

समय- 3 घण्टे

पूर्णांक- 100

- इकाई 1 – आर्थिक विचारों के इतिहास का अर्थ एवं महत्व । आर्थिक विश्लेषण का इतिहास एवं आर्थिक इतिहास । वणिकवाद, प्रकृतिवाद, एडमस्मिथ
- इकाई 2 – डेविड रिकार्डो, टॉमस रॉबर्ट माल्थस, सिसमण्डी, जे.एस. मिल
- इकाई 3 – कल्पनावादी समाजवादी- रॉबर्ट ओवेन, चार्ल्स फूरिये और पेरी जोसफ प्रूथों, फ्रेड्रिक लिस्ट, कार्ल मार्क्स – प्रारम्भिक विश्लेषण

- इकाई 4 – आस्ट्रियन सम्प्रदाय – कार्ल मेंजर फ्रेडरिक वॉन वीजर, यूजिन वॉन बॉम बॉवर्क और एल्फ्रेड मार्शल
- इकाई 5 – भारतीय आर्थिक विचार कौटिल्य, महादेव गोविन्द रानाडे, गोपाल कृष्ण गोखले, गांधी और जवाहरलाल नेहरू

आवश्यक पाठ्य सामग्री

वैश्व, एम.सी. : आर्थिक विचारों का इतिहास

हजेला, टी.एन. : आर्थिक विचारों का इतिहास

श्रीवास्तव, एस. के. : आर्थिक विचारों का इतिहास ;हिन्दी एवं अंग्रेजी, चॉद दिल्ली

Gide and Rist : History of Economic Doctrines

Haney, L.N. : History of Economic Thought

Eric Roll : History of Economic Thought

Ghosh, B.N. and Ghosh, R.R. : Concise History of Economic Thought, (Himalaya Publishing House),

Delhi Loknathan, V. : A History of Economic Thought, S. Chand, Delhi

ECONOMICS

PAPER II

BASIC STATISTICS AND ELEMENTARY MATHEMATICS

Max. Marks: 100

Time : 3 Hours

- Unit 1 : Meaning, uses and limitations of statistics, Collection of Statistical Data- Census and sample investigation, classification and presentation of Data-Statistical Tables, Graphs, Frequency Distribution, Diagrams.
- Unit 2 : Measures of Central Tendency: Arithmetic Mean, Median, Mode, Geometric Mean and Harmonic Mean.
- Unit 3 : Measures of Dispersion: Range, Quartile Deviation, Mean Deviation, standard Deviation and Co- efficient of Variation simple Correlation : Karl Pearson's Correlation co- efficient and Spearman's rank correlation.
- Unit 4 : Simple two variable Linear regression, Fisher's Index numbers, Interpolation and extrapolation – Newton and Lagrange method
- Unit 5 : Elementary Mathematics
Simultaneous and Quadratic Equations
Arithmetic and Geometric Progressions, Logarithms

RECOMMENED READINGS

Elhance, D.N: Fundamental of Statistics

Singhal, M.L: Elements of Statistics

Nagar, A.L. and Das, R.K.: Basic Statistics

Mehta and Madnani: Elementary Mathematics in Economics (Hindi and English ed.)

Croxton Cowden: Applied General Statistics

Nagar, K.N.: Sankhyiki ke mool tatva

Gupta, BN : Sankhyiki

द्वितीय प्रश्न – पत्र

आधारभूत सांख्यिकी और प्रारंभिक गणित

पूर्णांक : 100

समय : 3 घण्टे

- इकाई 1 : सांख्यिकी का अर्थ , उपयोग एवं सीमाएं : सांख्यिकीय संमको का संकलन– संगणना एवं निदर्शन अनुसंधानय संमको का वर्गीकरण एवं प्रस्तुतिकरण सांख्यिकीय सारणियां , रेखाचित्र , आवृत्ति वितरण का चित्रमय प्रदर्शन :
- इकाई 2 : केन्द्रीय प्रवृत्ति का माप: समान्तर माध्य, मध्यका, भूयिष्ठक ;बहुलकद्ध, गुणोत्तर माध्य एवं हरात्मक माध्य
- इकाई 3 – अपकिरण ;विचरणद्ध का माप : विस्तार, चतुर्थक विचलन, माध्य विचलन, प्रमाप विचलन एवं विचरण गुणांकय साधारण सह-सम्बन्ध, कार्ल पिर्यसन का सह सम्बन्ध गुणांक और स्पियरमैन की कोटि – अन्तर रीतिय

- इकाई 4 – सरल रेखीय प्रतीपगमन, फिशर का सूचकांक , आन्तरगणन एवं बाह्यगणन – न्यूटन और लाग्रैज की रीति
- इकाई 5 – प्रारम्भिक गणित युगपत् एवं द्विघाती समीकरण, समानान्तर श्रेणी एवं गुणोत्तर श्रेणी , लघुगुणक

पाठ्य सामग्री –

के.एन. नागर: सांख्यिकी के मूल तत्व

वी.एन.गुप्ता: सांख्यिकी

यादव ,पोरवाल एवं शर्मा: सांख्यिकी

Elhance, D.N: Fundamental of Statistics

Singhal, M.L. : Elements of Statistics

Nagar, A.L. and Das, R.K. : Basic Statistics

Mehta and Madnani: Elementary Mathematics in Economics (Hindi and English ed.)

Croxton Cowden: Applied General Statistics

B.A. PART I EXAMINATION, 2019-20

ELECTIVE ENGLISH

Note : There shall be two papers of three hours duration each. Each paper will carry 100 marks.

Teaching hours: 8 periods per week.

PAPER I

PROSE AND FICTION

Duration: 3 Hrs.

Max Marks: 100

PRESCRIBED TEXTS:

Essays of Yesterday, ed. E.V. Paul (OUP); (Note : the essay “Matches” omitted)

Short Stories of Yesterday and Today, ed. Shiv K. Kumar (OUP); (the story
“Adventures of the German Student” omitted)

Pride and Prejudice by Jane Austen.

Section A

(10x2=20 Marks)

This section will consist of 10 compulsory questions. There will be two questions from each Unit and answer to each question shall be limited up to 30 words. Each Question carries 2 marks.

Unit 1: Two lines or quotes for explanation from the non-fiction texts prescribed (Essays & Short-Stories). (the Essay “Matches” omitted; the Short- Story “The Adventures of the German Student” omitted)

Unit 2: Two questions from Essays.

Unit 3: Two questions from Short-Stories.

Unit 4: Two questions from Fiction.

Unit 5: Two questions from background, formal elements of Short-Stories, Essays and Novel.

Section B:

(5x7=35 Marks)

This section will consist of 10 questions. Two questions from each unit. The students will answer five questions. There will be internal choice in each Unit. Answer to each question shall be limited up to 250 words. Each question carries 7 marks.

Unit 1: Two references from the prescribed Non-Fiction texts (Essays & Short Stories for explanation). (The Essay “Matches” omitted & the Short- Story “The Adventures the German Student” omitted)

Unit 2: Two questions from Essays.

Unit 3: Two questions from Short-Stories.

Unit 4: Two questions from Novel.

Unit 5: Two questions from general background, Elements of Short-Stories, Essays and Novel.

Section C

(3x15=45 Marks)

This Section will consist of five questions from Unit 2, 3, 4.

The students are required to attempt any three questions in 500 words.

Note: Reference to Contexts will be set from prescribed Essays and Stories only.

RECOMENDED READINGS:

Boulton, Marjorie. *Anatomy of Prose*. London and Boston: Routledge & Kegan Paul Ltd., 1972.

Hudson. *An Introduction to the Study of Literature*. Atlantic Publishers & Distributors (P) Ltd., 2007.

Scholes, Robert. *Elements of Fiction*. London: Oxford University Press, Third Canadian Edition, 1994.

PAPER II

POETRY

Duration: 3 Hrs.

Max Marks: 100

PRESCRIBED TEXT:

A Garden of Poetry, ed. C. Ravindranath (S. Chand & Co. Ltd.)

The following poems are prescribed :

Spenser : A Wedding Song.

Shakespeare : To His Love; Remembrance.

Ben Johnson : My Lady in Love's Chariot.

Donne : The Good Morrow.

Herbert : The Gifts of God.

Milton : *Paradise Lost*. (Lines 1 – 126, Book I)

Gray : Elegy Written in a Country Churchyard.

Collins : Ode to Evening.

Goldsmith : The Deserted Village. (Lines 1-14, 51-75, 76-96, 113-136)

Sarojini Naidu : Bangle Sellers, Village Song

Henry Deozio : Harp of India

Michael Madhusudan Dutt : King Porus : A Legend of Past

Manmohan Gosh : Can It Be

Sri Aurobindo : The Tiger and the Deer

Section A:

(10x2=20 Marks)

This section will consist of 10 compulsory questions. There will be two questions from each unit and answer to each question shall be limited up to 30 words. Each question carries 2 marks.

Unit 1: Two lines or quotes from the prescribed poems.

Unit 2: Two questions on Poems: Spenser to Milton.

Unit 3: Two questions on Poems: Gray to Goldsmith.

Unit 4: Two questions on Poems: Sarojini Naidu to Aurobindo

Unit 5: Two questions on background, forms and elements of the prescribed poems.

Section B:

(5x7=35 Marks)

This section will consist of 10 questions. Two questions from each unit. The students will answer five questions. There will be an internal choice in each unit. Answer to each question shall be limited up to 250 words.

Unit 1: Two questions (Reference to Contexts) from the prescribed poems.

Unit 2: Two questions on Poems: Spenser to Milton.

Unit 3: Two questions on Poems: Gray to Goldsmith.

Unit 4: Two questions on Poems: Sarojini Naidu to Sri Aurobindo.

Unit 5: Two questions on background, forms and elements of the prescribed poems.

Section C:

(3x15=45 Marks)

This section will consist of 5 questions from the prescribed poems. (Unit 2, 3, 4). The students are required to attempt any three in 500 words.

RECOMMENDED READINGS:

Abrams, M.H. *A Glossary of Literary Terms*. Wadsworth, 2009.

Alexander. *Poetry and Prose Appreciation for Overseas Students*. London: Longman Group Ltd., 1971.

Boulton, Marjorie. *Anatomy of Poetry*. London: Routledge & Kegan Paul PLC, 1982.

Hooper, A.G. *An Introduction to English Language and Literature*. London: Longman, 1961.

Lemon Lee, T. *A Glossary for the Study of English*. London: Oxford University Press, 1971.

B.A. PART II EXAMINATION, 2019-20

ELECTIVE ENGLISH

There shall be two papers of three hours duration, each carrying 100 marks.

Teaching hours: 8 periods per week.

PAPER I

PROSE AND FICTION

Duration: 3 Hrs.

Max Marks: 100

TEXTS PRESCRIBED:

For Detailed Study:

Masters of English Prose ed., L.S.R. Krishna Murthy. (Macmillan)

The following chapters from *Masters of English Prose* are prescribed:

1, 3, 4, 5, 6, 10, 11, 13, 16, 18, 19, 20, 22, 23 = 14 Chapters.

For Non-detailed Study:

Thomas Hardy: *The Mayor of Casterbridge*.

Khushwant Singh : *Train to Pakistan*.

Passages for explanation will be set only from the text prescribed for detailed study.

Section A:

(10x2=20 Marks)

This section will consist of 10 compulsory questions. There will be two questions from each unit and answer of each question shall be limited up to 30 words. Each question carries 2 marks.

Unit 1: Two references (lines/quotes) from the prescribed prose.

Unit 2: Two questions from prescribed prose.

Unit 3: Two questions from *The Mayor of Casterbridge* by Thomas Hardy.

Unit 4: Two questions from *Train to Pakistan* by Khushwant Singh.

Unit 5: Two questions from Socio-Literary background of the prescribed texts and the formal components of Essay and Fiction.

Section B:

(5x7=35 Marks)

This section will consist of 10 questions. Two questions from each unit. The students will answer five questions. There will be an internal choice in each unit. Answer to each question shall be limited up to 250 words. Each question carries 7 marks.

Unit 1: Two reference to context from the prescribed Prose.

Unit 2: Two questions from the prescribed Essays.

Unit 3: Two questions from *The Mayor of Casterbridge* by Thomas Hardy.

Unit 4: Two questions from *Train to Pakistan* by Khushwant Singh.

Unit 5: Two questions from Socio-Literary background of the prescribed texts and the formal components of Essay and Fiction.

Section C:

(3x15=45 Marks)

This section will consist of 5 questions from Unit 2, 3, 4. The students are required to attempt any three in 500 words.

RECOMMENDED BOOKS:

Boulton, Marjorie. *Anatomy of Prose*. London and Boston: Routledge & Kegan Paul Ltd., 1972.

Scholes, Robert. *Elements of Fiction*. London: Oxford University Press; Third Canadian Edition, 1994.

PAPER II

DRAMA

Duration: 3 Hrs.

Max Marks: 100

TEXTS PRESCRIBED:

FOR DETAILED STUDY:

Shakespeare: *Twelfth Night*, ed., J.C. Dent, The New Clarendon Shakespeare (OUP)

Shaw: *Candida*, ed., A.C. Ward (Orient Longman)

FOR NON DETAILED STUDY:

Dharmveer Bharti : *Andha Yug*. USA: Oxford University Press.

Section A:

(10x2=20 Marks)

This section will consist of 10 compulsory questions. There will be two questions from each unit and answer to each question shall be limited up to 30 words. Each question carries 2 marks.

Unit 1: Two (lines/quotes) references from the plays prescribed for detailed study.

Unit 2: Two questions from *Twelfth Night* by Shakespeare.

Unit 3: Two questions from *Candida* by Bernard Shaw.

Unit 4: Two questions from *Andha Yug* by Dharmveer Bharti.

Unit 5: Two questions on background of the prescribed Drama and Elements of Drama.

Section B:

(5x7=35 Marks)

This section will consist of 10 questions. Two questions from each unit. The students will answer five questions. There will be an internal choice in each unit. Answer to each question shall be limited up to 250 words. Each question carries 7 marks.

Unit 1: Two reference to context from the plays prescribed for detailed study.

Unit 2: Two questions from *Twelfth Night* by Shakespeare.

Unit 3: Two questions from *Candida* by Bernard Shaw.

Unit 4: Two questions from *Andha Yug* by Dharmveer Bharti.

Unit 5: Two questions on background of the prescribed Drama and Elements of Drama.

Section C:

(3x15=45 Marks)

This section will consist of 5 questions from Unit 2, 3, 4. The students are required to attempt any three in 500 words.

RECOMMENDED BOOKS:

Boulton, Marjorie. *Anatomy of Drama*. London: Routledge, 1990.

Hudson: *An Introduction to the Study of Literature*. Atlantic Publishers & Distributors, 2007.

Scholes, Robert. *Elements of Drama*. London: Oxford University Press, 1971.

B.A. PART III EXAMINATION, 2019-20

ELECTIVE ENGLISH

Note : There shall be two papers of three hours duration carrying 100 marks each.

Teaching hours: 8 periods per week.

PAPER I

POETRY

Duration: 3 Hrs.

Max Marks: 100

TEXTS PRESCRIBED:

From Wordsworth to Now. Ed. C.T. Thomas (Orient Longman, 1985)

OR

The Golden Treasury. F.T. Palgrave. Rupa Classics.

The following poems are prescribed:

| | |
|------------------------|---|
| William Wordsworth: | The Stolen Boat; The World is Too Much with Us; Three Years She Grew. |
| S.T. Coleridge : | Christabel, Part I; Kubla Khan. |
| P.B. Shelley: | Ode to the West Wind. |
| John Keats: | To Autumn. |
| Alfred Tennyson: | Ulysses. |
| Arnold: | Shakespeare. |
| Robert Browning: | My Last Duchess. |
| Emily Dickinson: | The Chariot. |
| Gerald Manley Hopkins: | Pied Beauty; God's Grandeur. |
| Robert Frost: | After Apple Picking. |
| T.S. Eliot: | The Journey of the Magi. |
| W.H. Auden : | Musee des Beaux Arts. |
| Philip Larkin: | Church Going. |
| Nissim Ezekiel: | Enterprise. |

Section A

(10x2=20 Marks)

This section will consist of 10 compulsory questions. There will be two questions from each Unit and answer to each question shall be limited up to 30 words. Each Question carries 2 marks.

Unit 1 : Two reference (Lines/quotes) to context from prescribed poems.

Unit 2 : Two questions from: Wordsworth, Coleridge, Shelley and Keats.

Unit 3 : Two questions from :Tennyson, Arnold, Browning, Dickinson and Hopkins.

Unit 4 : Two questions from: Robert Frost, T.S. Eliot, Auden, Larkin and Ezekiel

Unit 5 : Two Questions on Genre and Age

Section B:

(5x7=35 Marks)

This section will consist of 10 questions. Two questions from each unit. The students will answer five questions. There will be an internal choice in each Unit. Answer to each question shall be limited up to 250 words. Each question carries 7marks.

Unit 1 : Two reference (Lines/quotes) to context from prescribed poems.

Unit 2 : Two questions from: Wordsworth, Coleridge, Shelley and Keats.

Unit 3 : Two questions from :Tennyson, Arnold, Browning, Dickinson and Hopkins.

Unit 4 : Two questions from: Robert Frost, T.S. Eliot, Auden, Larkin and Ezekiel

Unit 5 : Two Questions on Genre and Age

Section C

(3x15=45 Marks)

This Section will consist of five questions from Unit 2, 3, 4.

The students are required to attempt any three questions in 500 words.

BOOKS RECOMMENDED:

Boulton, Marjorie. *Anatomy of Poetry*. London & Boston: Routledge & Kegan Paul PLC, 1982.

Hooper, A.G. *An Introduction to Language and Literature*. London: Longmans, 1961.

PAPER II

DRAMA

Duration: 3 Hrs.

Max Marks: 100

TEXTS PRESCRIBED:

FOR DETAILED STUDY:

Shakespeare: *Othello* (The New Clarendon Shakespeare, OUP)

Arthur Miller: *All My Sons*. Ed. Nissim Ezekiel (Modern Plays for Students, OUP)

FOR GENERAL STUDY:

John Osborne: *Look Back in Anger*

Section A

(10x2=20 Marks)

This section will consist of 10 compulsory questions. There will be two questions from each Unit and answer to each question shall be limited up to 30 words. Each Question carries 2 marks.

Unit 1 : Two references (Lines/quotes) to contexts from Plays prescribed for Detailed Study.

Unit 2 : Two questions on Shakespeare: *Othello*.

Unit 3 : Two questions on Miller: *All My Sons*.

Unit 4 : Two questions on John Osborne: *Look Back in Anger*.

Unit 5 : Two Questions on the background and genre of the prescribed Drama.

Section B:

(5x7=35 Marks)

This section will consist of 10 questions. Two questions from each unit. The students will answer five questions. There will be an internal choice in each Unit. Answer to each question shall be limited up to 250 words. Each question carries 7marks.

Unit 1 : Two references (Lines/quotes) to contexts from Plays prescribed for Detailed Study.

Unit 2 : Two questions on Shakespeare: *Othello*.

Unit 3 : Two questions on Miller: *All My Sons*.

Unit 4 : Two questions on John Osborne: *Look Back in Anger*.

Unit 5 : Two Questions on the background and genre of the Prescribed Drama.

Section C

(3x15=45 Marks)

This Section will consist of five questions from Unit 2,3,4.

The students are required to attempt any three questions in 500 words.

RECOMMENDED READINGS:

Brooks and Heliman. *Understanding Drama*. Holt, Rinehart & Winston of Canada Ltd; 1948.

Wells, Stanley. *Literature and Drama*.(Concept of Literature Series)

Shakespearean Tragedy: Stratford Upon Avon Studies, No. 20. Holmes & Meier Pub, 1984.

B.A./B.Sc Part-I

GEOGRAPHY

Note: There will be two theory papers of 3 hours duration carrying 75 marks each, and a practical paper of 06 hours duration of 50 marks. Candidates will have to pass in theory and practical separately.

New Examination Scheme 2015:

| Part | Total No. Q. | Marks each Q. | Total Marks |
|-------------|---------------------|----------------------|--------------------|
| A | 10 | 1 | 10 |
| B | 5 | 7 | 35 |
| C | 3 | 10 | 30 |
| | | Total | 75 |

Theory - Max. Marks: 75 Min marks: 27

Practical- Max. Marks: 50 Min marks: 18

PAPER I

PHYSICAL BASIS OF GEOGRAPHY

Max. Marks: 75

Unit 1 : Origin of the earth; Interior of the earth; Theory of Isostasy ; Earth movement : Folds and faults (their types only); Rocks and their classification

Unit 2 : Earthquake and Volcanoes; Major landforms: Mountains, plains, Plateaus and Lakes

Unit 3 : Weathering and Denudation: Normal cycle of erosion; \Work of rivers, glaciers, ground water and winds

Unit 4: Atmosphere: Composition and Structure; Insolation and Temperature; Atmospheric Pressure and Winds, Humidity and Precipitation; Cyclones

Unit 5 : Hydrosphere: Temperature of ocean water ; Salinity of Ocean ; Ocean Deposits; Configuration; Tides and currents

BOOKS RECOMMEDED

Monkhouse, F.j. : Principles of physical Geography, Hodder sloughtpn, London, 1984

Sing, S. : Bhu-Arti Vigyan, Tara Publications, Varanasi, 1976

Daya, P. Bhu-Arti Vigan, Shukla Book Depot, Patna 1982

Agarwal, K.M.L. : Bhutik Bhugol, Sahitya Bhawan, Agra, 1988

Tikha, R.N. : Bhautik Bhugol, kedarnath Ramnath, Meerut, 1980

Dubey, R.N. : Bhautik Bhugol ke Adhar, Kitab mahal, Allahabad, 1980

Mamoria, C.B. and Nyati, J.N. : Bhusss-Vigyan, Shib lal agarwal & co. , Agra,1983

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pkSgku] ch- lh- ,oa xkSre] ,] HkkSfrd Hkwksy] jLrksxh ifCyds'kUI] esjB

PAPER II

GEOGRAPHY OF INDIA

Max. Marks : 75

Unit 1 : A study of India with reference to its Physiography, Drainage, Climate and Climate divisions; Soils and their problems; Natural vegetation: types and distribution; Forest resources and their conservation

Unit 2 : Principal Minerals :Iron ore, Manganese, Mica; Power resources: Coal, Petroleum and Hydroelectric; Major Industries: Iron and Steel, Cotton Textile, Sugar, Cement, Pulp and Paper

Unit 3 : Agriculture : Main characteristics and problem of Indian agriculture; Principal agriculture crops: wheat, rice, sugarcane, tea and cotton; Irrigation-irrigation sources, their distribution and major Irrigation Project of India: Bhakra Nangal Project, Damodar Valley corporation

Unit 4 : Population : Growth, Distribution and Density; Transport: Rail, Road, Water and Airways; India's foreign trade composition and trends

Unit 5 : Regional Geography of Kashmir valley, Chhota Nagpur Plateau, Malabar Coastal region and Middle Ganga Plain

RECOMMENDED READINGS

Cakly] ,l- lh- Hkkjr dk Hkwksy] ehuk{kh izdk'ku] esjB] 1985

Chauhan, V.S. : Bharat Vistrit Bhugol, Rastogi & Co., Meerut, 1985

Chaudhuri, M.R. : An Economic Geography of India, Oxford And IBH, Calcutta

Das, gupta and Kapur : Bharat va Pakistan ka Arthik va Vanijya Bhugol, Premier Publishing, Delhi

Dubey, R.N. : Bharat ka Arthik Bhugol, Kitab Mahal, Allahabad

Jain, P. ; Bharat Mahan, Agra book store, Agra

Mamoria, C.B. : Bharat ka Bhugol, Sahitya Bhawan, Agra, 1988

Publications Division, Government of India Year Book, 1998

Singh, B. : Bharat ka Bhugol, Rajsthan Hindi Granth Academy, Jaipur

Sharma, T.C. and Coutinho, O. : Economic And Commercial Geography of India, Vikas
Pub.House New Delhi, 1987

Singh. R.L. (ed.) : India A Regional Geography, National Geographical Society of India,
Varanasi, 1981

Singh, U. : Bharat Ka Nawin Arithik Bhugol, Students, Friends, Varanasi

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New Examination Scheme 2015:

| Part | Total No. Q. | Marks each Q. | Total Marks |
|------|--------------|---------------|-------------|
| A | 10 | 1 | 10 |
| B | 5 | 7 | 35 |
| C | 3 | 10 | 30 |
| | | Total | 75 |

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GEOGRAPHY PRACTICAL

SCHEME

Four Practical Periods per week per group of 20 students

Max. Marks : 50

Min marks : 18

Duration : 6 Hrs.

- | | | |
|-----------------------------|------------|----------------|
| 1. Lab Work (Written paper) | : 02 Hours | 21 Marks |
| 2. Record Work & Viva | : 02 Hours | 9+5 = 14 Marks |
| 3. Field Survey & Viva Voce | : 02 Hours | 10+5=15 Marks |

Total Marks: 50 Marks

Note: Each Candidate is required to complete at least Twenty Exercise in the Record Book.

1. Scales: Plain, Comparative, Time and Diagonal; Methods of enlargement and reduction of maps with square methods
2. Knowledge and use of meteorological instruments: Maximum and Minimum Thermometer, Thermograph, Stevenson's Screen, Aneroid Barometer, Barograph, Rain Gauge , Windvane, Anemometer, Dry and Wet Bulb Thermometer; Study and Interpretation of Indian weather maps (January and July)
3. Climatic graphs showing (i) Maximum, Minimum and Mean Temperature (ii) Monthly rainfall (iii) Monthly temperatures, rainfall and relative humidity (iv) Rainfall Variability (v) Histogram of Rainfall (vi) Hythergraph (vii) Climograph and (viii) Wind rose diagram
4. Chain and Tape Survey

RECOMMENDED READINGS

Singh, R.L. : Elements of practical geography, Students friends Varansi, 1987

Sing, R. and Kanaujia, E.R.S. : Map work and practica

Gepgraphy, Center Book Depot. Allabad.

Monkhuous, F.J and Wilkinos, H.R. : Map ana Diagrams, Methuen,
London 1994

Robison, A.H. : Elements of Cartography, John Willey & Sons, New York.

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B.A. Part-II

GEOGRAPHY

Note: There will be two theory papers of 3 hours duration carrying 75 marks each, and a practical paper of 06 hours duration of 50 marks. Candidates will have to pass in theory and practical separately.

New Examination Scheme 2014:

| Part | Total No. Q. | Marks each Q. | Total Marks |
|-------------|---------------------|----------------------|--------------------|
| A | 10 | 1 | 10 |
| B | 5 | 7 | 35 |
| C | 3 | 10 | 30 |

Total : 75

Theory - Max. Marks : 75 Min marks : 27

Practical- Max. Marks : 50 Min marks : 18

PAPER I

HUMAN GEOGRAPHY

- Unit 1 : Definition, scope and principles of human geography ; its relationship with other Social science; Schools of human geography; Environmentalism, Possibilism and Neo-determinism
- Unit 2 : Geographic environment and man : Influence of major land forms, climate and water bodies on human activities ; Forms of adaptation to environment; human life in principal environments : Equatorial regions, Tropical deserts, Monsoon lands, Temperate grasslands, Mediterranean lands and Polar region
- Unit 3 : Races of mankind : Criteria for classification; Classification schemes of krober, Haddon and G. Taylor; Population: growth, distribution and density in the world
- Unit 4 : Human settlements : Site, forms and types ; House types with special reference to India
- Unit 5 : Urbanization : Meaning, growth and causes of Urbanization; Principal agglomerations of world functional classification of Indian cities; slums and associated problems with reference to India, Problems of urbanization and remedies

RECOMMENDED READINGS

Brunches, J. : Human Geography

Huntington, E ; The principles of Human Geography, John Wiley & Sons, N. Y.

Eperillou, A. V. Human Geography, Longmans, 1965
Money, D. C. : An Introduction to human Geography, U. I. P. London
Karan, M. P. : Manav bhugol ke sidhant , kitabghar, Kanpur .
Mamoria , C. B. : Principles of Human Geography .
Dwivedi, R.L. & Singh R.L. : Manav Bhugol Ki Samiksha
Blache Vidal deela : Manav Bhugol Ke Siddhant (in Hindi)
Jain, : J.K. & Bohra, D.M. : Vishwa ka SansKritik Bhugol, Academic Publishers, Jaipur, 1983
Leong, G.C. & Morgan, G.C. & morgan. G.c. : Human and Economic Geography, O.U.P., Oxford, 1986
Husain, Majid : Human Geography, Rawat Publications, Jaipur and Delhi.
कौशिक एस डी मानव भूगोल के सरल सिद्धांतए रस्तोगी पब्लिकेशन्सए मेरठ
सिंह, बी एन व एम के : ;2009द्ध मानव भूगोल, प्रयाग पब्लिकेशन्स इलाहाबाद

PAPER II

GEOGRAPHY OF RAJASTHAN

- Unit 1 : Physiography and Physiographic divisions, Climate, Soil, Natural vegetation
- Unit 2 : Population : growth, distribution and density; Tribal population distribution, principal tribes- Bhil, Meena and Girasiya; Rural settlements: growth pattern, types and building material; Tourism in Rajasthan-geographical perspective
- Unit 3 : Mineral resources: Distribution and reserves of important minerals; Industry: Localization factors and spatial pattern; Transportation: Railways and roads, their pattern and accessibility
- Unit 4 : Agriculture : Agricultural land use, Principal crops : wheat, maize, bajra, oilseeds and cotton ; irrigation sources, spatial aspects of development of ground water; Principal irrigation Projects: Indira Gandhi Canal, Chambal Valley project and Mahi Bajaj Sagar; Animal Husbandry: Number, spatial pattern and principal breeds
- Unit 5 : A detailed study of Marusthali, Aravalli Region, Eastern Agro-Industrial Region and Hadauti Region

RECOMMENDED READINGS

- Gupta & Prakash (ed.) : Environmental Analysis of Thar Desert, English Books Depot, Dehradun, 1979
Misra, V.C. : Geography of Rajasthan, NBT, New Delhi, 1967(also available in Hindi)
Roonwal, M.L. (ed.) :Natural Resources of Rajasthan, Vols. I & II, University of Jodhpur, 1977

Sharama, R.C. : Settlement Geography of the India Desert, Korwar Brother, New Delhi, 1972

Singh, R.L. (ed.) : India : A Regional Geography, National Geographical Society of India, Varanasi, 1917

Bhalla, L.R. : Rajasthan ka Bhugol

Mehr, I. : Rajasthan ka Bhugol

चौहान, टी. एस. : राजस्थान का भूगोल, विज्ञान प्रकाशन, जयपुर 1988

निगम, एम एन एवं तिवारी, ए.के. : राजस्थान का भूगोल, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर

GEOGRAPHY PRACTICAL SCHEME

Four Practical Periods per week per group of 20 students

Max. Marks: 50

Min. marks: 18

Duration: 06 Hours.

Marks

| | | | |
|-----------------------------|---|----------|---------------|
| 1. Lab Work (Written paper) | : | 02 Hours | 21 Marks |
| 2. Record Work & Viva Voce | : | 02 Hours | 9+5 = 14Marks |
| 3. Field Survey & Viva Voce | : | 02 Hours | 10+5=15 Marks |

Total Marks 50 Marks

Note : Each Candidate is required to complete at least Thirty Exercises

1. Methods of Depiction of Relief: Spot Height, Hachures, Formlines and Contours, Interpolation of Contours, Intervisibility By Drawing Sections with a knowledge of Dead Ground; Scale of slope of contours and Section Drawing: Slopes, Conical Hill, Ridge, 'V' Shape Valley, Gorge, Waterfall, Pass, Saddle, Plateau, Escarpment, Sand Dune, 'U' shaped valley, Hanging Valley, Cliff and lake
2. Representation of socio-cultural and economic data by diagrams and diagrammatic maps : (1) Bar : Simple and Compund (2) Rectangular (3) Square (4) Block Pile (5) Wheel (6) Circle and scales of Square root and cube root
3. Representation of socio-cultural and economic data by distribution maps: Choroschematic, Choro-pleth, Isopleth and Dot Methods
4. Plane Table Survey

Recommended Readings :

Singh, R.L. : Elements of Practical Geography, Students Friends, Varanasi, 1987.

Singh, R. and Kanaujia, L.R.S. : Map Work and Practical Geography, Central Book Depot, Allahabad.

Monkhouse, F.J. and Wilkinson, H.R. : Map and Liagrams, Methudn, London 1994.

Robinson, A.H.: Elements of Cartography, John Willey & Sons, New Yourk.

Mishra, R.P.: Fundamental of Cartography, Macmillan, New Delhi.

Kellay, Georgep : Map Projections, Mathuen & Co., London. Steers,

J.K. : Map Projections, University of London Press, London.

Sharma, J.P.: Prayogik Bhoogol, Rastogi Prkashan, Meerut.

Jain, S.M.: Prayogatmak, Boogol, Sahitya Bhagwan, Agra.

भूगोल प्रथम प्रश्न-पत्र मानव भूगोल

ईकाई1: मानव भूगोल की परिभाषा, विषय क्षेत्र एवं सिद्धांत, अन्य समाज विज्ञानों से इसका सम्बन्ध ; मानव भूगोल की विशेषताएं : नियतिवाद, सम्भववाद तथा नव नियतिवाद

ईकाई2: भौगोलिक पर्यावरण तथा मानव : प्रमुख भु-आकारों जलवायु तथा जलाशयों का मानव क्रियाओं पर प्रभाव; पर्यावरण अनुकूलन के रूप; प्रमुख पर्यावरण प्रदेशों में मानव जीवन : विषुवत्रेखीय प्रदेश, उष्ण मरुस्थल, मानसून प्रदेश, समशीतोष्ण तृणक्षेत्र, भूमध्यसागरीय प्रदेश तथा ध्रुवीय प्रदेश

ईकाई3: मानव प्रजातियां : वर्गीकरण के आधार; क्रोबर्, हैडन तथा जी टेलर के वर्गीकरण; जनसंख्या : विश्व में वृद्धि, वितरण तथा घनत्व

ईकाई4: मानव अधिवास : स्थिति, आकृति एवं प्रकार; भारत के विशेष सन्दर्भ में गृह प्रकार

ईकाई5: नगरीकरण : अर्थ, वृद्धि तथा कारण, विश्व के मुख्य जनसमुह, भारतीय नगरों का प्रकायात्मक वर्गीकरण, गंदी बस्ती एवं उससे जुड़ी समस्याएँ, भारत के सदर्भ में- नगरीकरण की समस्याएँ एवं उपचार |

RECOMMENDED READINGS

Brunches, J. : Human Geography

Huntington, E ; The principles of Human Geography, John Wiley & Sons, N. Y.

Eperillou, A. V. Human Geography, Longmans, 1965

Money, D. C. : An Introduction to human Geography, U. I. P. London

Karan, M. P. : Manav bhugol ke sidhant , kitabghar, Kanpur .

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Blache Vidal deela : Manav Bhugol Ke Siddhant (in Hindi)

Jain, : J.K. & Bohra, D.M. : Vishwa ka SansKritik Bhugol, Academic Publishers, Jaipur, 1983

Leong, G.C. & Morgan, G.C. & morgan. G.c. : Human and Economic Geography, O.U.P., Oxford, 1986

Husain, Majid : Human Geography, Rawat Publications, Jaipur and Delhi.

कौशिक एस डी मानव भूगोल के सरल सिद्धांतए रस्तोगी पब्लिकेशन्सए मेरठ

सिंह, बी एन व एम के : ;2009द्ध मानव भूगोल, प्रयाग पब्लिकेशन्स इलाहाबाद

द्वितीय प्रश्न-पत्र

राजस्थान का भूगोल

- इकाई 1 : धरातल तथा धरातलीय विभाग; जलवायु, मृदा, प्राकृतिक वनस्पति
- इकाई 2 : जनसंख्या: वृद्धि, वितरण तथा घनत्व, आदिवासी जनसंख्या, प्रमुख आदिवासीयों का वितरण-भील, मीणा, गरासिया, ग्रामीण अधिवास-वृद्धि, स्वरूप, प्रकार तथा भवन निर्माण सामग्री, राजस्थान में पर्यटन-भौगोलिक परिप्रेक्ष्य
- इकाई 3 : खनिज ससांधन-वितरण, उत्पादन तथा प्रमुख खनिजों के भण्डार, उद्योग-स्थायीकरण के कारण तथा स्थितिक प्रतिरूप; यातायात-रेल तथा सड़कें-उनके प्रतिरूप एवं अभिगम्यता
- इकाई 4 : कृषि- कृषि भूमि उपयोग, प्रमुख फसलें-गेहूं, मक्का, बाजरा, तिलहन तथा कपास, सिंचाई के साधन, सिंचाई विकास के क्षेत्रीय पहलू, भूमिगत जल, प्रमुख सिंचाई योजनाएं-इन्दिरा गांधी नहर योजना, चम्बल घाटी योजना तथा माही बजाज सागर योजना; पशुपालन-संख्या; क्षेत्रीय प्रारूप तथा प्रमुख नस्लें
- इकाई 5 : मरुस्थली : अरावली प्रदेश, पूर्वी कृषि औद्योगिक प्रदेश तथा हाड़ौती प्रदेश का विशद् अध्ययन

भूगोल प्रायोगिक

योजना

20 विद्यार्थियों के एक समुह हेतु प्रायोगिक के चार कालांश प्रति सप्ताह

अधिकतम अंक : 50

न्यूनतम अंक : 18

समय अविधि : : 06 घण्टे

अंक

| | | |
|--|---------|-------------|
| 1. प्रयोगशाला कार्य (लिखित प्रश्न-पत्र) | 2 घण्टे | 21 अंक |
| 2. प्रायोगिक अभ्यास पुस्तिका एवं साक्षात्कार | 2 घण्टे | 9+5=14 अंक |
| 3. क्षेत्रीय सर्वेक्षण एवं साक्षात्कार | 2 घण्टे | 10+5=15 अंक |
| | | योग 50 अंक |

निर्देश : प्रत्येक विद्यार्थी को प्रायोगिक अभ्यास पुस्तिका में कम से कम 30 अभ्यास आरेखित करने होंगे |

1. धरातल को प्रदर्शित करने की विधियां - स्थानिक ऊंचाई, हैशयूर, खण्डित रेखाएँ, समोच्च रेखाएँ तथा समोच्च रेखाओं का छेदन, अन्तर्दृश्यता, सेक्शन खींचकर अदृश्य भुखण्ड का ज्ञान तथा ढाल मापक, समोच्च रेखाएं खण्ड चित्र खींचना-ढाल, शंक्वाकार पहाड़ी, कटक U आकार की घाटी, गॉर्ज, जलप्रताप, दर्रा, सेडल (काटी) , पठार एस्कार्पमेन्ट, बालुका स्तूप, U आकार की घाटी, झूलती हुई घाटी तथा झील |
2. समाजिक सांस्कृतिक व आर्थिक आंकड़ों का आरेखों एवं आरेखीय मानचित्रों से प्रदर्शन - (1) साधारण व मिश्रित दण्डारेख (2) आयताकार (3) वर्गाकार (4) ब्लॉक पाइल (5) चक्र चित्र, (6) वृत्त चित्र, वर्गमूल तथा घनमूल मापनी |
3. समाजिक, सांस्कृतिक व आर्थिक आंकड़ों का वितरण मानचित्रों से प्रदर्शन : वर्ण प्रतीकी विधि, छायांकन विधि, सम-मान रेखा विधि बिन्दु विधि |
4. सम-पटल सर्वेक्षण |

B.A. Part-III

GEOGRAPHY

Note: There will be two theory papers of 3 hours duration carrying 75 marks each, and a practical of 50 marks. Candidates will have to pass in theory and practical separately.

Theory - Max. Marks : 75 Min marks : 27
Practical- Max. Marks : 50 Min marks : 18

PAPER 1

ECONOMIC GEOGRAPHY

- Unit 1 : Nature, scope and methods of economic geography ; economic resources; their classification and conservation; fundamental occupations of man: fishing and livestock raising
- Unit 2 : Agriculture : subsistence, intensive commercial grain farming, plantation agriculture and mixed farming, dairying; principal agricultural crops: wheat, rice, maize, tea, coffee, rubber, cotton, sugarcane and sugar beet
- Unit 3 : Minerals : Iron ore, Manganese and Copper ore; Sources of power: Coal, Petroleum, Hydroelectricity and Nuclear
- Unit 4 : Industries : Iron and Steel, Cotton Textile, Pulp and Paper, Major Industrial Regions: The Lake region of U.S.A., Ruhr basin of Germany and Manufacturing belts of Japan.
- Unit5 : Transportation : Rail, Water-major ocean routes and inland waterways of Europe, former USSR; Air-factors affecting air transportation, Principal air-routes of the world; International trade: Bases of international trade; barriers to trade and pattern of world trade

BOOKS RECOMMENDED

Hartshorn, T.A. and Alexander, J.W. : Economic Geography, prentice-Hall of India Pvt.Ltd.,New Delhi, 1988.

Das, Gupta and Kapur: Adhunik Arithik va Vanijiya Bhugol, Premier Publishing Company, Delhi

Dubey, R.N. : Economic and Commercial Geography Kitab Mahal, Allahabad

Leong, G.C. and Morgan, G.C. : Human and Economic Geography, OUP, Oxford, 1986.

Wheeler and Muller : Economic Geography, Jonh Wiley and Sons, N.Y. II Edition.

Mamoria, C.B. : Arithik Vanijiya Bhugol, Gaye Prasad and Sons, Agra
 Negi, B.S. : Geography of Resources, Kedarnath Ramnath, Meerut, 1980.
 Ranner, G.T. : World Economic Geography
 Singh, A and Raza : Parkratik Sansadhan, 1980
 Singh, K.N. and Singh J. : Arithik Bhugol ke Multatva, Gyanodaya Prakashan, Gorakhpur, 1996.
 कौशिक, एस. डी. : आर्थिक भुगोल के सरल सिद्धान्त, रस्तोगी, पब्लिकेशन्स, मेरठ
 सिंह, जगदीश: ससाधन भुगोल, ज्ञानोदय प्रकाशन, गोरखपुर, 1996

PAPER II

ENVIRONMENTAL GEOGRAPHY

- Unit 1: Definition and scope of Environmental Geography : its relationship with other subjects; elements of environment; man-environment relationships, Percipient and quality of environment.
- Unit 2: Ecology: definition\scope and types; ecosystem; meaning, types; components, functioning, productivity and stability; geobiochemical cycles : Water, Carbon, Nitrogen and oxygen
- Unit 3: Environments problems: Causes, population increase; urbanisation, industrialisation, transportation, pesticides and wars; environmental pollution: air, water, soil and noise, measure for control
- Unit 4 : Environmental hazards: Ozone depletion, green house effect, El-nino, Global warming, acid rain, floods, droughts, volcanoes, earthquakes, landslides, collapse of big dams, health hazards and energy crisis
- Unit 5: Ecological basis of environmental management: sustainability of human ecosystem; conservation of natural resources: soil, water, forests, minerals and energy ; national and international efforts on environmental management; environmental education

RECOMMENDED READINGS

Arvilla, R: Man and Environmental: Crisis and Strategy of Choice, Penguin, Hammonds – Worth, 1967.
 Botkin, D.B. and E.A. Keller: Environmental Studies, C.F. Merrill Pub. Co. Columbus, Ohio, 1982.
 Das Saman, R.F. : Environmental Conservation, John Wiley & Sons, New York, 1976.
 Detwyler, R. : Man's Impact on Environment, John Wiley & Sons, New York 1972.
 Duffey, E : Conservation of Nature, Collins, London, 1970.
 Edington J.M. and M.A. Edington : Ecology and Environmental Planning, Champan and Hall, London,1977.
 Furley, P.A. and W.W. Newey : Man and the Biosphere, Butterworths, London, 1983.
 Gerasimov, I.P. : Geography and Ecology , Progress Publication, Moscow, 1983.
 Jonathan T : Introduction to Environmental Studies Sanders College Publishing, Philadilphia Holt-Saunders, Japan, 1985.

M.I.T. : Study of Critical Environmental Problems, The M.I. T. Press, Cambridge, Massachusetts, 1970.

Park C. C. : Ecology and Environmental Management, Butterworths, London, 1980.

Singh, P. : Environmental Pollution and Management, Chugh Publication, Allahabad, 1985.

अवस्थी नरेन्द्रमोहन एवं आर पी तिवारी: पर्यावरण भूगोल, मध्यप्रदेश हिन्दी ग्रन्थ अकादमी, भोपाल

नेगी, पी एस : पारिस्थितिकी, विकास एवं पर्यावरण भूगोल, रस्तोगी एण्ड कम्पनी मेरठ, 1999

तिवारी, विजय कुमार: पर्यावरण और पारिस्थितिकी, हिमालय पब्लिशिंग हाऊस, मुम्बई, 1998

सक्सेना, हरिमोहन : पर्यावरण एवं पारिस्थितिकी भूगोल, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर, 1994

सिंह सविन्द्र: पर्यावरण भूगोल, प्रयाग पुस्तक भवन, इलाहाबाद 2003

सिंह, जगदीश : वातावरण नियोजन एवं संविकास, ज्ञानोदय प्रकाशन, गोरखपुर, 1996

श्रीवास्तव, वी के एवं बी पी राव: पर्यावरण और पारिस्थितिकी, वसुन्धरा प्रकाशन, गोरखपुर, 2000

रघुवंशी, अरुण एवं चन्द्रलेखा रघुवंशी: पर्यावरण और प्रदुषण, मध्यप्रदेश हिन्दी ग्रन्थ अकादमी, भोपाल 1987

जोशी, रतन : पर्यावरण भूगोल, साहित्य भवन पब्लिकेशन्स, आगरा 2003

सक्सेना, हरिमोहन : पर्यावरण एवं प्रदुषण,, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर, 2002

GEOGAPHY PRACTICAL

SCHEME

Four Practical Periods per week per group of 20 students

Max. Marks : 50 Min marks : 18 Duration : 6 Hrs.

| | | Marks |
|-------------------------------|----------|---------------|
| 1. Lab Work (Written paper) : | 02 Hours | 21 Marks |
| 2. Record Work & Viva-voce : | 02 Hours | 9+5 = 14Marks |
| 3. Field Survey & Viva-Voce : | 02 Hours | 10+5=15 Marks |

Total Marks: 50 Marks

Note : Each Candidate is required to complete at twenty five exercises.

Syllabus:

1. Study and interpretation of topographical sheets of typical areas of India; scheme of Indian topographical sheets with a complete knowledge of their latest version
2. Profile drawing: serial, super-imposed, composite and projected; Knowledge of vertical exaggeration
3. Geographical construction of following map projections: Cylindrical projection; Simple Cylindrical (Equidistant), Cylindrical Equal Area, Mercator; Conical Projection: One

- standard parallel, Two standard parallel, Bonne, Poly-Conic, Zenithal Projection (Polar (Case only) : Equidistant, equal area, Gnomonic, Stereographic, Orthographic
4. Measure of Central Tendency : Mean, Median Mode and Standard Deviation
 5. Prismatic Compass Survey: Corrections of Bearings and Closing of errors by Bowditch method

RECOMMENDED READINGS

- Sing, R.L. : Elements of Practical Geography, Students Friends, Varanasi, 1987.
- Singh, R. and Kanaujia, L.R.S. : Map work and Practical Geography, Central Book Depot, Allahabad.
- Monkhouse, F.J. and Wilkinson, H.R. Map and Liagrams, Methudn, London 1994.
- Robinson, A.H. : Elements of Cartography, Jonh Willy & Sons, New York.
- Mishra, R.P.: Fundamental of cartography, Macmillan, New Delhi.
- Kellay, Geogrp : Map Projections, Methuen & Co., London.
- Steers, J.K. : Map Projections, University of London Press, London.
- Sharma, J.P. : Prayogik Bhoogol, Rastogi Prkashan, Meerut.
- Jain, S.M.: Prayogatmak, Bhoogol, Sahitya Bhawan, Agra.

भूगोल प्रथम प्रश्न-पत्र आर्थिक भूगोल

- इकाई 1: आर्थिक भूगोल की प्रकृति, क्षेत्र एवं विधियां, आर्थिक संसाधन-उनका वर्गीकरण और संरक्षण, मानव के आधारभूत व्यवसाय-मछली पकड़ना, पशुपालन
- इकाई 2: कृषि: निर्वहन, गहन व व्यावसायिक अन्न उत्पादन, बागानी कृषि, मिश्रित कृषि, दुग्ध व्यवसाय; प्रमुख कृषि उत्पादन: गेहू, चावल, मक्का, चाय, कहवा, रबड़, कपास गन्ना तथा चुकन्दर
- इकाई 3: खनिज: लोहा-अयस्क, मैंगनीज और तांबा: शक्ति के साधन-कोयला, खनिज तेल, जल विद्युत शक्ति और परमाणु शक्ति
- इकाई 4 : उद्योग: लोहा और इस्पात, सुती वस्त्र, कागज एवं लुग्दी उद्योग; प्रमुख औद्योगिक क्षेत्र: संयुक्त राज्य अमेरिका की झील क्षेत्र, जर्मनी का रुरवेसिन और जापान की औद्योगिक पेटियां
- इकाई 5 : यातायात: रेल, जल यातायात-प्रमुख समुद्री मार्ग, पूर्व सोवियत रुस एवं युरोप के आन्तरिक जल मार्ग, वायु यातायात और उसे प्रभावित करने वाले कारक; विश्व के प्रमुख वायु मार्ग; अन्तर्राष्ट्रीय व्यापार: अन्तर्राष्ट्रीय व्यापार के आधार, व्यापार के अवरोध विश्व-व्यापार के प्रतिरूप

BOOKS RECOMMENDED

Hartshorn, T.A. and Alexander, J.W. : Economic Geography, prentice-Hall of India Pvt.Ltd.,New Delhi, 1988.

Das, Gupta and Kapur: Adhunik Arithik va Vanijjiya Bhugol, Premier Publishing Company, Delhi

Dubey, R.N. : Economic and Commercial Geography Kitab Mahal, Allahabad

Leong, G.C. and Morgan, G.C. : Human and Economic Geography, OUP, Oxford, 1986.

Wheeler and Muller : Economic Geography, Jonh Wiley and Sons, N.Y. II Edition.

Mamoria, C.B. : Arithik Vanijjiya Bhugol, Gaye Prasad and Sons, Agra

Negi, B.S. : Geography of Resources, Kedarnath Ramnath, Meerut, 1980.

Ranner, G.T. : World Economic Geography

Singh, A and Raza : Parkratik Sansadhan, 1980

Singh, K.N. and Singh J. : Arithik Bhugol ke Multatva, Gyanodaya Prakashan, Gorakhpur, 1996.

कौशिक, एस. डी. : आर्थिक भूगोल के सरल सिद्धान्त, रस्तोगी, पब्लिकेशन्स, मेरठ

सिंह, जगदीश: ससाधन भूगोल, ज्ञानोदय प्रकाशन, गोरखपुर, 1996

द्वितीय प्रश्न-पत्र

पर्यावरण भूगोल

इकाई 1: पर्यावरण भूगोल की परिभाषा एवं विषय क्षेत्र: अन्य विषयों से इसका सम्बन्ध: पर्यावरण के तत्व: मानव-पर्यावरण सम्बन्ध: पर्यावरण अवबोध एवं गुणवत्ता

इकाई 2: पारिस्थितिकी: अर्थ, विषयक्षेत्र और प्रकार; पारिस्थितिकी-तंत्र: अर्थ, प्रकार, घटक, क्रियाशीलता, उत्पादकता और स्थायित्व: भू-जैव रसायन चक्र, जल, कार्बन, नाइट्रोजन और ऑक्सीजन

इकाई 3: पर्यावरण समस्याएं: कारण; जनसंख्या वृद्धि; नगरीकरण; औद्योगीकरण; परिवहन; कीटनाशक और युद्ध; पर्यावरण प्रदूषण: वायु, जल, मृदा एवं ध्वनि: नियंत्रण हेतु उपाय

इकाई 4: पर्यावरण संकट : ओजोन क्षय, हरित गृह प्रभाव, एलनिनो, ग्लोबल वार्मिंग अम्ल वर्षा, बाढ़, सुखा, ज्वालामुखी, भुकम्प, भू-स्खलन, बड़े बाधों का ढहना, स्वास्थ्य आपदाएं और ऊर्जा संकट

इकाई 5: पर्यावरण प्रबन्ध के पारिस्थैतिक आधार : मानव पारिस्थितिकीय तंत्र की सुदृढशीलता; प्राकृतिक संसाधनों का संरक्षण: मृदा, जल, वन, खनिज और ऊर्जा: पर्यावरण प्रबन्ध के राष्ट्रीय एवं अन्तर्राष्ट्रीय प्रयास: पर्यावरण शिक्षा

RECOMMENDED READINGS

- Arvilla, R: Man and Environmental: Crisis and Strategy of Choice, Penguin, Hammonds – Worth, 1967.
- Botkin, D.B. and E.A. Keller: Environmental Studies, C.F. Merrill Pub. Co. Columbus, Ohio, 1982.
- Das Saman, R.F. : Environmental Conservation, John Wiley & Sons, New York, 1976.
- Detwyler, R. : Man's Impact on Environment, John Wiley & Sons, New York 1972.
- Duffey, E : Conservation of Nature, Collins, London, 1970.
- Edington J.M. and M.A. Edington : Ecology and Environmental Planning, Champan and Hall, London, 1977.
- Furley, P.A. and W.W. Newey : Man and the Biosphere, Butterworths, London, 1983.
- Gerasimov, I.P. : Geography and Ecology , Progress Publication, Moscow, 1983.
- Jonathan T : Introduction to Environmental Studies Sunders College Publishing, Philadelphia Holt-Saunders, Japan, 1985.
- M.I.T. : Study of Critical Environmental Problems, The M.I. T. Press, Cambridge, Massachusetts, 1970.
- Park C. C. : Ecology and Environmental Management, Butterworths, London, 1980.
- Singh, P. : Environmental Pollution and Management, Chugh Publication, Allahabad, 1985.
- अवस्थी नरेन्द्रमोहन एवं आर पी तिवारी: पर्यावरण भुगोल, मध्यप्रदेश हिन्दी ग्रन्थ अकादमी, भोपाल
- नेगी, पी एस : पारिस्थितिकी, विकास एवं पर्यावरण भुगोल, रस्तोगी एण्ड कम्पनी मेरठ, 1999
- तिवारी, विजय कुमार: पर्यावरण और पारिस्थितिकी, हिमालय पब्लिशिंग हाऊस, मुम्बई, 1998
- सक्सेना, हरिमोहन : पर्यावरण एवं पारिस्थितिकी भुगोल, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर, 1994
- सिंह सविन्द्र: पर्यावरण भुगोल, प्रयाग पुस्तक भवन, इलाहाबाद 2003
- सिंह, जगदीश : वातावरण नियोजन एवं संविकास, ज्ञानोदय प्रकाशन, गोरखपुर, 1996
- श्रीवास्तव, वी के एवं बी पी राव: पर्यावरण और पारिस्थितिकी, वसुन्धरा प्रकाशन, गोरखपुर, 2000
- रघुवंशी, अरुण एवं चन्द्रलेखा रघुवंशी: पर्यावरण और प्रदुषण, मध्यप्रदेश हिन्दी ग्रन्थ अकादमी, भोपाल 1987
- जोशी, रतन : पर्यावरण भुगोल, साहित्य भवन पब्लिकेशन्स, आगरा 2003
- सक्सेना, हरिमोहन : पर्यावरण एवं प्रदुषण,, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर, 2002

भूगोल प्रायोगिक योजना

20 विद्यार्थियों के एक समुह हेतु प्रायोगिक के चार कालांश प्रति सप्ताह

अधिकतम अंक : 50

न्यूनतम अंक : 18

समय आवधि : : 06 घण्टे

| | | अंक |
|--|---------|-------------|
| 1. प्रयोगशाला कार्य (लिखित प्रश्न-पत्र) | 2 घण्टे | 21 अंक |
| 2. प्रायोगिक अभ्यास पुस्तिका एवं साक्षात्कार | 2 घण्टे | 9+5=14 अंक |
| 3. क्षेत्रीय सर्वेक्षण एवं साक्षात्कार | 2 घण्टे | 10+5=15 अंक |
| | | योग 50 अंक |

निर्देश : प्रत्येक विद्यार्थी को प्रायोगिक अभ्यास पुस्तिका में कम से कम 25 अभ्यास आरेखित करने होंगे |

पाठ्यक्रम :

1. भारत के प्रारूपी क्षेत्रों के भूपत्रों का अध्ययन व व्याख्या; भारत के भूपत्रों की योजना तथा उनके नवीनतम संस्करण का पूर्ण ज्ञान परिच्छेदिका रेखांकन: क्रमिक, अध्यारोपित, संयुक्त एवं प्रक्षेपित ऊर्ध्वाधर विस्तारण का ज्ञान |
2. निम्नलिखित मानचित्र प्रक्षेपों का रेखीय आरेखण:
बेलनाकार प्रक्षेप : साधारण बेलनाकार (समदुरी), बेलनाकार समक्षेत्रफल, मरकेटर
शंकवाकार प्रक्षेप : एक प्रमाणिक अक्षांश, दो प्रमाणिक अक्षांश रेखा, बोन, बहुशंकवाकार |
खमध्य प्रक्षेप : (केवल ध्रुवीय अवस्थाएं), सम-दुरस्थ सम-क्षेत्रफल केन्द्रक (नोमोनिक) त्रिविम (स्टीरोग्राफिक), लम्बकोणीय (ऑर्थोग्राफिक)
3. केन्द्रीय प्रवृत्ति के माप: माध्य, माध्यिका, बहुलक तथा प्रमाप विचलन |
4. त्रिपाश्वर्दशी सर्वेक्षण: दिक्मानों का संशोधन तथा बाउडिच विधि द्वारा त्रुटि समापन |

B.A.
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Final Year
Hindi Litratione
2019

बी.ए. प्रथम वर्ष, परीक्षा 2019–20

हिन्दी साहित्य

प्रथम प्रश्न-पत्र

प्राचीन हिन्दी काव्य

नोट : यह प्रश्न-पत्र तीन घण्टे की अवधि एवं 100 अंकों का होगा।

निर्धारित पाठ्य पुस्तक – मध्यकालीन कविता का पाठ – 1 (सं.) त्रिभुवननाथ शुक्ल,
जयभारती प्रकाशन, इलाहाबाद

इकाई 1 : **कबीर** – निर्धारित काव्यांश – साखियाँ – सम्पूर्ण
जायसी – निर्धारित काव्यांश – सम्पूर्ण

इकाई 2 : **सूरदास** – निर्धारित काव्यांश – पद संख्या 23 से 52 तक
तुलसीदास – निर्धारित काव्यांश – सम्पूर्ण

इकाई 3 : **बिहारी** – निर्धारित काव्यांश – सम्पूर्ण
घनानन्द – निर्धारित काव्यांश – सम्पूर्ण

इकाई 4 : **द्रुतपाठ हेतु निर्धारित कवि** : 1–चन्दबरदाई 2– अमीर खुसरो
3– मीराँबाई

इकाई 5 : **द्रुतपाठ हेतु निर्धारित कवि** : 1–रहीम 2–देव 3–भूषण

प्रश्न एवं अंक-विभाजन

खण्ड (क) प्रत्येक इकाई से दो-दो (कुल दस) लघूत्तरी प्रश्न (शब्द सीमा 30 शब्द)

10 X 2 = 20 अंक

खण्ड (ख) इकाई एक, दो, तीन में निर्धारित काव्यांशों से विकल्प सहित एक-एक (कुल तीन) व्याख्या

इकाई चार, पाँच में निर्धारित कवियों से विकल्प सहित एक-एक (कुल दो) टिप्पणी परक प्रश्न (शब्द सीमा 250 शब्द)

5 X 7 = 35 अंक

खण्ड (ग) इकाई एक, दो, तीन में निर्धारित कवियों से पाँच आलोचनात्मक प्रश्न पूछे जाएँगे, जिनमें से किन्हीं तीन के उत्तर देने होंगे। (शब्द सीमा 500 शब्द)

3 X 15 = 45 अंक

सहायक पुस्तकें-

कबीर : विजयेन्द्र स्नातक

जायसी : एक नई दृष्टि : रघुवंश

महाकवि सूरदास : नन्ददुलारे वाजपेयी

बिहारी काव्य का अभिनव मूल्यांकन : किशोरीलाल

भूषण : विश्वनाथ प्रसाद मिश्र

तुलसीदास (परिवेष और प्रदेय) : सं. मदनगोपाल गुप्त

अमीर खुसरो और उनका हिन्दी साहित्य : भोलानाथ तिवारी

भक्तिकाव्य की परम्परा में मीराँ : रमा भार्गव

बी.ए. प्रथम वर्ष परीक्षा 2019-20

हिन्दी साहित्य

द्वितीय प्रश्न-पत्र

हिन्दी कथा साहित्य

नोट : यह प्रश्न-पत्र तीन घण्टे की अवधि एवं 100 अंकों का होगा।

निर्धारित पाठ्य पुस्तकें—

1. गबन — प्रेमचन्द

2. कहानी एकादशी — (सं.) डॉ. विजयलक्ष्मी, प्रगति संस्थान, दिल्ली

इकाई 1 : गबन — प्रेमचन्द

इकाई 2 : कहानी एकादशी — निर्धारित कहानियाँ— 'गुण्डा'—जयशंकर प्रसाद, 'पूस की रात'— प्रेमचन्द, 'पाजेब'—जैनेन्द्र कुमार, 'परदा'—यशपाल, 'रोज'—अज्ञेय (कुल पाँच)

इकाई 3 : कहानी एकादशी — निर्धारित कहानियाँ— 'लाल पान की बेगम'—फणीश्वरनाथ 'रेणु', 'पहाड़'—निर्मल वर्मा, 'अमृतसर आ गया है'—भीष्म साहनी, 'दिल्ली में एक मौत'—कमलेश्वर, 'वापसी'—उषा प्रियंवदा (कुल पाँच)

इकाई 4 : द्रुतपाठ हेतु निर्धारित कथाकार— 1. चन्द्रधर शर्मा 'गुलेरी' 2. सुदर्शन 3. रांगेय राघव

इकाई 5 : द्रुतपाठ हेतु निर्धारित कथाकार— 1. मोहन राकेश 2. मार्कण्डेय 3. राजेन्द्र यादव

प्रश्न एवं अंक—विभाजन

खण्ड (क) प्रत्येक इकाई से दो-दो (कुल दस) लघूत्तरी प्रश्न (शब्द सीमा 30 शब्द)

10 X 2 = 20 अंक

खण्ड (ख) इकाई एक, दो, तीन में निर्धारित पाठ्य कृतियों से विकल्प सहित एक-एक (कुल तीन) व्याख्या

इकाई चार, पाँच में निर्धारित कथाकारों से विकल्प सहित एक-एक (कुल दो)

टिप्पणी परक प्रश्न (शब्द सीमा 250 शब्द)

5 X 7 = 35 अंक

खण्ड (ग) इकाई एक, दो, तीन में निर्धारित पाठ्य कृतियों/कृतिकारों से पाँच आलोचनात्मक प्रश्न पूछे जाएँगे, जिनमें से किन्हीं तीन के उत्तर देने होंगे।

(शब्द सीमा 500 शब्द)

3 X 15 = 45 अंक

सहायक पुस्तकें—

प्रेमचन्द और उनका युग : रामविलास शर्मा

हिन्दी कहानी; उद्भव और विकास : सुरेश सिन्हा

हिन्दी कहानी की शिल्प विधि का विकास : लक्ष्मी नारायण लाल

कहानी : प्रकृति और पाठ : सुरेन्द्र उपाध्याय

कहानी : स्वरूप और संवेदना : राजेन्द्र यादव

हिन्दी कहानी रचना प्रक्रिया : परमानन्द श्रीवास्तव

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हिन्दी साहित्य
प्रथम प्रश्न–पत्र
हिन्दी नाटक, निबंध तथा स्फुट गद्य– विधाएँ

नोट : यह प्रश्न–पत्र तीन घण्टे की अवधि एवं 100 अंकों का होगा।

निर्धारित पाठ्य पुस्तकें :

1. अजातशत्रु : जयशंकर प्रसाद
2. चेतना का संस्कार : (सं0) डॉ0 विश्वनाथप्रसाद तिवारी, सदानन्द गुप्त, वाणी प्रकाशन, नई दिल्ली
3. प्रतिनिधि एकांकी संकलन : (सं0) डॉ0 लक्ष्मीनारायण लाल, पीताम्बर पब्लिशिंग कम्पनी, नई दिल्ली

- इकाई 1 अजातशत्रु : जयशंकर प्रसाद
इकाई 2 चेतना का संस्कार : (निर्धारित निबंध) – ‘होली है’ – प्रतापनारायण मिश्र, ‘बनाम लार्ड कर्जन’ – बालमुकुन्द गुप्त, ‘श्रद्धा–भक्ति’ – रामचन्द्र शुक्ल, ‘अशोक के फूल’ – हजारीप्रसाद द्विवेदी, ‘मेरे राम का मुकुट भीग रहा है’ – विद्यानिवास मिश्र (कुल पाँच)
इकाई 3 प्रतिनिधि एकांकी संकलन
इकाई 4 द्रुतपाठ हेतु निर्धारित गद्यकार :
(1) भारतेन्दु हरिश्चन्द्र (2) महावीर प्रसाद द्विवेदी (3) सरदार पूर्ण सिंह
इकाई 5 द्रुतपाठ हेतु निर्धारित गद्यकार :
(1) राहुल सांकृत्यायन (2) रामवृक्ष बेनीपुरी (3) शरद जोशी

प्रश्न एवं अंक – विभाजन :

खण्ड (क) प्रत्येक इकाई से दो–दो (कुल दस) लघूत्तरी प्रश्न (शब्द सीमा 30 शब्द)

10x2 = 20 अंक

खण्ड (ख) इकाई एक, दो, तीन में निर्धारित पाठ्य पुस्तकों से विकल्प सहित एक–एक (कुल तीन) व्याख्या, इकाई चार, पाँच में निर्धारित गद्यकारों से विकल्प सहित एक–एक (कुल दो) टिप्पणी परक प्रश्न (शब्द सीमा 250 शब्द)

5x7=35 अंक

खण्ड (ग) इकाई एक, दो, तीन में निर्धारित पाठ्य कृतियों/कृतिकारों से पाँच आलोचनात्मक प्रश्न पूछे जायेंगे, जिनमें से किन्हीं तीन के उत्तर देने होंगे।

(शब्द सीमा 500 शब्द) 3x15=45 अंक

सहायक पुस्तकें :

- प्रसाद के नाटकों का शास्त्रीय अध्ययन – जगन्नाथ शर्मा
प्रसाद की नाट्यकला : रामकृष्ण शुक्ल ‘शिलीमुख’
हिन्दी निबन्ध का विकास : ओंकारनाथ शर्मा
हिन्दी के प्रमुख निबंधकार रचना और शिल्प : गणेश खरे
हिन्दी एकांकी : सिद्धनाथ कुमार
राहुल सांकृत्यायन : सृजन और संघर्ष : उर्मिलेश

बी0ए0 द्वितीय वर्ष परीक्षा 2019-20

हिन्दी साहित्य

द्वितीय प्रश्न-पत्र

हिन्दी भाषा और साहित्य का इतिहास

नोट : यह प्रश्न-पत्र तीन घण्टे की अवधि एवं 100 अंकों का होगा।

- इकाई 1 : **हिन्दी भाषा**—हिन्दी की मूल आकर भाषाएँ—संस्कृत, पालि, प्राकृत, अपभ्रंश का परिचय, विशेषताएँ। हिन्दी का उद्भव और विकास। हिन्दी और उसकी बोलियों का सामान्य परिचय।
- इकाई 2 : **हिन्दी भाषा के विविध रूप**—बोलचाल की भाषा, राजभाषा, रचनात्मक भाषा, राष्ट्र भाषा, सम्पर्क भाषा, संचार भाषा।
हिन्दी का शब्द भण्डार—तत्सम, तद्भव, देशज, आगत शब्दावली। देवनागरी लिपि : उद्भव—विकास एवं मानक — रूप ।
- इकाई 3 : **हिन्दी साहित्य का इतिहास**—आदिकाल—सीमांकन, नामकरण। परिस्थितियाँ, आदिकालीन साहित्य का वर्गीकरण, प्रमुख काव्यधाराओं का परिचय एवं वैशिष्ट्य, विशिष्ट रचनाकारों का सामान्य परिचय।
- इकाई 4 : **भक्तिकाल**— सामाजिक, राजनीतिक, सांस्कृतिक पृष्ठभूमि, सन्तकाव्य, सूफी काव्य, रामभक्ति काव्य, कृष्णभक्ति काव्य धाराओं की प्रमुख काव्य—प्रवृत्तियाँ। विशिष्ट रचनाकारों का सामान्य परिचय।
रीतिकाल—नामकरण, रीतिकालीन काव्य की प्रवृत्तियाँ एवं विशेषताएँ। प्रमुख रचनाकार।
- इकाई 5 : **आधुनिक काल**—पृष्ठभूमि, भारतेन्दु युग, द्विवेदी युग, छायावाद, प्रगतिवाद, प्रयोगवाद, नई कविता की काव्य—प्रवृत्तियाँ एवं विशेषताएँ।
प्रमुख गद्य विधाओं—निबन्ध, नाटक, एकांकी, उपन्यास, कहानी एवं आलोचना का उद्भव एवं विकास

प्रश्न एवं अंक—विभाजन

| | | |
|----------|---|-------------|
| खण्ड (क) | प्रत्येक इकाई से दो-दो (कुल दस) लघूत्तरी प्रश्न (शब्द सीमा 30 शब्द) | 10x2=20 अंक |
| खण्ड (ख) | प्रत्येक इकाई से विकल्प सहित एक-एक (कुल पाँच) टिप्पणी परक प्रश्न (शब्द सीमा 250 शब्द) | 5x7=35 अंक |
| खण्ड (ग) | प्रत्येक इकाई से एक-एक आलोचनात्मक प्रश्न पूछा जायेगा, जिनमें से किन्हीं तीन के उत्तर देने होंगे। (शब्द सीमा 500 शब्द) | 3x15=45 अंक |

सहायक पुस्तकें —

हिन्दी भाषा का इतिहास : लक्ष्मीसागर वार्ष्णेय

हिन्दी भाषा का उद्गम और विकास : उदयनारायण तिवारी

हिन्दी साहित्य का सुबोध इतिहास : गुलाबराय

हिन्दी साहित्य का इतिहास : लक्ष्मीसागर वार्ष्णेय

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हिन्दी साहित्य

प्रथम प्रश्न-पत्र
अर्वाचीन हिन्दी काव्य

नोट : यह प्रश्न-पत्र तीन घण्टे की अवधि एवं 100 अंकों का होगा।

निर्धारित पाठ्य पुस्तक—आधुनिक काव्य—संग्रह : सं० रामवीरसिंह, विष्वविद्यालय प्रकाशन वाराणसी।

- इकाई 1 : **मैथिलीशरण गुप्त** : निर्धारित काव्यांश— कैकेयी अनुताप, उर्मिला, यशोधरा
जयशंकर प्रसाद: निर्धारित काव्यांश — आँसू, हे लाज भरे सौन्दर्य बता दो, ले चल
वहाँ भुलावा देकर, अरुण यह मधुमय देश हमारा।
- इकाई 2 : **सूर्यकांत त्रिपाठी 'निराला'** : निर्धारित काव्यांश — जूही की कली, संध्या सुंदरी, जागो
फिर एक बार, भिक्षुक, विधवा।
सुमित्रानन्दन पंत — निर्धारित काव्यांश — नौका विहार, द्रुत झरो, वाणी, ताज,
परिवर्तन।
- इकाई 3 : **रामधारी सिंह 'दिनकर'** — निर्धारित काव्यांश — हिमालय, बालिका से वधू
गीत—अगीत, कुन्ती और कर्ण, बुद्धदेव।
सच्चिदानन्द हीरानन्द वात्स्यायन 'अज्ञेय' — निर्धारित काव्यांश — कलगी बाजरे की,
रात होते — प्रात होते, साँप के प्रति, यह दीप अकेला, छब्बीस जनवरी।
- इकाई 4 : **द्रुतपाठ हेतु निर्धारित कवि** : (1) अयोध्यासिंह उपाध्याय 'हरिऔध' (2)
महादेवी वर्मा (3) माखनलाल चतुर्वेदी
- इकाई 5 : **द्रुतपाठ हेतु निर्धारित कवि** : (1) केदारनाथ अग्रवाल (2) हरिवंशराय बच्चन (3)
धर्मवीर भारती

प्रश्न एवं अंक—विभाजन :

खण्ड (क) प्रत्येक इकाई से दो-दो (कुल दस) लघूत्तरी प्रश्न (शब्द सीमा 30 शब्द)

10x2=20 अंक

खण्ड (ख) इकाई एक, दो, तीन में निर्धारित काव्यांशों से विकल्प सहित एक-एक (कुल तीन) व्याख्या।

इकाई चार, पाँच में निर्धारित कवियों से विकल्प सहित एक-एक (कुल दो) टिप्पणी परक प्रश्न

(शब्द सीमा 250 शब्द) 5x7=35 अंक

खण्ड (ग) इकाई एक, दो, तीन में निर्धारित कवियों से पाँच आलोचनात्मक प्रश्न पूछे जाएँगे, जिनमें से किन्हीं तीन के उत्तर देने होंगे।

(शब्द सीमा 500 शब्द) 3x15=45 अंक

सहायक पुस्तकें :

आधुनिक हिन्दी कविता की मुख्य प्रवृत्तियाँ : डॉ० नगेन्द्र

भारतीय संस्कृति के आख्याता: मैथिलीशरण गुप्त : उमाकान्त गोयल

कवि निराला : नन्ददुलारे वाजपेयी

छायावाद : नामवर सिंह

दिनकर के काव्य में राष्ट्रीय भावना : शिवकान्त गोस्वामी

अज्ञेय की कविता : चन्द्रकांत वांदिबडेकर

नया हिन्दी काव्य : शिवकुमार मिश्र

बी0ए0 अन्तिम वर्ष – 2019–20
हिन्दी साहित्य

द्वितीय प्रश्न-पत्र
काव्यांग विवेचन एवं हिन्दी गद्य विधाओं का स्वरूप

नोट : यह प्रश्न-पत्र तीन घण्टे की अवधि एवं 100 अंकों का होगा।

- इकाई 1 काव्य-लक्षण, काव्य-हेतु, काव्य-प्रयोजन, काव्य-भेद।
- इकाई 2 रस का स्वरूप, रस के अवयव-स्थायी भाव, विभाव, अनुभाव, संचारी भाव। रस के भेदों का परिचय।
- इकाई 3 **अलंकार** : सामान्य परिचय, निर्धारित अलंकार-अनुप्रास, यमक, श्लेष, वक्रोक्ति, उपमा, रूपक, भ्रान्तिमान, सन्देह, उत्प्रेक्षा, दृष्टान्त, विरोधाभास, असंगति (कुल 12)
छन्द : सामान्य परिचय, निर्धारित छन्द-दोहा, सोरठा, चौपाई, रोला, इन्द्रवज्रा, मन्दाक्रान्ता, उपेन्द्रवज्रा, मदिरा सवैया, मत्तगयन्द सवैया, दुर्मिल सवैया, मनहरण, देव घनाक्षरी (कुल 12)
- इकाई 4 **काव्य-गुण**
काव्य-दोष : निर्धारित काव्य-दोष-श्रुतिकटुत्व, च्युतसंस्कृति, ग्राम्यत्व, अश्लीलत्व, अप्रतीतत्व, क्लिष्टत्व, न्यूनपदत्व, अधिकपदत्व, पुनरुक्तत्व, अक्रमत्व, दुष्क्रमत्व (कुल 11)
शब्द शक्तियाँ
- इकाई 5 **गद्य विधाओं** – नाटक, एकांकी, उपन्यास, कहानी, निबन्ध, आलोचना, संस्मरण, रेखाचित्र, आत्मकथा, जीवनी का स्वरूप एवं तात्त्विक विवेचन।

इकाई एवं अंक-विभाजन :

खण्ड (क) प्रत्येक इकाई से दो-दो (कुल दस) लघूत्तरी प्रश्न (शब्द सीमा 30 शब्द)

10x2= 20 अंक

खण्ड (ख) प्रत्येक इकाई से विकल्प सहित एक-एक (कुल पाँच) टिप्पणी परक प्रश्न (शब्द सीमा 250 शब्द)

5x7= 35 अंक

खण्ड (ग) प्रत्येक इकाई से एक-एक आलोचनात्मक प्रश्न पूछा जायेगा, जिनमें से किन्हीं तीन के उत्तर देने होंगे (शब्द सीमा 500 शब्द)

3x15= 45 अंक

सहायक पुस्तकें :

सिद्धान्त और अध्ययन : गुलाब राय

काव्य प्रदीप : रामबहोरी शुक्ल

साहित्य रूप : शिवकरण सिंह

काव्य के रूप : गुलाब राय

हिन्दी आलोचना : विश्वनाथ त्रिपाठी

काव्यशास्त्र : भगीरथ मिश्र

FACULTY OF ARTS, EDUCATION AND SOCIAL SCIENCES

BACHELOR OF ARTS

Syllabus of B.A. I Year History

Pattern of Question Paper in B.A. Part I (2019-20)

Section A: Will consist of 10 compulsory questions. There will be two questions from each unit and answer of each question shall be limited upto 30 words. Each question will carry 2 marks.

Section B: Will consist of 10 questions. Two questions from each unit will be set and students will answer one question from each Unit. Answer of each question shall be limited upto 250 words. Each question will carry 7 marks.

Section C: Will consist of total 5 questions. The paper setter will set one question from each Unit and students will answer any 3 questions and answer of each question shall be limited upto 500 words. Each question will carry 15 marks.

बी.ए. प्रथम वर्ष परीक्षा, 2019-20

इतिहास

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|---------------------|---------|
| प्रथम प्रश्न-पत्र | 100 अंक |
| द्वितीय प्रश्न-पत्र | 100 अंक |
| अवधि | 3 घण्टे |

प्रथम प्रश्न-पत्र

भारत का इतिहास 1200 ई. तक

- इकाई-1 इतिहास जानने के स्रोत, पूर्व पाषाणकालीन संस्कृति, मध्यपाषाणकालीन संस्कृति, नवपाषाण कालीन और ताम्रपाषाणकालीन संस्कृति।
- इकाई-2 नगर नियोजन के विशेष संदर्भ में हड़प्पा सभ्यता की विशेषताएं, इसका पतन, वैदिक राजनय, अर्थव्यवस्था, भारत में लौह युगीन संस्कृति, उत्तर व दक्षिण में महापाषाण युग।
- इकाई-3 चन्द्रगुप्त मौर्य – उसकी विजयें एवं प्रशासन, अशोक का धर्म एवं प्रचार, मौर्य कला और स्थापत्य कला, पुष्यमित्र शुंग, रुद्रदामन, कनिष्क एवं गौतमीपुत्र शातकर्णिक का मूल्यांकन।
- इकाई-4 प्रारम्भिक गुप्त शासक, समुद्रगुप्त, चन्द्रगुप्त द्वितीय, स्कन्दगुप्त, गुप्त साम्राज्य के पतन के कारण, गुप्त कला, स्थापत्य कला, साहित्य, दर्शन, धर्म, विज्ञान और तकनीक।
- इकाई-5 गुप्त प्रशासन, हर्षवर्धन, भारतीय संस्कृति में चोलों, चालुक्यों और पल्लवों का योगदान, सर्वोच्चता के लिए त्रिकोणीय संघर्ष, मिहिरभोज प्रतिहार, पृथ्वीराज चौहान तृतीय, महमूद गजनवी एवं मुहम्मद गौरी के आक्रमणों का प्रभाव।

संदर्भ ग्रंथ:

- झा, डी.एन. एवं श्रीमाली, के.एम.: प्राचीन भारत का इतिहास, दिल्ली, 1990।
- पाण्डे, राजबली: प्राचीन भारत।
- ओम प्रकाश: प्राचीन भारत का इतिहास।
- नाहर, रतिभानु सिंह: प्राचीन भारत का राजनितिक एवं सांस्कृतिक इतिहास।
- Thapar, Romila: A History of India Vol. I.
- Thapar, B.K.: Recent Archaeological discoveries in India (UNESCO, 1985)
- Sharma, R.S.: Aspects of Political Ideas and Institutions in Ancient India, Delhi.
- Nilkantha Shastri K.A.: A History of South India.
- Jha D.N. and Adhya G.L.: Early Indian Economics.
- Basham A.L.: The Wonder that was India.
- Brown Percy: Indian Architecture Vol. I.
- Majumdar R.C.(Ed.): History and Culture of the Indian People Vol. II, III, IV, V.
- Gopal, L. Economic Life of Northern India.
- Altekar: The Vakataka Gupta Age – Banaras, 1959.
- Chattopadhyaya, S.: Social Life in Ancient India.
- Chattopadhyaya, S.: Early History of North India.

B.A. PART I EXAMINATION – 2019-20
HISTORY

| | |
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| Paper I | 100 Marks |
| Paper II | 100 Marks |
| Duration of each paper | 3 Hours |

PAPER – I
HISTORY OF INDIA UPTO 1200 A.D.

- Unit 1 Sources of History, Palaeolithic, Mesolithic, Neolithic and Chalcolithic cultures.
- Unit 2 Features of Harappan Civilization with special reference to Urban Planning, its decline. Vedic Polity, Economy. Iron age Culture in India, Megaliths in the South and North.
- Unit 3 Chandragupta Maurya – his conquest and administration, Ashoka’s religion and its propagation, Mauryan Art and architecture, Estimate of Pushyamitra Sunga; Rudradaman, Kaniska and Gautamiputra Satkarni.
- Unit 4 Early Gupta Rulers, Samudragupta, Chandragupta II, Skandagupta, Causes of the decline of the Gupta Empire, Gupta art, architecture, literature, Philosophy, Religion, Science and Technology.
- Unit 5 Gupta administration, Harshvardhana; contribution of Cholas, Chalukyas and Pallavas to Indian Culture; Tripartite struggle for supremacy, Mihirbhoj Pratihara and Prithviraja Chahmana III; Impact of invasions of Mahmood Ghazni and Mohammed Ghori.

Suggested Readings:

- Thapar, Romila: A History of India Vol. I.
- Thapar, B.K.: Recent Archaeological discoveries in India (UNESCO, 1985)
- Sharma, R.S.: Aspects of Political Ideas and Institutions in Ancient India, Delhi.
- Nilkantha Shastri K.A.: A History of South India.
- Jha D.N. and Adhya G.L.: Early Indian Economics.
- Basham A.L.: The Wonder that was India.
- Brown Percy: Indian Architecture Vol. I.
- Majumdar R.C.(Ed.): History and Culture of the Indian People Vol. II, III, IV, V.
- Gopal, L. Economic Life of Northern India.
- Altekar: The Vakataka Gupta Age – Banaras, 1959.
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- झा, डी.एन. एवं श्रीमाली, के.एम.: प्राचीन भारत का इतिहास, दिल्ली, 1990 ।
- पाण्डे, राजबली: प्राचीन भारत ।
- ओम प्रकाश: प्राचीन भारत का इतिहास ।
- नाहर, रतिभानु सिंह: प्राचीन भारत का राजनितिक एवं सांस्कृतिक इतिहास ।

बी.ए. प्रथम वर्ष परीक्षा, 2019-20

इतिहास

द्वितीय प्रश्न-पत्र

भारतीय संस्कृति एवं सभ्यता

- इकाई-1 भारतीय संस्कृति का अर्थ एवं आदर्श, विभिन्नता में एकता, सैन्धव समाज एवं धर्म, वैदिक साहित्य, समाज और धर्म।
- इकाई-2 जैन धर्म, बौद्ध धर्म, इस्लाम धर्म, सिक्ख धर्म, प्राचीन भारत में शिक्षा के केन्द्र।
- इकाई-3 वर्ण, जाति, संयुक्त परिवार – लाभ व हानियाँ, पुरुषार्थ, आश्रम व्यवस्था, विभिन्न युगों में नारी की स्थिति।
- इकाई-4 शंकराचार्य एवं उनकी शिक्षाएं, भक्ति आन्दोलन, अजन्ता चित्रकला, रामायण, महाभारत, कालीदास, तुलसीदास, मीरा।
- इकाई-5 भारतीय पुनर्जागरण, राष्ट्रीय आन्दोलन में तिलक, गांधी एवं सुभाष चन्द्र बोस का योगदान, पश्चिम का भारतीय संस्कृति पर प्रभाव, आर्य भट्ट, सी.वी. रमन, जे.सी. बसु।

संदर्भ ग्रंथ:

| | |
|--------------------|--|
| गोपाल एवं यादव: | भारतीय संस्कृति। |
| भटनागर, के.एस. | भारत का सांस्कृतिक इतिहास। |
| शर्मा, आर.जी.: | भारतीय साहित्य और संस्कृति का इतिहास। |
| लूनिया, बी.एन.: | भारतीय संस्कृति। |
| श्रीवास्तव, ए.एल.: | मध्यकालीन भारतीय संस्कृति। |
| बाशम, ए.एल.: | अद्भुत भारत। |
| अग्रवाल, आर.सी.: | भारतीय संविधान का विकास तथा राष्ट्रीय आन्दोलन। |
| सिंह, वी.पी.: | भारत का राष्ट्रीय आन्दोलन और संवैधानिक विकास। |

| | | |
|--------------------|---|--|
| Basham, A.L. | : | The Wonder that was India (Adbhut Bharat Hindi (ed.). |
| Raychoudhary, H.C. | : | Political History of Ancient India. |
| Raghuvansi, V.P.S. | : | Indian National Movement and Thought (Hindi and Eng. ed.). |
| Luniya, B.N. | : | History of Indian Culture |
| Vidyarathi, M.L. | : | |
| Sikri, S.L. | : | History of Indian National Movement |

B.A. PART I EXAMINATION – 2019-20
HISTORY
PAPER – II
INDIAN CULTURE AND CIVILIZATION.

- Unit 1 Meaning and Ideals of Indian Culture, Unity in diversity.
Indus Society and Religion
Vedic Literature, Society and Religion.
- Unit 2 Jainism, Buddhism, Islam and Sikhism.
Centres of Learning in Ancient India.
- Unit 3 Varna, Caste, Joint family – merits and demerits, Purushartha, Ashram System,
Position of women through the ages.
- Unit 4 Sankaracharya – his teachings, Bhakti Movement, Ajanta Paintings.
Ramayan, Mahabharata, Kali Das, Tulsi Das, Mira.
- Unit 5 Indian Renaissance; Contributions of Tilak, Gandhi and S.C. Bose to the National
movement.
Impact of West on Indian Culture.
Arya Bhatta, C.V. Raman, J.C. Basu.

Suggested Readings:

- Basham, A.L. : The Wonder that was India (Adbhut Bharat Hindi (ed.).
Raychoudhary, H.C. : Political History of Ancient India.
Raghuvansi, V.P.S. : Indian National Movements and Thought (Hindi and
Eng. ed.)
Luniya, B.N : History of Indian Culture
Vidyarathi, M.L. :
Sikri, S.L : History of Indian National Movement
गोपाल एवं यादव: भारतीय संस्कृति ।
भटनागर, के.एस. भारत का सांस्कृतिक इतिहास ।
शर्मा, आर.जी.: भारतीय साहित्य और संस्कृति का इतिहास ।
लूनिया, बी.एन.: भारतीय संस्कृति ।
श्रीवास्तव, ए.एल.: मध्यकालीन भारतीय संस्कृति ।
बाशम, ए.एल.: अद्भुत भारत ।
अग्रवाल, आर.सी.: भारतीय संविधान का विकास तथा राष्ट्रीय आन्दोलन ।
सिंह, वी.पी.: भारत का राष्ट्रीय आन्दोलन और संवैधानिक विकास ।

BACHELOR OF ARTS

GENERAL INFORMATION FOR STUDENTS

Pattern of Question Paper in B.A. Part II (2019-20)

Section A: Will consist of 10 compulsory questions. There will be two questions from each unit and answer of each question shall be limited upto 30 words. Each question will carry 2 marks.

Section B: Will consist of 10 questions. Two questions from each unit will be set and students will answer one question from each Unit. Answer of each question shall be limited upto 250 words. Each question will carry 7 marks.

Section C: Will consist of total 5 questions. The paper setter will set one question from each Unit and students will answer any 3 questions and answer of each question shall be limited upto 500 words. Each question will carry 15 marks.

बी.ए. द्वितीय वर्ष परीक्षा, 2019-20

इतिहास

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|---------------------|---------|
| प्रथम प्रश्न-पत्र | 100 अंक |
| द्वितीय प्रश्न-पत्र | 100 अंक |
| अवधि | 3 घण्टे |

**प्रथम प्रश्न-पत्र
भारत का इतिहास (1200 ई.-1760 ई.)**

- इकाई 1 : मध्यकालीन भारतीय इतिहास के प्रमुख स्रोत।
कुतुबुद्दीन ऐबक, इल्तुतमिश और बलबन की उपलब्धियां
अलाउद्दीन खिलजी की विजयें, प्रशासन, आर्थिक सुधार।
- इकाई 2 : तुगलक वंश – मुहम्मद बिन तुगलक – प्रशासनिक कार्य, फिरोज तुगलक का प्रशासन, एवं धार्मिक नीति, तैमूर का आक्रमण।
प्रान्तीय राज्यों का उदय।
- इकाई 3 : मुगलों का राज्य विस्तार : बाबर एवं हुमायूँ, द्वितीय अफगान साम्राज्य : शेरशाह, अकबर एवं जहाँगीर की उपलब्धियां।
- इकाई 4 : शाहजहाँ एवं औरंगजेब, आर्थिक विकास : कृषि, व्यापार, वाणिज्य, उद्योग, मुगल कला एवं स्थापत्य।
- इकाई 5 : मुगल प्रशासन एवं संस्थाएँ : जागीरदारी एवं मनसबदारी व्यवस्था
प्रशासकीय संगठन
राजपूत कालीन कृषि, व्यापार व वाणिज्य

सहायक पुस्तकें :

Majumdar, Dutta and

Raychoudhary; An Advanced History of India. (Also in Hindi)

Sharma S.R.: Crescent in India

Muslim Sashan Ka Itihas.

Mughal Empire in India.

Srivastava A.L.: Sultanate of Delhi.

History of India (1000-1707) Also Hindi Edition.

Satish Chandra: Uttar Mughal Kalin Bharat.

Parties and Politics at the Mughal Court, 1707-1740 A.D., Aligarh, 1959.

Medieval India; from Sultanate to the Mughals – 1997 Delhi.

Lal K.S.: History of Khiljis.

Tripathi, R.P.: Some Aspects of Muslim Administration.

Dey U.N.: Government of the Delhi Sultanate.

Habib A.B.M.: The Foundation of Muslim Rule in India.

Verma H.C.: Madhya Kalin Bharat – Vol. I, 750-1540.

Madhya Kalin Bharat Vol. II, 1540-1701.

Pandey A.B.: Early Medieval India ed. 1970.

Rizvi S.A.A.: The Wonder that was India, Vol. 2, London, 1993.

Desai Z.A.: Indo-Islamic Architecture, Delhi, 1972.

Richard John, F.: Mughal Empire, Delhi, 1993.

Pandey Avadhbihari: Madhyayugin Bharat.

Sarkar J.N.: Mughal Shashan Paddhati.

B.A. PART II EXAMINATION – 2019-20
HISTORY

Paper I

Paper II

Duration of each paper

100 Marks

100 Marks

3 Hours

PAPER – I
HISTORY OF INDIA FROM c. 1200 – 1760 A.D.

- Unit 1 Historical Sources of Medieval Indian History. Achievements of Qutub-din-Aibak, Illtutmish and Balban; Alauddin Khalji – conquest, administration and economic reforms.
- Unit 2 Tughluq dyansty – Muhammed Bin Tughluq – administrative works, Firoz Tughlaq – administration and religious policy. Invasion of Timur, Rise of Provincial Kingdoms.
- Unit 3 Expansion of Mughals – Babar and Humayun.
Second Afghan Empire - Shershah.
Achievements of Akbar and Jahangir.
- Unit 4 Shahjahan and Aurangzeb, Economic progress : Agriculture, Trade, Commerce, Industry, Mughal Art and Architecture.
- Unit 5 Mughal administration and institutions.
Jagirdari and Mansabdari System.
Administrative organisation, Agriculture, trade and commerce of Rajputs.

Suggested Readings:

Majumdar, Dutta and

Raychoudhary;

Sharma S.R.:

An Advanced History of India. (Also in Hindi)

Crescent in India

Muslim Sashan Ka Itihas.

Mughal Empire in India.

Srivastava A.L.:

Sultanate of Delhi.

History of India (1000-1707) Also Hindi Edition.

Satish Chandra:

Uttar Mughal Kalin Bharat.

Parties and Politics at the Mughal Court, 1707-1740 A.D., Aligarh 1959.

Medieval India; from Sultanate to the Mughals – 1997 Delhi.

Lal K.S.:

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Dey U.N.:

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Pandey A.B.:

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Rizvi S.A.A.:

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Desai Z.A.:

Indo-Islamic Architecture, Delhi, 1972.

Richard John, F.:

Mughal Empire, Delhi, 1993.

बी.ए. द्वितीय वर्ष परीक्षा, 2019–20
इतिहास
द्वितीय प्रश्न-पत्र
विश्व का इतिहास – 15 वीं शताब्दी से 1945 ई. तक

- इकाई 1 : सामन्तवाद का उत्थान एवं पतन
पुनर्जागरण – अर्थ, कारण
धर्मसुधार आन्दोलन – कारण, मार्टिन लूथर की भूमिका
वाणिज्यवाद : अर्थ, विशेषताएं, प्रभाव ।
- इकाई 2 : कृषि क्रान्ति
औद्योगिक क्रान्ति, गौरवपूर्ण क्रान्ति (1688 ई.) – कारण, परिणाम
अमेरिका का स्वतंत्रता संग्राम – कारण एवं महत्त्व
फ्रान्सीसी क्रान्ति : कारण एवं परिणाम ।
- इकाई 3 : 19 वीं और 20 वीं शताब्दी में इंग्लैण्ड में संसदीय सुधार
नेपोलियन बोनापार्ट
यूरोप की संयुक्त व्यवस्था
इटली एवं जर्मनी का एकीकरण
नवीन साम्राज्यवाद का उदय ।
- इकाई 4 : प्रथम विश्व युद्ध – कारण-परिणाम
बोल्शेविक क्रान्ति – कारण-परिणाम
पेरिस शान्ति समझौता 1919 ई. ।
- इकाई 5 : नाजीवाद एवं फासीवाद का उदय
राष्ट्रसंघ – जन्म, उद्देश्य, संगठन, उपलब्धियां, असफलता के कारण, द्वितीय विश्व युद्ध –
कारण व परिणाम
संयुक्त राष्ट्रसंघ – जन्म एवं संगठन ।

सहायक पुस्तकें :

- Burns : Western Civilization.
Hayes, A.: Political and Cultural History of Modern Europe, Vol. I & II.
Ketilbey, C.D.M.: History of Modern Times (Hindi and Eng. eds.)
Hazen, C.D.: History of Modern Europe (Hindi & Eng. eds.)
Gupta, Parthasarthi: Adhunik Pashchim Ka Udaya.
Chouhan, D.S.: Europe Ka Itihas (1813-1919).
Verma, Dinanath: Manav Sabhyata Ka Itihas.
Pandey, V.C.: History of Europe.
Luniya, B.N. : Adhunik Paschatya Itihas Ki Pramukh Dharaen : Part I & II.

B.A. PART II EXAMINATION – 2019-20
HISTORY
PAPER – II
WORLD HISTORY FROM 15TH CENTURY TO 1945 A.D.

- Unit 1 Rise and decline of feudalism.
 Renaissance – Meaning, Causes.
 Reformation – Causes, Role of Martin Luther.
 Mercantilism – Meaning, Features and Impact
- Unit 2 Agricultural Revolution.
 Industrial Revolution, Glorious Revolution (1688) Causes and results.
 American War of Independence – Causes and its Significance.
 French Revolution – Causes and results.
- Unit 3 Parliamentary reforms in England in the 19th & 20th Centuries.
 Napoleon Bonaparte.
 Congress of Vienna.
 Unification of Italy and Germany.
 Rise of New Imperialism.
- Unit 4 First World War – causes and results.
 Bolshevik Revolution – causes and results.
 Peace Settlement of Paris (1919).
- Unit 5 Rise of Fascism and Nazism.
 League of Nations: Birth, aims, organisation, achievements and causes of failure.
 Second World War – causes and results. UNO: Birth, organisation.

Suggested Readings:

- Burns : Western Civilization.
Hayes, A.: Political and Cultural History of Modern Europe, Vol. I & II.
Kettleby, C.D.M.: History of Modern Times (Hindi and Eng. eds.)
Hazen, C.D.: History of Modern Europe (Hindi & Eng. eds.)
Pandey, V.C.: History of Europe.
Jain & Mathur : History of World

FACULTY OF ARTS, EDUCATION AND SOCIAL SCIENCES

BACHELOR OF ARTS

GENERAL INFORMATION FOR STUDENTS

Pattern of Question Paper in B.A. Final (2019-20)

Section A: Will consist of 10 compulsory questions. There will be two questions from each unit and answer of each question shall be limited upto 30 words. Each question will carry 2 marks.

Section B: Will consist of 10 questions. Two questions from each unit will be set and students will answer one question from each Unit. Answer of each question shall be limited upto 250 words. Each question will carry 7 marks.

Section C: Will consist of total 5 questions. The paper setter will set one question from each Unit and students will answer any 3 questions and answer of each question shall be limited upto 500 words. Each question will carry 15 marks.

बी.ए. अन्तिम वर्ष परीक्षा, 2019–20

इतिहास

| | |
|---------------------|---------|
| प्रथम प्रश्न-पत्र | 100 अंक |
| द्वितीय प्रश्न-पत्र | 100 अंक |
| अवधि | 3 घण्टे |

प्रथम प्रश्न-पत्र

भारत का इतिहास (1740 से 1950 ई.)

- इकाई 1: अंग्रेजों के आगमन के समय भारत की राजनीतिक और आर्थिक स्थिति, बंगाल में ब्रिटिश सत्ता का प्रसार—प्लासी और बक्सर का युद्ध, प्रथम आंग्ल—मराठा युद्ध और सालबाई की सन्धि, सहायक सन्धि एवं गोद निषेध प्रथा—ब्रिटिश साम्राज्य के विस्तार के रूप में।
- इकाई 2: स्थायी बन्दोबस्त, रैय्यतवाड़ी और महलवाड़ी व्यवस्थाएं, कृषि का वाणिज्यीकरण और उसका प्रभाव, कुटीर उद्योगों का पतन, धन निष्कासन के कारण एवं प्रभाव।
- इकाई 3: शिक्षा और न्यायिक सुधार, भारत में सामाजिक—धार्मिक आन्दोलन, पाश्चात्य शिक्षा एवं प्रेस का विकास, सामन्तवाद के विरुद्ध कृषक प्रतिरोध, 1857 का विप्लव—कारण, प्रकृति एवं परिणाम।
- इकाई 4: राजनीतिक जागृति का विकास, उदारवादी, उग्रवादी एवं क्रान्तिकारियों के सिद्धान्त, विषय एवं उपलब्धियाँ, राष्ट्रीय आन्दोलन में गांधीजी की भूमिका, कृषक और श्रमिक आन्दोलन, दलित वर्ग आन्दोलन।
- इकाई 5: 1909 का अधिनियम (मिन्टो—मॉर्ले सुधार), 1919 और 1935 का अधिनियम, साम्प्रदायिक राजनीति और विभाजन, सुभाषचन्द्र बोस और आजाद हिन्द फौज, भारतीय संघ में देशी राज्यों का विलय तथा कश्मीर, जूनागढ़ और हैदराबाद की समस्या।

सहायक पुस्तकें :

- शर्मा, एल.पी.: आधुनिक भारत का इतिहास
जैन, एम.एस.: आधुनिक भारत का इतिहास
प्रसाद एवं सुबेदार: अर्वाचीन भारत
सीकरी, एस.एल.: भारतीय संविधान का इतिहास
शुक्ल, आर.एल.: आधुनिक भारत का इतिहास
रॉय, सत्या एम.: भारत में उपनिवेशवाद एवं राष्ट्रवाद
बिपिन चन्द्र: भारत का स्वतंत्रता संग्राम

B.A. FINAL EXAMINATION – 2019-20

HISTORY

Paper I

100 Marks

Paper II

100 Marks

Duration of each paper

3 Hours

PAPER – I

HISTORY OF INDIA FROM c. 1740-1950 A.D.

- Unit 1 Political and Economic condition of India at the advent of Britishers.
British Expansion in Bengal – Battle of Plassey and Buxar.
First Anglo-Maratha war and Treaty of Salbai.
Subsidiary Alliances and Doctrine of Lapse as source of expansion of British Empire.
- Unit 2 Permanent Settlement.
Ryotwari and Mahalwari.
Commercialization of agriculture and its effects.
Decline of Cottage industries; causes and effect of Drain of Wealth.
- Unit 3 Education and Judiciary Reforms.
Socio-Religious movement in India.
Growth of English Education and Press.
Peasant Protest against Feudalism.
Revolt of 1857 – causes, nature and results.
- Unit 4 Growth of Political awareness.
Theory, Theme and Achievements of Moderates,
Extremists and revolutionaries.
Role of Gandhi in National movement.
Peasant and Workers' Movements, Depressed Class movements.
- Unit 5 Act of 1909 (Minto – Morley Reforms).
Act of 1919 and 1935.
Communal Politics and Partition.
Subhash Chandra Bose and I.N.A.
Integration of the Indian States and Problem of Kashmir, Junagarh and Hyderabad.

Suggested Readings:

Majumdar, Dutta and

Raychoudhary: Advanced History of India, Part III (Hindi and Eng. ed.).

Robert, P.E.: History of British India.

Dutta and Sarkar: A Text Book of Modern Indian History.

Sarkar, Sumit: Modern India – 1885-1947.

Bipin, Chandra :

राजस्थान का इतिहास एवं संस्कृति

- इकाई 1: राजस्थान – भूगोल, पूर्वी एवं पश्चिमी राजस्थान का सीमांकन, पूर्व ऐतिहासिक राजस्थान, राजपूतों की उत्पत्ति, मण्डोर के प्रतिहार-नागभट्ट द्वितीय और मिहिर भोज, मेवाड़ के गुहिल, शाकम्भरी के चौहान – अर्णोराज और विग्रहराज चतुर्थ।
- इकाई 2: राजस्थान में मुस्लिम सत्ता का प्रसार, कुम्भा और सांगा के अधीन मेवाड़ का उदय, जोधा और मालदेव के अधीन मारवाड़ का उदय, मन्दिर स्थापत्य-देलवाड़ा और रणकपुर, दुर्ग स्थापत्य – चित्तौड़, रणथम्भौर और मेहरानगढ़।
- इकाई 3: मुगलों के साथ प्रतिरोध एवं सहयोग : आमेर – मानसिंह, मिर्जा राजा जयसिंह और सवाई जयसिंह, मेवाड़ – प्रताप, मारवाड़ – चन्द्रसेन, जसवंतसिंह और दुर्गादास, बीकानेर – रायसिंह।
- इकाई 4: राजपूत चित्रकला की विशेषताएँ, मराठा आक्रमण – कारण और प्रभाव, ईस्ट इण्डिया कम्पनी के साथ सन्धियाँ, व्यापार और वाणिज्य, मेले और त्यौहार, संगीत और नृत्य।
- इकाई 5: 1857 का विप्लव – कारण और प्रभाव, राजपूताना में राजनीतिक जागरण, भील, बिजोलिया आन्दोलन, जोधपुर, मेवाड़ एवं जयपुर के विशेष सन्दर्भ में प्रजामण्डल आन्दोलन, राजस्थान का निर्माण।

सहायक पुस्तकें :

Sharma, Dashrath : Rajasthan through the Ages Vol. I-III

Sharma, G.N. : Mewar and the Mughal Emperors.
Social Life in Medieval Rajasthan.

Pema Ram : Agrarian Movement in Rajasthan.

Sharma, K.G. & Ratnavat : History of Rajasthan.

Bannerji, A.C. : Rajput States and East Indian Company.

Bhattacharya, Sukumar : East India Company and the States of Rajputana.

Khadgawat, N.R. : Rajasthan's Role in Struggle of 1857.

Rathore, L.S. : Political Movements and Constitutional Development in Princely States of Rajputana.

Vashishtha, V.K. : Rajputana Agency.

Mathur, V.D. : States Peoples Conference in Rajasthan.

शर्मा, जी.एन. : राजस्थान का इतिहास।

राजस्थान का सांस्कृतिक इतिहास।

व्यास, आर.पी. : राजस्थान का वृहत् इतिहास, दो भाग।

जैन, एम.एस. : राजस्थान का इतिहास।

रघुवीरसिंह : पूर्व आधुनिक राजस्थान।

पनगड़िया, बी.एल. – राजस्थान का स्वतंत्रता संग्राम।

शर्मा, कृष्ण गोपाल & जैन, हुकुमचंद : राजस्थान का सांस्कृतिक एवं राजनैतिक इतिहास।

B.A. FINAL EXAMINATION – 2019-20
HISTORY
PAPER – II
HISTORY AND CULTURE OF RAJASTHAN.

- Unit 1 Rajasthan - Geography, demarcation of Eastern and Western Rajasthan. Pre-historic Rajasthan, Origin of Rajputs, Pratihars of Mandore – Nagbhatt II and Mihir Bhoj; Guhils of Mewar; Chauhans of Shakambhari – Arno Raj and Vighraha Raj IV.
- Unit 2 Muslim Expansion in Rajasthan.
Rise of Mewar under Kumbha and Sanga;
Rise of Marwar under Jodha and Maldeo;
Temple Architecture – Delwara and Ranakpur;
Fort Architecture – Chittor, Ranthambhore and Mehrangarh.
- Unit 3 Resistance and Collaboration with Mughals – Amber - Man Singh, Mirza Raja Jai Singh, Sawai Jai Singh; Mewar - Pratap; Marwar - Chandra Sen, Jaswant Singh, Durga Das; Bikaner - Rai Singh.
- Unit 4 Salient features of Rajput Paintings. Maratha Incursions – Causes and Impact; Treaties with East India Company; Trade and Commerce; Fair and Festivals; Music and Dance.
- Unit 5 Uprising of 1857 – Causes and Impact, Political Awakening in Rajputana; Bhil, Bijolia Movements and Praja Mandal Movements with Special reference to Jodhpur, Mewar and Jaipur; Formation of Rajasthan.

Suggested Readings:

- Sharma, Dashrath : Rajasthan through the Ages Vol. I-III
Sharma, G.N. : Mewar and the Mughal Emperors.
Social Life in Medieval Rajasthan.
Pema Ram : Agrarian Movement in Rajasthan.
Sharma, K.G. & Ratnavat : History of Rajasthan.
Bannerji, A.C. : Rajput States and East Indian Company.
Bhattacharya, Sukumar : East India Company and the States of Rajputana.
Khadgawat, N.R. : Rajasthan's Role in Struggle of 1857.
Rathore, L.S. : Political Movements and Constitutional Development in Princely States of Rajputana.
Vashishtha, V.K. : Rajputana Agency.
Mathur, V.D. : States Peoples Conference in Rajasthan.
शर्मा, जी.एन. : राजस्थान का इतिहास ।
राजस्थान का सांस्कृतिक इतिहास ।
व्यास, आर.पी. : राजस्थान का वृहत् इतिहास, दो भाग ।
जैन, एम.एस. : राजस्थान का इतिहास ।
रघुवीरसिंह : पूर्व आधुनिक राजस्थान ।
पनगड़िया, बी.एल. – राजस्थान का स्वतंत्रता संग्राम ।
शर्मा, कृष्ण गोपाल & जैन, हुकुमचंद : राजस्थान का सांस्कृतिक एवं राजनैतिक इतिहास ।

- Unit I : Nature of Indian Philosophy, Vedic and the Upanisadic basic concepts : Theology, Concept of Jivatma in Upanisads, Panchkosh and four levels Jagrit ,Swapan , Sushupti , Turiya. The Charvaka Philosophy : Epistemology, Metaphysics.
- Unit II : Snakhya – Yoga :
Sankhya : Satkaryavada and its criticism, Nature and Proofs for Prakriti, Nature and proofs for Purusha, Evolution of Prakriti.
Yoga : Yoga Psychology-citta, Citta-vrtti and Cittabhumi, Eight fold means of Yoga.
- Unit III : Jainism and Buddhism :
Jainsim : Anekantavada, Syadvada, Knowledge and its kinds in Jainism, The Seven Elements.
Buddhism : Four Noble Truths, Pratitya samutpada, Ksanika-vada, Anatmavada.
- Unit IV : Nyaya –Vaisheshika :
Nyaya : Pratyaksha, Anumana, Upamana and Shabha, God – Nature and Proofs.
Vaisheshika : Padartha Vichar – Seven Kinds of Padartha, Asatkaryavada-Arambhavada.
- Unit V : Mimansa and Vedanta :
Mimansa : Pramana, Pramanyavada, Khyativada.
Vedanta :
Shankara : Concept of Brahman, Mayavada and its Criticism, Jiva and Moksha (Nature and Means).
Ramanuja : Ishvara, Jiva and Jagat.

PRESCRIBED BOOKS:

- Datta and Chatterji : Bharatiya Darshana (Hindi ,English)
Sharma , C.D. : Bharatia Darshana (Hindi , English)

RECOMMENDED BOOKS:

- Radhakrishnan : Bharatia Darshana (Hindi ,English) , Vol. I and Vol. II
Devraja , N.K. : Bharatia Darshana
Singh , B.N. : Bharatia Darshana
Upadhyaya , Baldev : Bharatiya Darshana
Mishra , Umesh : Bharatiya Darshana
Pandey , Sangam Lal : Bharatiya Darshana ka Sarvekshan
Sinha , H.P. : Bharatiya Darshana ki Rooprekha , M.L.B.D. , Delhi

B.A. Part I Examination, 2020 (session -2019-20)
PHILOSOPHY
PAPER – II
WESTERN PHILOSOPHY

Max. Marks: 100

Unit 1 : Sophists' relativism.

Socrates – Philosophical Method, Theory of Knowledge.

Plato – Theory of Knowledge, Theory of Ideas and its Criticism by Aristotle.

Unit 2 : Aristotle: Theory of Causation, Matter and Form, God.

Aquinas: Faith and Reason, Five Proofs for the existence of God.

Unit 3 : Descartes: Method of Doubt, Innates Ideas, Proofs for the existence of God.

Spinoza : Substance, Attributes and Modes, Pantheism

Leibniz : Monadology, Proofs for the existence of God.

Unit 4 : Locke : Refutation of Innate Ideas, Nature and Sources of Knowledge.

Berkley : Refutation of Material Substance Subjective Idealism.

Hume : Analysis of Causality, Rejection of Metaphysics Scepticism.

Unit 5 : Kant : Forms of Intuition, Categories of Understanding, Possibility of A-Prioni Synthetic Judgments, Phenomena and Noumena.

BOOKS PRESCRIBED :

Yakoob Masih : Paschatya Darshana ka Samikshatmak Itihas, Fifth Edition, 1994, M.L.B.D., Delhi (English version A Critical History of Western philosophy)

Sharma, Chandradhar : Paschatya Darshana, Manohar Prakashan, Banaras.

BOOKS RECOMMENDED :

Frank Thilly : A History of Philosophy.

B. Russell : History of Western Philosophy.

Daya Krishan : Paschatya Darshana ka Itihas, Vol. I and II, R.H.G.A., Jaipur.

Srivastava, J.S. : Greek evam Madhya Yugeen Darshana ka vaigynik Itihas.

Srivastava, J.S. : Adhunik Darshana ka Vaigynik Itihas.

Srivastava, J.S. : Arrachin Darshana ka Vaigynik Itihas.

Pandey, Sangam Lal : Adhunik Darshana ki Bhumika.

Divan Chand : Paschimi Darshana.

Bhatnagar, Rajendra Swaroop : Arambhik Yunanik Darshanik, R.H.G.A., Jaipur, 1991.

Jatav, D.R. : Pramukh Paschatya Darshanik.

Singh, B.N. : Paschatya Darshana.

W.T. Stace : Critical History of Greek Philosophy

D.J. O'Connor : A Cirtical HlStory of Western Philosophy.

दर्शन शास्त्र
बी.ए. प्रथम वर्ष परीक्षा 2020(session -2019-20)
प्रथम प्रश्न पत्र
भारतीय दर्शन

अधिकतम अंक 100

- इकाई 1 : भारतीय दर्शन का स्वरूप, वैदिक एवं औपनिषदिक आधारभूत सम्प्रत्यय : थियोलॉजी, उपनिषदों में जीवात्मा का सम्प्रत्यय—पंचकोश एवं चार स्तर (जागृत, स्वप्न, सुषुप्ति, तुरीय) चार्वाक दर्शन : ज्ञानमीमांसा, तत्त्वमीमांसा
- इकाई 2 : सांख्य—योग :
सांख्य : सत्कार्यवाद एवं इसकी आलोचना, प्रकृति का स्वरूप एवं इसके अस्तित्व के लिए दी गई युक्तियां, पुरुष का स्वरूप एवं इसके अस्तित्व के लिए दी गई युक्तियां, प्रकृति का उद्विकास
योग : योगमनोविज्ञान – चित्त, चित्तवृत्ति और चित्तभूमि, अष्टांग योग
- इकाई 3 : जैन दर्शन एवं बौद्ध दर्शन :
जैन दर्शन : अनेकान्तवाद, स्याद्वाद, जैन दर्शन के अनुसार ज्ञान एवं उसके प्रकार, सात तत्व
बौद्ध दर्शन : चार आर्य सत्य, प्रतीत्यसमुत्पाद, क्षणिकवाद, अनात्मवाद
- इकाई 4 : न्याय—वैशेषिक :
न्याय : प्रत्यक्ष, अनुमान, उपमान एवं शब्द, ईश्वर—स्वरूप एवं युक्तियां
वैशेषिक : पदार्थ विचार – सात प्रकार के पदार्थ, असत्कार्यवाद – आरम्भवाद
- इकाई 5 : मोमांसा एवं वेदान्त :
मीमांसा : प्रमाण, प्रामाण्यवाद, ख्यातिवाद
वेदान्त :
(1) शंकर – ब्रह्म का सम्प्रत्यय, मायावाद एवं इसकी आलोचना जीव एवं मोक्ष (स्वरूप एवं साधन)
(2) रामानुज – ईश्वर जीव एवं जगत

पाठ्य पुस्तकें :

दत्त एवं चटर्जी : भारतीय दर्शन (हिन्दी, अंग्रेजी)

शर्मा, सी.डी. : भारतीय दर्शन (हिन्दी, अंग्रेजी)

अनुशासित पुस्तकें :

राधाकृष्णन : भारतीय दर्शन (हिन्दी, अंग्रेजी)

देवराज, एन.के. : भारतीय दर्शन

सिंह, बी.एन. : भारतीय दर्शन

उपाध्याय, बलदेव : भारतीय दर्शन

मिश्र, उमेश : भारतीय दर्शन

पाण्डेय, संगमलाल : भारतीय दर्शन का सर्वेक्षण

सिन्हा, एच.पी. : भारतीय दर्शन की रूपरेखा, एम.एल.बी.डी., दिल्ली

दर्शन शास्त्र
बी.ए. प्रथम वर्ष परीक्षा 2020(session -2019-20)
द्वितीय प्रश्न पत्र
पाश्चात्य दर्शन

अधिकतम अंक 100

- इकाई 1 सोफिस्टो का सापेक्षतावाद सुकरात-दार्शनिक-विधि, ज्ञान-सिद्धान्त, प्लेटो-ज्ञान
: सिद्धान्त, प्रत्यय का सिद्धान्त एवं अरस्तू द्वारा इसकी आलोचना
- इकाई 2 अरस्तू : कारणता का सिद्धान्त पदार्थ एवं स्वरूप ईश्वर
: एकवीनाज : श्रद्धा एवं बुद्धि, ईश्वर के अस्तित्व के पक्ष में दी गई पांच युक्तियां
- इकाई 3 देकार्त : संदेह-पद्धति जन्मजात प्रत्यय ईश्वर के अस्तित्व के पक्ष में दी गई
: युक्तियां
स्पिनाजा : द्रव्य, गुण एवं पर्याय सर्वेश्वरवाद
लाईबनिज : चिद्गुणवाद, ईश्वर के अस्तित्व के पक्ष में दी गई युक्तियां
- इकाई 4 लॉक : जन्मजात प्रत्ययों का खण्डन ज्ञान का स्वरूप एवं स्रोत
: बर्कले : जड द्रव्य का खण्डन आत्मनिश्चय प्रत्ययवाद
ह्यूम : कारणता का विश्लेषण तत्त्वमीमांसा का खण्डन संशयवाद
- इकाई 5 कान्ट : प्रत्यक्ष के आकार बुद्धि की कोटियां प्रागनुभविक-संश्लेषणात्मक निर्णयों
: की सम्भावना प्रपंच एवं परमार्थ

पाठ्य पुस्तकें :

- याकूब मसीह : पाश्चात्य दर्शन का समीक्षात्मक इतिहास, पंचम संस्करण, 1994, एम.एल.बी.डी.
दिल्ली (हिन्दी, अंग्रेजी)
शर्मा, चन्द्रधर : पाश्चात्य दर्शन, मनोहर प्रकाशन, बनारस

अनुशासित पुस्तकें :

- फ्रेंक थिल्ली : ए हिस्ट्री ऑफ फिलोसोफी
बी. रसेल : ए हिस्ट्री ऑफ वेस्टर्न फिलोसोफी
दयाकृष्ण : पाश्चात्य दर्शन का इतिहास (भाग 1 व 2), राजस्थान हिन्दी ग्रन्थ अकादमी,
जयपुर
श्रीवास्तव, जे.एस. : ग्रीक एवं मध्ययुगीन दर्शन का वैज्ञानिक इतिहास
श्रीवास्तव, जे.एस. : आधुनिक दर्शन का वैज्ञानिक इतिहास
श्रीवास्तव, जे.एस. : अर्वाचीन दर्शन का वैज्ञानिक इतिहास
पाण्डे संगमलाल : आधुनिक दर्शन की भूमिका
दीवानचन्द : पश्चिमी दर्शन
भटनागर राजेन्द्र स्वरूप : आरंभिक यूनानी दार्शनिक, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर
जाटव, डी.आर. : प्रमुख पाश्चात्य दार्शनिक
सिंह, बी.एन. : पाश्चात्य दर्शन
डब्ल्यू. टी. स्टेस : क्रिटिकल हिस्ट्री ऑफ ग्रीक फिलॉसोफी
डी.जे.ओ. कोनर : ए क्रिटिकल हिस्ट्री ऑफ वेस्टर्न फिलॉसोफी

Unit I : General :

- (1) Ethics-Its nature and scope.
- (2) Development of Morality -Customary and Reflective.
- (3) Freedom of will and Moral Responsibility.

Unit II : Greek Ethics:

- (1) Socrates – Virtue is Knowledge
- (2) Plato - Cardinal Virtue.
- (3) Aristotle - Golden Mean.

Unit III Western Ethics:

- :
- (1) Hedonism – Psychology and Ethical
 - (2)Utilitarianism – J.S.Mill.
 - (3)Evolutionism – Herbert Spencer

Unit IV Western Ethics-II:

- :
- (1) Perfectionism – F.H.Bradly
 - (2) Rationlism – Kant
 - (3) Infuitionism – Bishop Butler

Unit V : Indian Ethics:

- (1) Charvaka – Egoism
- (2) Geeta – Nishkama Karma Yogai
- (3) Gandhi – Ethics of Ahimsa

RECOMMENDED BOOKS:

Sinha, J.N.: A manual of Ethics
(Hindi Translation available)

- Unit 1 Meaning and relation of Social Philosophy and Political
: Philosophy.
Theories of relation between individual and Society, Relation of
Religion, Society and Education.
- Unit 2 Tradition, Change, and Modernity: Their Meanings.
: Tradition and Modernity in context of India.
Right – Meaning and Classification.
Duty-Meaning and Classification.
- Unit 3 Thinkers:
: Manu-Varnashramadharma, Rajdharma.
Plato-Social Justice and Ideal State.
Aristotle - Basic Features of his Political Philosophy.
- Unit 4 Ideologies:
: Fascism - Principles and Characteristics
Socialism and Marxist Communism
Sarvodya and Trusteeship - Gandhi.
Democracy - Fraternity, Equality, Liberty and justice.
Feminism.
- Unit 5 Methods of Social-Political Changes:
: Revolution - Meaning and Principles of Marxist Revolution.
Satyagraha and Civil Disobedience - Gandhi.
Constitutionalism - Meaning and main Characteristics.
Terrorism-Meaning and Cause of Emergence : Moral and
Metaphysical Context.

BOOKS PRESCRIBED :

Verma, A.K. : Aarambhik Samaj Evam Rajnitik Darshan,
M.L.B.D.; Delhi.
Mishra, H.N.: Samajik-Rajnitik Darshan.

BOOKS RECOMMENDED :

Sinha, R.C.: Samaj Darshan evam Rajnitik Darshan ki Rooprekha.
Verma, V.P.: Political Thought.
Mishra, H.N.: Samaj Darshan.
Satyapal Gautam: Samaj Darshan.
Singh, Ramji: Samaj Darshan.
Iqbal Narayan: Rajnitik Vichardharayen.
Barker, E.: Principles of Socio-Political Theory.
Singh Ramji : Gandhi Darshan.
Sharma, P.D. : Pratinidhi Rajnitik Vicharak.
Lawania, N.M: Samajik Vicharak.

- इकाई 1: (1) नीतिशास्त्र – इसका स्वरूप एवं क्षेत्र
(2) नैतिकता का विकास – रूढ़िवाद नैतिकता और अनुचिन्तनात्मक नैतिकता
(3) संकल्प की स्वतन्त्रता और नैतिक उत्तरदायित्व
- इकाई 2: युनानी नीतिशास्त्र :
(1) सुकरात – ज्ञान ही सद्गुण
(2) प्लेटो – प्रमुख सद्गुण, ज्ञान, साहस, संयम, न्याय
(3) अरस्तु – मध्यम मार्ग
- इकाई 3: पाश्चात्य नीतिशास्त्र: I
(1) सुखवाद – मनोवैज्ञानिक और नैतिक
(2) उपयोगितावाद – जे. एस. मिल
(4) विकासवाद – हर्वर्ट स्पेन्सर
- इकाई 4: भारतीय नीतिशास्त्र : II
(1) पूर्णतावाद – एफ. एच. ब्रेडले
(2) बुद्धिवाद – काण्ट
(3) अन्तप्रज्ञावाद-विश्व वटलर
- इकाई 5: भारतीय नीतिशास्त्र :
(1) चार्वाक – स्वार्थवाद
(2) गीता निष्काम – कर्मयोग
(3) गांधी – अहिंसा का नीतिशास्त्र

अनुशंसित पुस्तकें :

सिन्हा, जे.एन. : ए मेन्युअल ऑफ इथिक्स
(हिन्दी अनुवाद में भी उपलब्ध)

बी.ए. द्वितीय वर्ष परीक्षा 2020 (session -2019-20)
दर्शन शास्त्र
द्वितीय प्रश्न-पत्र
सामाजिक-राजनीतिक दर्शन

अधिकतम अंक 100

- इकाई 1: 'समाज दर्शन एवं 'राजनीति दर्शन का अर्थ व सम्बन्ध, व्यक्ति एवं समाज के मध्य सम्बन्ध के सिद्धान्त, समाज, धर्म एवं शिक्षा का सम्बन्ध
- इकाई 2: परम्परा परिवर्तन एवं आधुनिकता का अर्थ, भारत के सन्दर्भ में परम्परा व आधुनिकता, अधिकार – अर्थ एवं वर्गीकरण, कर्तव्य – अर्थ एवं वर्गीकरण
- इकाई 3: विचारक :
मन – वर्णाश्रमधर्म, राजधर्म
प्लेटो – सामाजिक न्याय एवं आदर्श राज्य
अरस्तू – इनके राजनीतिक दर्शन की आधारभूत विशेषताएँ
- इकाई 4: विचारधाराएँ :
फासीवाद – सिद्धान्त एवं विशेषताएँ
समाजवाद एवं मार्क्सवादी साम्यवाद
सर्वोदय एवं न्यासधारिता – गांधी
प्रजातंत्र-बन्धुत्व, समानता, स्वतंत्रता एवं न्याय
नारी सशक्तिकरण
- इकाई 5: सामाजिक-राजनैतिक परिवर्तन की विधियाँ :
क्रांति – अर्थ एवं मार्क्सवादी क्रांति के सिद्धान्त
सत्याग्रह एवं सविनय अवज्ञा – गांधी
संविधानवाद – अर्थ एवं मुख्य विशेषताएँ
आतंकवाद – अर्थ एवं उद्भव के कारण, नैतिक एवं तत्त्वमीमांसीय सन्दर्भ

पाठ्य पुस्तकें :

- प्रो. अशोककुमार वर्मा : प्रारम्भिक समाज एवं राजनीति दर्शन
डॉ. हृदयनारायण मिश्र : सामाजिक-राजनीतिक दर्शन

अनुशासित पुस्तकें :

- सिन्हा, आर.सी. : समाज दर्शन एवं राजनीतिक दर्शन की रूपरेखा
वर्मा, वी.पी. : पॉलिटिकल थॉट
मिश्रा, एच.एन. : समाज दर्शन
सत्यपाल गौतम : समाज दर्शन
इकबाल नारायण : राजनीतिक विचारधाराएं
बार्कर, ई. : प्रिन्सीपल ऑफ सोशियो-पॉलिटिकल थ्योरी
सिंह, रामजी : समाज दर्शन
भार्मा, पी.डी. : प्रतिनिधि राजनीतिक विचारक
लवानिया, एन.एम. : सामाजिक विचारक

B.A. Final Examination, 2020 (session -2019-20)
PHILOSOPHY
PAPER I
PROBLEMS OF PHILOSOPHY

Max.Mark 100

Unit 1 : General:

1. Philosophy Nature and Use (Its Relations to Life.Thought and Culture.)
2. Branches of Philosophy and their Problems.
3. Philosophy and Religion.
4. Philosophy and Science.

Unit 2 : Metaphysical Problems:

1. Matter: Controversy between Realists and Idealists.
2. Mind-Body Problem (Descartes, Spinoza, Leibnitz.)
3. Soul: Immortality of Soul – Meaning and types, Proofs (Plato).
4. God: Proofs.

Unit 3 : Epistemological Problems :

1. Theories of Truth: Correspondence, Coherence, and Pragmatic.
2. Theories of Causation: Regularity, Entailment, and Activity.

Unit 4 : Problems of the Meaning of Religious Language :

1. Non-cognitive Theories:-
 - a) Verifiability Theory of Ayer.
 - b) Falsifiability Theory of Antony Flew.
2. Cognitive Theory: Analogy Theory of Crombie.
3. Use Theory: D.Z. Philips.

Unit 5: Problem of Philosophy of Religion:

1. Problems of Evil.
2. Basics of Religious Faith.
3. Fundamentalism and Religious Tolerance.
4. Secularism and Sarva-Dharma Samabhava.

Books Prescribed:

Mishra, Arjun: Darshan ki Mool Dharayen.
Verna, V.P.: Dharma Darshan ki Mool Dharayen.

Books Recommended:

Ewing A.C.: Fundamental Questions of Philosophy.
John Hospers: An Introduction to Philosophical Analysis.
John Hick: Philosophy of Religion.
Verma V.P.: Samakaleen Vishleshnatmaks Dharma Darshan.
Mishra, H.N.: Samajik –Rajnitik Darshan.
Mishra H.N.: Dharma-Darshan Parichaya.
Parrick, G.T.W.: Introduction to Philosophy (Hindi Trans. H.S.A., Chandigarh)

PHILOSOPHY

PAPER II

LOGIC

Max.Mark 100

- Unit 1 :
1. Introduction : What is Logic, Premises and Conclusions, Arguments, Deduction and Induction, Truth, validity and Soundness (Chapter I)
 2. The Uses of Language, Three Basic Functions of Language, Multiple Function and Emotive Words (Chapter 2).
 3. Fallacies of Relevance and Ambiguity (Chapter 3).
 4. Definition: Kinds of Definition and Resolution of Disputes (Chapter 4).
- Unit 2 :
- Categorical Propositions (Chapter 5)
- a) Quality, Quantity, Distribution.
 - b) The Traditional Square of Opposition.
 - c) Further Immediate Inferences.
 - d) Symbolism and diagrams for Categorical Propositions.
- Categorical Syllogisms (Chapter 6)
- a) Standard Forms Categorical syllogisms, Terms, Moods and Figures.
 - b) Venn Diagram Technique for Testing Syllogisms.
 - c) Rules and Fallacies.
- Unit 3 :
1. Arguments in Ordinary language (Chapter 7)
 - a) Translating Categorical Propositions into Standard Form.
 - b) Uniform Translation.
 - c) Disjunctive and Hypothetical Syllogisms.
 2. Symbolic Logic :(Selected topics of Chapter 8).
 - a) The Symbols for Conjunction, Negation and Disjunction.
 - b) Conditional and Material Implication.
 - c) Truth Table.
 - d) Laws of thought.
- Unit 4 :
- The Method of Deduction (Chapter 9)
- a) Formal Proof of validity.
 - b) The Rule of Replacement.
 - c) Proof of Invalidity.
 - d) Inconsistency.
- Unit 5:
1. Mill's Methods (Chapter 12)
 2. Science and Hypothesis (Chapter 13)

BOOK PRESCRIBED :

Copi, I.M.: Introduction to Logic (Sixth Edition, Chapter 1 to 9 and 12 to 13)

बी.ए. अन्तिम वर्ष परीक्षा 2020 (session -2019-20)
दर्शन शास्त्र
प्रथम प्रश्न-पत्र
दर्शन शास्त्र की समस्याएं

अधिकतम अंक 100

- इकाई 1: सामान्यः
(1) दर्शनः स्वरूप एवं उपयोग (इसका जीवन, विचार और संस्कृति से सम्बंध)
(2) दर्शन की भाखाएं और इनकी समस्याएं
(3) दर्शन और विज्ञान
(4) दर्शन और धर्म
- इकाई 2: तत्त्वमीमांसीय समस्याएंः
(1) जड. द्रव्य-वस्तुवादियों ओर प्रत्ययवादियों के मध्य विवाद
(2) मनस-”शरीर समस्या (देकार्त, स्पीनोजा, लाईबनीज)
(3) आत्मा-आत्मा की अमरता-अर्थ और प्रकार, प्रमाण (प्लेटो)
(4) ईश्वर-युक्तियां (ईश्वर के अस्तित्व की युक्तियां)
- इकाई 3: ज्ञानमीमांसीय समस्याएं :
(1) सत्य के सिद्धान्त – अनुकूलतावाद, सामंजस्यवाद और व्यवहारवाद
(2) कारणता के सिद्धान्त –नियतकमवाद, अर्न्तनिहिततावाद सक्रियतावाद
- इकाई 4: धार्मिक भाषा के अर्थ की समस्यायें :
(1) असंज्ञानात्मक सिद्धान्त :
(अ) एयर कर सत्यापनीयता सिद्धान्त
(ब) ऐन्टोनी फलयू का मिथ्यापनीयता सिद्धान्त
(2) संज्ञानात्मक सिद्धान्त-कोम्बी का साद्र”यता सिद्धान्त
(3) उपयोग सिद्धान्त : डी.जेड. फिलिप्स
- इकाई 5: धर्म दर्शन की समस्याएं :
(1) अशुभ की समस्या
(2) धार्मिक आस्था के आधार
(3) कट्टरतावाद एवं धार्मिक सहिष्णुता
(4) धर्म निरपेक्षतावाद एवं सर्वधर्म समभाव

पाठ्य पुस्तकें :

मिश्र, अर्जुन : दर्शन की मूल धाराएं
वर्मा, वी.पी.: धर्म दर्शन की मूल समस्याएं

अनुशासित पुस्तकें :

इविंग, ए.सी.: फण्डामेंटल क्वेश्चन्स ऑफ फिलॉसॉफी
जॉन हॉस्पर्स: इन इन्ट्रोडक्शन टू फिल्सॉफिकल एनालिसिस
जॉनहिक: फिलासॉफी ऑफ रिलीजन
वर्मा, वी.पी.: समकालीन विश्लेषणात्मक धर्म दर्शन
मिश्र, एच.एन.: सामाजिक राजनितिक दर्शन
मिश्र, एच.एन.: धर्म दर्शन परिचय
पैट्रिक, जी.टी.डब्ल्यू: दर्शन का परिचय (हिन्दी अनुवाद) एच.एस.ए.चण्डीगढ़

बी.ए. अन्तिम वर्ष परीक्षा 2020 (session -2019-20)
दर्शन शास्त्र
द्वितीय प्रश्न-पत्र
तर्कशास्त्र

अधिकतम अंक 100

- इकाई 1: (1) परिचय : तर्कशास्त्र क्या है? आधार वाक्य एवं निष्कर्ष,युक्तियां,आगमन और निगमन,सत्यता,वैधता एवं उचितता (अध्याय 1)
(2) भाषा का उपयोग(अध्याय 2) भाषा के तीन मुख्य कार्य बहुकार्य एवं संवेगात्मक वाक्य
(3) तर्कदोष (अध्याय 3) प्रासांगिक एवं संदिग्धार्थ
(4) परिभाषा : परिभाषा के प्रकार एवं विवादों का समाधान (अध्याय 4)
- इकाई 2: निरूपाधिक तर्कवाक्य (अध्याय 5)
(अ) गुण,परिणाम,व्याप्ति
(ब) परम्परागत वर्ग-विरोध
(स) अन्य अव्यवहित अनुमान
(द) निरूपाधिक तर्कवाक्य के लिए प्रतीकात्मक और रेखाचित्र
निरूपाधिक न्याय-वाक्य (अध्याय 6)
(अ) आकारिक न्याय-वाक्य,पद, प्रकार एवं आकृतियां
(ब) न्याय वाक्य परीक्षण के लिए बेन आरेख पद्धति
(स) नियम एवं तर्कदोष
- इकाई 3: 1. सामान्य भाषा में युक्तियों (अध्याय 7)
(अ) निरूपाधिक तर्कवाक्यों का आकारिक रूप में रूपान्तरण
(ब) सार्वभौमिक रूपान्तरण
(स) वैकल्पिक एवं परिकल्पित न्याय वाक्य
2. प्रतीकात्मक तर्कशास्त्र:(अध्याय 8 के चुने हुए विषय)
(अ) संयोजन,निषेध एवं वियोजन के लिए प्रतीक
(ब) सशर्त एवं वस्तुगत आपादान
(स) सत्यता-सारणी
(द) विचार के नियम
- इकाई 4: निगमन की पद्धति (अध्याय 9)
(अ) वैधता के औपचारिक प्रमाण
(ब) प्रतिस्थापना के नियम
(स) अवैधता के प्रमाण
(द) असंगतता
- इकाई 5: 1. मिल की पद्धति (अध्याय 12)
2. विज्ञान एवं प्राक्कल्पना (अध्याय 13)

पाठ्य पुस्तक :

इर्विंग,एम.कोपी : तर्कशास्त्र का परिचय (हिन्दी एवं अंग्रेजी) एशिया बुक कम्पनी,इलाहाबाद

SYLLABUS

BACHELOR OF ARTS

POLITICAL SCIENCE

B.A. Part I Examination (2019-20)



JAI NARAIN VYAS UNIVERSITY
JODHPUR

IMPORTANT

With a view to bring about greater reliability, validity and objectivity in the examination system and also for closer integration of teaching, learning and evaluation.

- (i) The syllabus has been divided into units. Questions will be set from each unit with provision for internal choice.
- (ii) In order to ensure that the students do not leave out the important portion of the syllabus, examiners shall be free to repeat the questions set in the previous examinations.

(Ref. Resolution No. 21 (c) of Academic Council dated 9.2.84)

The examinees be permitted to use their personal transistorized pocket battery operated calculators in the examinations. The calculator to be used by the candidates in the examinations should not have more than 12 digits, 6 functions and 2 memories and should be noiseless and cordless. A Calculator belonging to one candidate shall not be allowed to be used by another candidate. The Superintendent of the centre will have complete discretion to disallow the use of a calculator which does not conform to the above specification.

(Ref. Resolution No. 6/90 of Academic Council dated 20th July, 1990)

In Engineering and any other examinations where the use of calculators is already permitted, it shall remain undisturbed.

NOTIFICATION

In compliance of decision of the Hon'ble High Court all students are required to fulfil 75% attendance rule in each subject and there must be 75 % attendance of the student before he/she could be permitted to appear in the examination.

**REGISTRAR
(Academic)**

POLITICAL SCIENCE
NEW EXAMINATION SCHEME
(Pattern of Question Paper)

PART-A (भाग-अ)

भाग अ के सभी प्रश्न अनिवार्य हैं। इन प्रश्नों के उत्तर प्रत्येक 30 शब्दों तक सीमित हैं। प्रत्येक प्रश्न 2 अंक का है।

The questions of Part-A are compulsory. The answer of these questions are limited upto 30 words each. Each question carries 2 marks.

PART-B (भाग-ब)

प्रत्येक इकाई में से एक प्रश्न का चयन करते हुए कुल पाँच प्रश्नों के उत्तर दीजिये। प्रत्येक प्रश्न का उत्तर लगभग 250 शब्दों तक सीमित है। प्रत्येक प्रश्न 7 अंक का है।

Attempt FIVE questions in all, selecting ONE question from each unit. The answer of each question shall be limited upto 250 words. Each question carries 7 marks.

PART-C (भाग-स)

इस भाग से कुल तीन प्रश्नों के उत्तर दीजिये। प्रत्येक प्रश्न का उत्तर लगभग 500 शब्दों तक सीमित है। प्रत्येक प्रश्न 15 अंक का है।

Attempt Any THREE questions. The Answer of each question shall be limited upto 500 words. Each question carries 15 marks

B.A. PART I
Political Science

| | |
|------------------------|-----------|
| Paper I | 100 Marks |
| Paper II | 100 Marks |
| Duration of Each Paper | 3 Hours |

Paper I
Political Theory

| | |
|--------|---|
| Unit 1 | Meaning, nature and Scope of Political Theory; Methods of Study – The Traditional and Modern approaches with special reference to Behaviouralism and Post Behaviouralism. |
| Unit 2 | State – Its nature, The organic theory of the state, Functions of the State, The concept of Welfare State ; Classification of State, Aristotle's classification and modern classification. |
| Unit 3 | The concept of Sovereignty, its essential elements and types; Austine's theory of Sovereignty, The concepts of Liberty, Equality and Justice; Rights – Meaning and various theories |
| Unit 4 | Basic Concepts – Power, Authority, Political Culture, Political Development, Political Socialisation; |
| Unit 5 | The Concept of Democracy – Its meaning, merits and demerits ; Montesquieu's theory of Separation of Powers, Bicameral legislature; the concept of Minority Representation; its various methods; proportional representation – merits and demerits |

Recommended Readings

1. Sir, E.Barker, Principles of Social and Political Theory, Calcutta, Oxford University Press, 1976.
2. N.P.Barry, Introduction to Modern Political Theory, London, Macmillian, 1995.
3. M.Carnoy, The State and Political Theory, Princeton NJ, Princeton University Press, 1984.
4. G.Catlin, A Study of the Principles of Politics, London and New York, Oxford University Press, 1930.
5. R.Dhal, Modern Political Analysis, Englewood Cliffs NJ, Prentice Hall, 1963.
6. D.Germino, Beyond Ideology : The Revival of Political Theory, New York, Harper and Row, 1967.
7. D.Held, Models of Democracy, Cambridge, Polity Press, 1987.
8. D.Held, Political theory and the Modern State, Cambridge, Polity Press, 1989.
9. D.Held, Political Theory Today, Cambridge, Polity Press, 1991.
10. C.B.Macpherson, Democratic Theory : Essays in Retrieval, Oxford, The Clarendon Press, 1977.
11. D.Miller, Social Justice, Oxford, The Clarendon Press, 1976.

प्रथम प्रश्न पत्र

राजनीतिक सिद्धान्त

- इकाई 1 राजनीतिक सिद्धान्त का अर्थ, प्रकृति और क्षेत्र ; अध्ययन पद्धतियाँ—व्यवहारवाद एवं उत्तर—व्यवहारवाद के विशेष सन्दर्भ में पारम्परिक एवं आधुनिक दृष्टिकोण ।
- इकाई 2 राज्य : उसकी प्रकृति, राज्य का आंगिक सिद्धान्त; राज्य के कार्य; लोक कल्याणकारी राज्य की अवधारणा; राज्यों का वर्गीकरण— अरस्तु का वर्गीकरण एवं आधुनिक वर्गीकरण ।
- इकाई 3 सम्प्रभुता की अवधारणा : इसके आवश्यक तत्व व प्रकार; ऑस्टिन का सम्प्रभुता सिद्धान्त; स्वतंत्रता, समानता और न्याय की अवधारणाएँ, अधिकार – अर्थ एवं विभिन्न सिद्धान्त ।
- इकाई 4 आधारभूत अवधारणाएँ : शक्ति, सत्ता, राजनीतिक संस्कृति, राजनीतिक विकास, राजनीतिक समाजीकरण ।
- इकाई 5 लोकतंत्र की अवधारणा : अर्थ, गुण एवं दोष ; मॉण्टेस्क्यू का शक्ति पृथक्करण सिद्धान्त; द्विसदनीय विधान मण्डल; अल्प संख्यक प्रतिनिधित्व की अवधारणा एवं इसके विभिन्न तरीके; आनुपातिक प्रतिनिधित्व—गुण एवं दोष

Paper II

Indian Government and Politics

- Unit 1 Constituent Assembly and Framing of Indian Constitution; Main Issues and Approaches; The Preamble, Salient Features of the Indian Constitution, Fundamental Rights and Duties; Directive Principles of State Policy.
- Unit 2 Union Executive : The President, Prime Minister and Council of Ministers – Powers, Functions and Relationship.
- Unit 3 Parliament : Lok Sabha and Rajya Sabha – Composition and Powers; Supreme Court : Composition, Powers, Judicial Review and Judicial Activism, The Election Commission and electoral reforms.
- Unit 4 Federalism – Place of States in the Indian Union; Centre-State Relations, New Trends and Development; Demand for Autonomy : Governor – Powers and Its Role in Federal Polity.
- Unit 5 Indian Parliamentary System ; Multi-Party System ; Regional Parties and Coalition Governments; Criminilisation of Politics, Caste in Politics, Poverty Alleviation.

Recommended Readings

1. G.Austin, The Indian Constitution: Corner Stone of a Nation, Oxford University Press, 1966.
2. G.Austin, Working a Democratic Constitution : The Indian Experience, Delhi, Oxford University Press, 2000.
3. D.D.Basu, An Introduction to the Constitution of India, New Delhi, Prentice Hall, 1994.
4. U.Baxi, The Indian Supreme Court and Politics, Delhi, Eastern Book Company, 1980.
5. U.Baxi, and B.Parekh (ed.), Crisis and Change in Contemporary India, New Delhi, Sage 1994.
6. P.Brass, Politics of India Since Independence, Hyderabad, Orient Longman, 1990.
7. M.Chadda, Ethnicity, Security and Separatism in India, Delhi, Oxford University Press, 1997.
8. R.L.Hardgrave, India : Government and Politics in a Developing Nation, New York, Harcourt, Brace and World, 1965.
9. Kashyap, Our Parliament, New Delhi, National Book Trust, 1992.
10. A.Kohli, Democracy and Discontent : India's Growing Crisis of Governability, Cambridge, Cambridge University Press, 1991.
11. A.Kohli (ed.), The Success of India's Democracy, Cambridge, Cambridge University Press, 2001.

द्वितीय प्रश्न पत्र

भारतीय शासन एवं राजनीति

- इकाई 1 संविधान निर्मात्री सभा और भारतीय संविधान का निर्माण – प्रमुख मुद्दे एवं दृष्टिकोण; उद्देशिका, भारतीय संविधान की प्रमुख विशेषताएं, मौलिक अधिकार एवं कर्तव्य, राज्य के नीति निदेशक तत्व
- इकाई 2 संघीय कार्यपालिका – राष्ट्रपति, प्रधानमंत्री और मंत्रीपरिषद्-शक्तियां, कार्य एवं परस्पर संबंध
- इकाई 3 संसद : लोक सभा एवं राज्य सभा – गठन एवं शक्तियां, उच्चतम न्यायालय-गठन, शक्तियां, न्यायिक पुनरावलोकन एवं न्यायिक सक्रियता, निर्वाचन आयोग तथा चुनाव सुधार ।
- इकाई 4 संघवाद – भारतीय संघ में राज्यों की स्थिति; केन्द्र राज्य संबंध-नई प्रवृत्तिया और विकास, स्वायत्तता की मांग; राज्यपाल-शक्तियां व संघीय व्यवस्था में उसकी भूमिका
- इकाई 5 भारतीय संसदीय व्यवस्था – बहुदलीय व्यवस्था; क्षेत्रीय दल एवं गठबंधन सरकारें; राजनीति का अपराधीकरण, राजनीति में जातिवाद, निर्धनता उन्नमूलन

SYLLABUS

BACHELOR OF ARTS

POLITICAL SCIENCE

B.A. Part II Examination (2019-20)



JAI NARAIN VYAS UNIVERSITY
JODHPUR

IMPORTANT

With a view to bring about greater reliability, validity and objectivity in the examination system and also for closer integration of teaching, learning and evaluation.

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(Ref. Resolution No. 21 (c) of Academic Council dated 9.2.84)

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(Ref. Resolution No. 6/90 of Academic Council dated 20th July, 1990)

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NOTIFICATION

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**REGISTRAR
(Academic)**

POLITICAL SCIENCE
NEW EXAMINATION SCHEME
(Pattern of Question Paper)

PART-A (भाग-अ)

भाग अ के सभी प्रश्न अनिवार्य हैं। इन प्रश्नों के उत्तर प्रत्येक 30 शब्दों तक सीमित हैं। प्रत्येक प्रश्न 2 अंक का है।

The questions of Part-A are compulsory. The answer of these questions are limited upto 30 words each. Each question carries 2 marks.

PART-B (भाग-ब)

प्रत्येक इकाई में से एक प्रश्न का चयन करते हुए कुल पाँच प्रश्नों के उत्तर दीजिये। प्रत्येक प्रश्न का उत्तर लगभग 250 शब्दों तक सीमित है। प्रत्येक प्रश्न 7 अंक का है।

Attempt FIVE questions in all, selecting ONE question from each unit. The answer of each question shall be limited upto 250 words. Each question carries 7 marks.

PART-C (भाग-स)

इस भाग से कुल तीन प्रश्नों के उत्तर दीजिये। प्रत्येक प्रश्न का उत्तर लगभग 500 शब्दों तक सीमित है। प्रत्येक प्रश्न 15 अंक का है।

Attempt Any THREE questions. The Answer of each question shall be limited upto 500 words. Each question carries 15 marks

B.A. PART II
Political Science

| | |
|------------------------|-----------|
| Paper I | 100 Marks |
| Paper II | 100 Marks |
| Duration of Each Paper | 3 Hours |

PAPER I

COMPARATIVE GOVERNMENT & POLITICS

- Unit 1 Comparative Politics : Meaning, Scope and Nature; Evolution of Comparative Politics; Types of Constitution and Constitutionalism.
- Unit 2 Socio – Economic bases and Salient features of the Constitution of United Kingdom, United States of America, China, Switzerland and France; Amendment Process in the Constitution of U.S.A. and Switzerland; Federal System of the U.S.A. and Switzerland.
- Unit 3 Executive : British King and the Crown; British Prime Minister and Cabinet; the President of the U.S.A. and France and Plural Executive of Switzerland.
- Unit 4 Legislature : Composition and Powers of the British Parliament; U.S. Congress; Swiss Federal Assembly; French Parliament and National Peoples Congress of China.
- Unit 5 Judiciary : U.S. Supreme Court and Judicial Review; the Administrative Law and Administrative Courts of France.
- Political Parties in the U.S.A., United Kingdom and France; Role of Communist Party in China; Interests Groups in the U.S.A., United Kingdom and France.

Recommended Readings

1. G.Almond et. al., Comparative Politics Today : A World View, 7th edn., New York, London, Harper/Collins, 2000.
2. A.H.Brich, British System of Government, 4th edn., London, George Allen and Unwin, 1980.
3. J.Blondel, An Introduction to Comparative Government, London, Weidenfeld and Nicolson, 1969.
4. H.Finer, Theory and Practice of Modern Government, London, Methuen, 1969.
5. S.E.Finer, Comparative Government, Harmondsworth, Penguin, 1974.
6. H.C.Huiton, An Introduction to Chinese Politics, London, David and Charles, 1973.
7. H.J.Laski, American Democracy: A Commentary and An Interpretation, London, Unwin, 1948.
8. A.Lijphart, (ed.), Parliamentary Versus Presidential Government, Oxford and New York, Oxford University Press, 1992.
9. H.G.Nicolas, The Nature of American Politics, 2nd edn., Oxford, The Clarendon Press, 1996.
10. V.Wright, Government and Politics of France, 3rd edn., London, Unwin Hyman, 1989.
11. W.Zhang, Transforming China: Economic Reforms and its Political Implications, New York, St. Martin's Press, 2000.

प्रथम प्रश्न पत्र

तुलनात्मक शासन एवं राजनीति

- इकाई 1 तुलनात्मक राजनीति : अर्थ, क्षेत्र एवं प्रकृति; तुलनात्मक राजनीति का विकास; संविधान के प्रकार एवं संविधानवाद ।
- इकाई 2 ब्रिटेन, संयुक्त राज्य अमेरिका, चीन, स्विट्जरलैण्ड और फ्रांस के संविधानों की प्रमुख विशेषताएँ और सामाजिक-आर्थिक आधार; संयुक्त राज्य अमेरिका और स्विट्जरलैण्ड के संविधानों में संशोधन प्रक्रिया; संयुक्त राज्य अमेरिका और स्विट्जरलैण्ड की संघात्मक व्यवस्था ।
- इकाई 3 कार्यपालिका : ब्रिटिश सम्राट और राजमुकुट, ब्रिटिश प्रधानमंत्री और मन्त्रिमण्डल, संयुक्त राज्य अमेरिका और फ्रांस के राष्ट्रपति एवं स्विट्जरलैण्ड की बहुल कार्यपालिका ।
- इकाई 4 व्यवस्थापिका : ब्रिटिश संसद का गठन एवं शक्तियाँ ; संयुक्त राज्य अमेरिका की कांग्रेस; स्विट्स संघीय व्यवस्थापिका; फ्रांस की संसद और चीन की राष्ट्रीय जन कांग्रेस
- इकाई 5 न्यायपालिका : संयुक्त राज्य अमेरिका का सर्वोच्च न्यायालय एवं न्यायिक पुनरावलोकन; फ्रांस में प्रशासनिक विधि एवं प्रशासनिक न्यायालय
- संयुक्त राज्य अमेरिका, ब्रिटेन एवं फ्रांस में राजनीतिक दल; चीन में साम्यवादी दल की भूमिका, संयुक्त राज्य अमेरिका ब्रिटेन एवं फ्रांस में हित समूह

B.A. PART II

Paper II

Representative Political Thinkers

- Unit 1 Plato : Theory of Justice, Communism and Education; Aristotle-Views on Revolution, Slavery and Citizenship.
- Unit 2 Thomas Aquinas : Principal political ideas and Theory of Law, Machiavelli's principal political ideas and Machiavelli as the first modern political thinker.
- Unit 3 Hobbes, Locke and Rousseau : Their social contract theory and a comparative assessment of their ideas.
- Unit 4 Jeremy Bentham and his theory of utilitarianism; J.S.Mill's concept of Liberty and his modification in Bentham's theory of utilitarianism; Karl Marx : Economic Interpretation of History, Class Struggle, Revolution, the State
- Unit 5 Mahatma Gandhi, Jawahar Lal Nehru and Dr. Bheem Rao Ambedkar : Principal political ideas.

Recommended Readings

1. Hacker, A. : Political Theory
2. Sabine, G.H., : History of Political Theory
3. Wayper, C. : Political Thought
4. Foster : Masters of Political Thought, Vol. I
5. Jones : Master of Political Thought, Vol. II
6. Lancaster : Master of Political thought, Vol. III
7. Chaddha : Pramukh Rajnitik Vicharak (Adarsh Prakashan)
8. Sharma, P.D. : Pratinidhi Rajnitik Vicharak
9. Jain, Pukh Raj : Pramukh Rajnitik Vicharak
10. J.W.Allen, A History of Political Thought in the Sixteenth Century, London, Methuen, 1967.
11. A.Ashcraft, Locke's Two Treaties of Government, London, Unwin and Hyman, 1987.
12. Sir E.Barker, The Political Thought of Plato and Aritstole, New York, Dover Publications, 1959.
13. Sir E. Barker, Greek Political Theory : Plato and His Predecessors, New Delhi, B.I Publications, 1964
14. J.Bowle, Western Political Thought : A Historical Introduction from the Origins to Rousseau, London, Jonathan Cape, 1947

द्वितीय प्रश्न पत्र

प्रतिनिधि राजनीतिक चिंतक

- इकाई 1 प्लेटो-न्याय, साम्यवाद और शिक्षा का सिद्धान्त; अरस्तू-क्रांति, दासता और नागरिकता संबंधी विचार।
- इकाई 2 टॉमस एक्वीनास- प्रमुख राजनीतिक विचार एवं कानून का सिद्धान्त; मैकेयावली के प्रमुख राजनीतिक विचार एवं प्रथम आधुनिक राजनीतिक विचारक के रूप में मैकेयावली।
- इकाई 3 हाब्स, लॉक तथा रूसो : उनका सामाजिक समझौता सिद्धान्त और उनके विचारों का तुलनात्मक मूल्यांकन
- इकाई 4 जैरेमी बेंथम तथा उसका उपयोगितावाद का सिद्धान्त; जे0एस0मिल के स्वतंत्रता संबंधी विचार और बेंथम के उपयोगितावाद में उसके द्वारा प्रस्तावित संशोधन; कार्ल मार्क्स : इतिहास की आर्थिक व्याख्या, वर्ग संघर्ष, क्रांति तथा राज्य
- इकाई 5 महात्मा गांधी, जवाहरलाल नेहरू एवं डॉ.भीमराव अम्बेडकर : प्रमुख राजनीतिक विचार

SYLLABUS

BACHELOR OF ARTS

POLITICAL SCIENCE

B.A. Part III Examination (2019-20)



JAI NARAIN VYAS UNIVERSITY
JODHPUR

IMPORTANT

With a view to bring about greater reliability, validity and objectivity in the examination system and also for closer integration of teaching, learning and evaluation.

- (i) The syllabus has been divided into units. Questions will be set from each unit with provision for internal choice.
- (ii) In order to ensure that the students do not leave out the important portion of the syllabus, examiners shall be free to repeat the questions set in the previous examinations.

(Ref. Resolution No. 21 (c) of Academic Council dated 9.2.84)

The examinees be permitted to use their personal transistorized pocket battery operated calculators in the examinations. The calculator to be used by the candidates in the examinations should not have more than 12 digits, 6 functions and 2 memories and should be noiseless and cordless. A Calculator belonging to one candidate shall not be allowed to be used by another candidate. The Superintendent of the centre will have complete discretion to disallow the use of a calculator which does not conform to the above specification.

(Ref. Resolution No. 6/90 of Academic Council dated 20th July, 1990)

In Engineering and any other examinations where the use of calculators is already permitted, it shall remain undisturbed.

NOTIFICATION

In compliance of decision of the Hon'ble High Court all students are required to fulfil 75% attendance rule in each subject and there must be 75 % attendance of the student before he/she could be permitted to appear in the examination.

**REGISTRAR
(Academic)**

POLITICAL SCIENCE
NEW EXAMINATION SCHEME
(Pattern of Question Paper)

PART-A (भाग-अ)

भाग अ के सभी प्रश्न अनिवार्य हैं। इन प्रश्नों के उत्तर प्रत्येक 30 शब्दों तक सीमित हैं। प्रत्येक प्रश्न 2 अंक का है।

The questions of Part-A are compulsory. The answer of these questions are limited upto 30 words each. Each question carries 2 marks.

PART-B (भाग-ब)

प्रत्येक इकाई में से एक प्रश्न का चयन करते हुए कुल पाँच प्रश्नों के उत्तर दीजिये। प्रत्येक प्रश्न का उत्तर लगभग 250 शब्दों तक सीमित है। प्रत्येक प्रश्न 7 अंक का है।

Attempt FIVE questions in all, selecting ONE question from each unit. The answer of each question shall be limited upto 250 words. Each question carries 7 marks.

PART-C (भाग-स)

इस भाग से कुल तीन प्रश्नों के उत्तर दीजिये। प्रत्येक प्रश्न का उत्तर लगभग 500 शब्दों तक सीमित है। प्रत्येक प्रश्न 15 अंक का है।

Attempt Any THREE questions. The Answer of each question shall be limited upto 500 words. Each question carries 15 marks

B.A. PART III

Political Science

| | |
|------------------------|-----------|
| Paper I | 100 Marks |
| Paper II | 100 Marks |
| Duration of Each Paper | 3 Hours |

Paper I

INTERNATIONAL RELATIONS

- Unit 1 Meaning , Nature and Scope of International Relations ; Approaches to the Study of International Relations : Idealist and realist approaches, Actors of International Relations; State and other Players.
- Unit 2 National Power : Meaning and Elements of National Power ; Struggle for Power : retaining Power, increasing Power, demonstrating Power. Balance of Power: Meaning, Characteristics and devices for maintaining Balance of Power.
- Unit 3 Cold War : Meaning, Causes & Impact ; End of the Cold War, Concept of Non Alignment : Its achievements, Problems and Challenges, India's role in Non – alignment movement.
- Unit 4 The basic features of the Foreign Policy of U.S.A., Communist China and India, India's relations with U.S.A., China and Pakistan.
- Unit 5 Major Contemporary Trend and Issues in International Politics; Changing World Scenario; Environmentalism, Globalisation, Human Rights, Disarmament, SAARC & ASEAN.

Recommended Readings

1. C.Brown, International Relations Theory : London, Harvester Wheatsheat, 1975.
2. I.Claude, Power and International Relations, New York, Random House, 1962.
3. W.D.Coplin, Introduction to International Politics, Chicago, Markham, 1971.
4. F.I.Greenstein and N.W.Polsby, Theory of International Relations, Reading Massachusetts, Addison-Wesley, 1979.
5. F.S.Northedge, The International Political System, London, Faber and Faber, 1976.
6. K.N.Waltz, Theory of International Politics, Reading Massachusetts, Addison-Wesley, 1979.
7. K.N.Waltz, "The emerging structure of International Politics", International Security, 18, 1993,

प्रथम प्रश्न पत्र

अंतर्राष्ट्रीय संबंध

- इकाई 1 अंतर्राष्ट्रीय संबंध का अर्थ, प्रकृति व क्षेत्र; अंतर्राष्ट्रीय संबंधों के अध्ययन संबंधी उपागम—आदर्शवादी एवं यथार्थवादी उपागम, अंतर्राष्ट्रीय संबंधों के कर्ता—राज्य और अन्य कर्ता।
- इकाई 2 राष्ट्रीय शक्ति – राष्ट्रीय शक्ति से अभिप्राय और तत्व; शक्ति के लिये संघर्ष— शक्ति बनाये रखना, शक्ति विस्तार, शक्ति प्रदर्शन; शक्ति सन्तुलन—अभिप्राय, लक्षण और शक्ति संतुलन बनाये रखने के तरीके।
- इकाई 3 शीत युद्ध—अर्थ, कारण एवं प्रकार; शीत युद्ध का अन्त; गुट निरपेक्षता की अवधारणा— उसकी उपलब्धियां, समस्याएँ एवं चुनौतियाँ; गुट निरपेक्ष आन्दोलन में भारत की भूमिका
- इकाई 4 संयुक्त राज्य अमेरिका, साम्यवादी चीन और भारत की विदेश नीति की प्रमुख विशेषताएँ; संयुक्त राज्य अमेरिका, साम्यवादी चीन और पाकिस्तान के साथ भारत के संबंध
- इकाई 5 अंतर्राष्ट्रीय राजनीति में प्रमुख समकालीन प्रवृत्तियाँ और मुद्दे; बदलता वैश्विक परिदृश्य—पर्यावरणवाद, भूमंडलीकरण, मानव अधिकार, निःशस्त्रीकरण, सार्क एवं आसियान

Paper II

Public Administration

- Unit 1 Meaning, Scope and Nature of Public Administration; Evolution of Public Administration as a discipline; Public and Private Administration; Politics and Administration ; New Public Administration; Methods and Approaches of Public Administration.
- Unit 2 Administrative Behaviour : Leadership, Decision Making, Communication, Accountability and Motivation.
- Unit 3 The concept of Bureaucracy and Civil Service; Role of Civil Service in developing Societies; Recruitment, Training and Promotion.
- Unit 4 Budget: Concepts, Techniques, Formulation and Execution of Budget, Role of Finance Ministry. Accounts and Audit.
- Unit 5 Legislative, Executive and Judicial Control over Administration; Public Administration in the age of Globalisation and Liberalisation

Recommended Readings

1. P.H.Appleby, Policy and Administration, Alabama University of Alabama Press, 1957.
2. A.Avasthi and S.R.Maheswari, Public Administration, Agra, Lakshmi Narain Aggarwal, 1996.
3. M.Bhattacharya, Public Administration : Structure, Process and Behaviour, Calcutta, The World Press, 1991.
4. S.R.Maheshwari, Administrative Theories, New Delhi, Allied, 1994.
5. F.A.Nigro and L.S.Nigro, Modern Public Administration, New York, Harper & Row, 1984.
6. D.Waldo (ed.), Ideas and Issues in Public Administration, New York, Mc Graw Hill, 1953.
7. L.D.White, Introduction to the Study of Public Administration New York, Macmillian, 1955

द्वितीय प्रश्न पत्र

लोक प्रशासन

- इकाई 1 लोक प्रशासन का अर्थ क्षेत्र और स्वरूप; एक विषय के रूप में लोक प्रशासन का उद्विकास; लोक प्रशासन एवं निजी प्रशासन; राजनीति और प्रशासन; नवीन लोक प्रशासन; लोक प्रशासन की अध्ययन पद्धतियां एवं उपागम ।
- इकाई 2 प्रशासनिक व्यवहार – नेतृत्व, निर्णयन, संचार, जवाबदेहिता एवं अभिप्रेरणा ।
- इकाई 3 नौकरशाही एवं लोकसेवा की अवधारणाएँ; विकासशील समाजों में लोकसेवा की भूमिका; भर्ती, प्रशिक्षण एवं पदोन्नति
- इकाई 4 बजट – अवधारणाएँ एवं तकनीकें, बजट निर्माण एवं क्रियान्वयन, वित्त मंत्रालय की भूमिका, लेखांकन और लेखापरीक्षण
- इकाई 5 प्रशासन पर विधायी, कार्यकारी और न्यायिक नियंत्रण; भूमंडलीकरण और उदारीकरण के युग में लोकप्रशासन ।

जयनारायण व्यास विश्वविद्यालय, जोधपुर
संस्कृत –विभाग

बी.ए. प्रथम वर्ष 2019–2020
संस्कृत

नोट:– इस परीक्षा में दो प्रश्न-पत्र होंगे। प्रत्येक प्रश्न-पत्र तीन घण्टे की अवधि तथा 100 अंकों का होगा। **प्रश्न-पत्र का निर्माण संस्कृत भाषा में होगा**, किन्तु विशेष निर्देश के अभाव में प्रश्न-पत्र का उत्तर हिन्दी, संस्कृत अथवा अंग्रेजी में दिया जा सकता है।

प्रथम प्रश्न-पत्र
काव्य, कथा-साहित्य एवं छन्द

पाठ्यक्रम :-

इकाई 1 – कुमारसंभवम् (पञ्चम सर्ग) 1–60 श्लोक पर्यन्त कालिदास

इकाई 2 – रघुवंशम् (प्रथम सर्ग)1–60 श्लोक पर्यन्त कालिदास

इकाई 3 – कुमारसंभव (पञ्चमसर्ग)61–86 तथा रघुवंशम् (पथमसर्ग) 61–95श्लोकपर्यन्त

इकाई 4 – पञ्चतन्त्रम् (अपरीक्षितकारकम्)विष्णु शर्मा

इकाई 5 – निम्नलिखित निर्धारित छन्दों के लक्षण एवं उदाहरणविषयक प्रश्न—
आर्या, अनुष्टुप्, इन्द्रवज्रा, उपेन्द्रवज्रा, उपजाति, वंशस्थ, द्रुतविलम्बित, भुजंगप्रयातम्,
वसन्ततिलका, मालिनी, हरिणी, शिखरिणी, मन्दाक्रान्ता, शार्दूलविक्रीडितम्, स्रग्धरा।

प्रश्न-पत्र का निर्माण निम्नानुसार होगा –

खण्ड 'अ' – 20 अंक

1. इस खण्ड के सभी प्रश्न अनिवार्य हैं।
2. सभी प्रश्नों का उत्तर **संस्कृत** में देना होगा।
3. प्रत्येक इकाई से दो प्रश्न पूछे जाएँगे।
4. प्रश्नों के उत्तर की अधिकतम सीमा 30 शब्द होगी।

खण्ड 'ब' – 35 अंक

1. प्रत्येक इकाई से दो प्रश्न पूछे जाएँगे।
2. प्रत्येक इकाई से एक प्रश्न का उत्तर देना अनिवार्य है, इस प्रकार कुल पाँच प्रश्नों के उत्तर देने हैं।
3. प्रश्नों के उत्तर की अधिकतम सीमा 250 शब्द होगी।

खण्ड 'स' – 45 अंक

1. प्रत्येक इकाई से एक प्रश्न पूछा जाएगा।
2. कुल पाँच प्रश्न पूछे जाएँगे जिनमें से परीक्षार्थी को तीन प्रश्नों का उत्तर देना है।
3. प्रश्न के उत्तर की अधिकतम सीमा 500 शब्द होगी।

सहायक पुस्तकें

पञ्चतन्त्रम् : व्याख्याकार – श्रीश्यामाचरण पाण्डेय, मोतीलाल बनारसीदास, वाराणसी

कुमारसंभवम् : कालिदास, व्याख्याकार—सूर्यकान्त, साहित्य अकादमी, दिल्ली

रघुवंशम् : कालिदास (संजीवनी टीका सहित) सम्पादक, जी.आर. नन्दार्गीकर मोतीलाल बनारसीदास, दिल्ली

छन्द : प्रकाश : पं. शिवदत्त मिश्र

छन्द : प्रवेशिका (प्रभा हिन्दी टीकोपेता), चौखम्बा पब्लिकेशन्स, नई दिल्ली

छन्द : कौमुदी : नारायण शास्त्री खिस्ते, चौखम्बा पब्लिकेशन्स, नई दिल्ली

कालिदास परिशीलन : डॉ. राधावल्लभ त्रिपाठी, संस्कृत परिषद्, सागर, 1987

संस्कृत सुकवि समीक्षा : उपाध्याय बलदेव

**Functional Sanskrit; Its Communicative Aspect, Dr. Narendra, Sanskrit
Karyalaya, Sri Aurobindo Ashram, Pondichery**

द्वितीय प्रश्न-पत्र

नाटक, नाट्यशास्त्र एवं व्याकरण

नोट: प्रश्न-पत्र का निर्माण संस्कृत भाषा में होगा, किन्तु विशेष निर्देश के अभाव में प्रश्न-पत्र का उत्तर हिन्दी, संस्कृत अथवा अंग्रेजी में दिया जा सकता है। प्रश्न-पत्र तीन घण्टे की अवधि तथा 100 अंकों का होगा।

पाठ्यक्रम

इकाई 1 – स्वप्नवासवदत्तम् – भास

इकाई 2 – नाट्यशास्त्र (प्रथम अध्याय) – भरत

इकाई 3 – नाट्यशास्त्र (द्वितीय अध्याय) – भरत

इकाई 4 – लघुसिद्धान्त कौमुदी के संज्ञा प्रकरण एवं निम्नलिखित कृत्-प्रत्ययों से सम्बन्धित प्रश्न

तव्यत्, अनीयर्- तव्यत्तव्यानीयर्:

यत् – अचो यत्, ईद्यति, पोरदुपधात्

क्यप् – एतिस्तुशास्वृदृजुषः क्यप्, ह्रस्वस्य पिति कृति तुँक्, शास इदङ्हलो:

ण्यत् – ऋहलोर्ण्यत्

शतृ, शानच् – लटः शतृशानचावप्रथमासमानाधिकरणे, आने मुँक्

क्त, क्तवतु – क्तक्तवतू निष्ठा, रदाभ्यां निष्ठातो नः पूर्वस्य च दः

क्त्वा – समानकर्तृकयोः पूर्वकाले

ल्यप् – समासेऽनञ् पूर्वे क्त्वो ल्यप्

तुमुन् – तुमुण्वुलौ क्रियायाँ क्रियार्थायाम्

इकाई 5 – (क) निर्धारित कारक प्रकरण से सूत्र की व्याख्या एवं उदाहरणविषयक प्रश्न –

कारक प्रकरण के सूत्र –

प्रातिपदिकार्थलिङ्गपरिमाणवचनमात्रे प्रथमा, सम्बोधने च, कर्तुरीप्सिततमं कर्म, कर्मणि द्वितीया, अकथितञ्च, अधिशीङ्स्थासां कर्म, अभिनिविशश्च, उपान्वध्याङ्वसः, अन्तराऽन्तरेण युक्ते, कालाध्वनोरत्यन्तसंयोगे, उभसर्वतसोः कार्या धिगुपर्यादिषु त्रिषु। द्वितीयाऽऽप्रेडितान्तेषु ततोऽन्यत्रापि दृश्यते।। अभितः परितः समयानिकषाहाप्रतियोगेऽपि, स्वतन्त्रः कर्ता, साधकतमं करणम्, कर्तृकरणयोस्तृतीया, अपवर्गे तृतीया, सहयुक्तेऽप्रधाने, येनाङ्गविकारः, इत्थम्भूतलक्षणे, हेतौ, कर्मणा यमभिप्रैति स सम्प्रदानम्, चतुर्थी सम्प्रदाने, रुच्यर्थानां प्रीयमाणः, धारेरुत्तमर्गः, स्पृहेरीप्सितः, क्रुधद्रुहेर्ष्यासूयार्थानां यं प्रति कोपः, नमः स्वस्तिस्वाहास्वधाऽलं वषड्योगाच्च, ध्रुवमपायेऽपादानम्, अपादाने पंचमी, भीत्रार्थानां भयहेतुः, जुगुप्साविरामप्रमादार्थानामुपसंख्यानम्, जनिकर्तुःप्रकृतिः, भुवः प्रभवः, ल्यब्लोपे कर्मण्यधिकरणे च, षष्ठी शेषे, पृथग्विनानानाभिस्तृतीयान्यतरस्याम्, षष्ठी हेतुप्रयोगे, अधीगर्थदयेशां कर्मणि, कृत्यानां कर्तरि वा, तुल्यार्थैरतुलोपमाभ्यां तृतीयान्यतरस्याम्, आधारोऽधिकरणम्, सप्तम्यधिकरणे च, यस्य च भावेन भावलक्षणम्, षष्ठी चानादरे, यतश्च निर्धारणम्, पंचमी विभक्ते

(ख) शब्दरूप – राम, हरि, गुरु, पितृ, रमा, नदी, मति, वधू, अस्मद्, युष्मद्, तद्, इदम्, एक, द्वि, त्रि

उक्त निर्धारित शब्दों की विभक्ति में रूप सम्बन्धी प्रश्न

(ग) धातुरूप – भू, वद्, अस्, मुच्, कृ, कथ्, नम्, गम्, युध्, नश्

उक्त निर्धारित धातुओं के लट्, लृट्, लोट्, लङ् तथा विधिलिङ् में रूप सम्बन्धी प्रश्न

प्रश्न पत्र का निर्माण निम्नानुसार होगा –

खण्ड 'अ' – 20 अंक

1. इस खण्ड के सभी प्रश्न अनिवार्य हैं।
2. सभी प्रश्नों का उत्तर संस्कृत में देना होगा।
3. प्रत्येक इकाई से दो प्रश्न पूछे जाएँगे।
4. प्रश्नों के उत्तर की अधिकतम सीमा 30 शब्द होगी।

खण्ड 'ब' – 35 अंक

1. प्रत्येक इकाई से दो प्रश्न पूछे जाएँगे।
2. प्रत्येक इकाई से एक प्रश्न का उत्तर देना अनिवार्य है इस प्रकार कुल पाँच प्रश्न करने हैं।
3. प्रश्नों के उत्तर की अधिकतम सीमा 250 शब्द होगी।

खण्ड 'स'

— 45 अंक

1. प्रत्येक इकाई से एक प्रश्न पूछा जाएगा।
2. कुल पाँच प्रश्न होंगे जिनमें से परीक्षार्थी को तीन प्रश्नों का उत्तर देना अनिवार्य है।
3. प्रश्न के उत्तर की अधिकतम सीमा 500 शब्द होगी।

सहायक पुस्तकें

स्वप्नवासवदत्तम् : जयपाल विद्यालंकार, मोतीलाल बनारसीदास, दिल्ली 1972

नाट्यशास्त्र : (प्रदीप हिन्दी टीकोपेत), चौखम्बा पब्लिकेशन्स, अंसारी रोड, दरियागंज, नई दिल्ली

लघु सिद्धान्त कौमुदी: शारदारंजन रे, 1954

नवनीत संस्कृत शब्द धातु-रूपावली : राजाराम शास्त्री नाटेकर, नवनीत प्रकाशन मुम्बई, 1990

रूप चन्द्रिका : रामचन्द्र झा, चौखम्बा संस्कृत सीरीज

वृहद् अनुवाद चन्द्रिका : चक्रधर हंस नौटियाल

संस्कृत व्याकरण : श्री निवास शास्त्री

जयनारायण व्यास विश्वविद्यालय, जोधपुर
संस्कृत-विभाग

बी.ए. द्वितीय वर्ष 2019-20

संस्कृत

नोट: इस परीक्षा में दो प्रश्न-पत्र होंगे। प्रत्येक तीन घण्टे की अवधि तथा 100 अंकों का होगा।
प्रश्न-पत्र का निर्माण संस्कृत भाषा में होगा, किन्तु विशेष निर्देश के अभाव में प्रश्न-पत्र का उत्तर
हिन्दी, संस्कृत अथवा अंग्रेजी में दिया जा सकता है।

प्रथम प्रश्न-पत्र

काव्य, स्मृतिशास्त्र तथा संस्कृत-साहित्य का इतिहास

पाठ्यक्रम :-

- इकाई 1 : किरातार्जुनीयम् (प्रथम सर्ग) भारवि
इकाई 2 : मनुस्मृति (द्वितीय अध्याय 1 से 150 श्लोक) मनु
इकाई 3 : नीतिशतकम् : भर्तृहरि
इकाई 4 : वाल्मीकि रामायण का बालकाण्ड (प्रथम सर्ग) तथा महाभारत का शान्तिपर्व (अध्याय 192)
(गीताप्रेस गोरखपुर)
इकाई 5 : संस्कृत साहित्य का इतिहास -
महाकाव्य : कालिदास, अश्वघोष, माघ, श्रीहर्ष
गद्यसाहित्य : बाण, दण्डी, सुबन्धु, अम्बिकादत्त व्यास
गीतिकाव्य : मेघदूत, गीतगोविन्द, नीति शतक

प्रश्न-पत्र का निर्माण निम्नानुसार होगा -

खण्ड 'अ' - 20 अंक

1. इस खण्ड के सभी प्रश्न अनिवार्य हैं।
2. सभी प्रश्नों का उत्तर संस्कृत में देना होगा।
3. प्रत्येक इकाई से दो प्रश्न पूछे जाएँगे।
4. प्रश्नों के उत्तर की अधिकतम सीमा 30 शब्द होगी।

खण्ड 'ब' - 35 अंक

1. प्रत्येक इकाई से दो प्रश्न पूछे जाएँगे।
2. प्रत्येक इकाई से एक प्रश्न का उत्तर देना अनिवार्य है, इस प्रकार कुल पाँच प्रश्न करने हैं।
3. प्रश्नों के उत्तर की अधिकतम सीमा 250 शब्द होगी।

खण्ड 'स' - 45 अंक

1. प्रत्येक इकाई से एक प्रश्न पूछा जाएगा।
2. कुल पाँच प्रश्न पूछे जाएँगे जिनमें से परीक्षार्थी को तीन प्रश्नों का उत्तर देना अनिवार्य है।
3. प्रश्न के उत्तर की अधिकतम सीमा 500 शब्द होगी।

सहायक पुस्तकें

Arya Ramayan (Balkand) : Goodbole Keshav Vinayak, Pune, 1962

Kale, M.R.: Kiratarjuniyam, Motilal Banarasidas, New Delhi, 1977

जनार्दन : किरातार्जुनीयम्, प्रथम सर्ग, व्याख्या—मोतीलाल बनारसीदास, नई दिल्ली

शर्मा, प्रो. मदनमोहन एवं तनेजा, डॉ. सुभाषः किरातार्जुनीयम्, प्रथम सर्ग, अलंकार प्रकाशन, जयपुर

वी. राघवन् : The Manusmriti

मनुस्मृति : मोतीलाल बनारसीदास, दिल्ली

मनुस्मृति : (मणिप्रभा हिन्दी टीकोपेता) – चौखम्बा पब्लिकेशन्स, दिल्ली

गाडगिल, ए.एल. : वाल्मीकि रामायण, भाग प्रथम, सम्पादन, श्री रामकोश मण्डल, पुणे, 1982

संस्कृतसाहित्येतिहास : हंसराज अग्रवाल, चौखम्बा पब्लिकेशन्स, नई दिल्ली

संस्कृतसाहित्येतिहास : विश्वनाथ शास्त्री भारद्वाज, चौखम्बा पब्लिकेशन्स, दिल्ली

उपाध्याय, डॉ. बलदेव : संस्कृत साहित्य का इतिहास

पाण्डेय, चन्द्रशेखर : संस्कृत साहित्य की रूपरेखा

व्यास, भोलाशंकर : संस्कृत कविदर्शन

गोयल, डॉ. प्रीतिप्रभा : संस्कृत साहित्य का इतिहास

संस्कृत साहित्य का अभिनव इतिहास : प्रो. राधावल्लभ त्रिपाठी विश्वविद्यालय प्रकाशन, वाराणसी।

द्वितीय प्रश्न-पत्र

गद्य, व्याकरण, अलंकार तथा भारतीय संस्कृति

नोट – प्रश्न-पत्र तीन घण्टे की अवधि तथा 100 अंकों का होगा। प्रश्न-पत्र का निर्माण संस्कृत भाषा में होगा, किन्तु विशेष निर्देश के अभाव में प्रश्न-पत्र का उत्तर हिन्दी, संस्कृत अथवा अंग्रेजी में दिया जा सकता है।

पाठ्यक्रम –

इकाई 1 : शुकनासोपदेश (कादम्बरी) बाणभट्ट

इकाई 2 : शिवराजविजय (प्रथम निःश्वास) अम्बिकादत्त व्यास

इकाई 3 : अच् सन्धि प्रकरण (लघुसिद्धान्तकौमुदी)

इकाई 4 : हल् सन्धि और विसर्ग सन्धि प्रकरण (लघुसिद्धान्त कौमुदी)

इकाई 5 : (अ) अलंकार – अनुप्रास, यमक, श्लेष, उपमा, रूपक, उत्प्रेक्षा, व्यतिरेक, अर्थान्तरन्यास अपह्नुति, विभावना, विशेषोक्ति, अप्रस्तुतप्रशंसा।

(ब) भारतीय संस्कृति – विशेषता, संस्कार, वर्णव्यवस्था, आश्रम व्यवस्था, पुरुषार्थ चतुष्टय तथा पुराकालीन भारतीय शिक्षापद्धति।

प्रश्न-पत्र का निर्माण निम्नानुसार होगा –

खण्ड 'अ' – 20 अंक

1. इस खण्ड के सभी प्रश्न अनिवार्य हैं।
2. सभी प्रश्नों का उत्तर संस्कृत में देना होगा।
3. प्रत्येक इकाई से दो प्रश्न पूछे जाएँगे।
4. प्रश्नों के उत्तर की अधिकतम सीमा 30 शब्द होगी।

खण्ड 'ब' – 35 अंक

1. प्रत्येक इकाई से दो प्रश्न पूछे जाएँगे।
2. प्रत्येक इकाई से एक प्रश्न का उत्तर देना अनिवार्य है, इस प्रकार कुल पाँच प्रश्न करने हैं।
3. प्रश्नों के उत्तर की अधिकतम सीमा 250 शब्द होगी।

1. प्रत्येक इकाई से एक प्रश्न पूछा जाएगा।
2. कुल पाँच प्रश्न होंगे जिनमें से परीक्षार्थी को तीन प्रश्नों का उत्तर देना अनिवार्य है।
3. प्रश्न के उत्तर की अधिकतम सीमा 500 शब्द होगी।

सहायक पुस्तकें —

- शुकनासोपदेश (कादम्बरी) : प्रह्लाद कुमार, मेहरचन्द लछमनदास, दिल्ली, 1974
 शुकनासोपदेश (कादम्बरी) : सुबोधिनी संस्कृत हिन्दी व्याख्या, रामपाल शास्त्री, चौखम्बा ओरियण्टलिया, वाराणसी, 1978
 शुकनासोपदेश (कादम्बरी) : श्रीमती सुदेश नारंग, भारतीय विद्या प्रकाशन, दिल्ली
 शिवराजविजय (अम्बिकादत्त व्यास) : व्यास पुस्तकालय मानमन्दिर, काशी
 लघुसिद्धान्तकौमुदी : महेशसिंह कुशवाह
 संस्कृत व्याकरण : श्रीनिवास शास्त्री
 काव्यदीपिका (अष्टम शिखा) : कान्तिचन्द्र भट्टाचार्य
 भारतस्य सांस्कृतिको निधि: रामजी उपाध्याय
 भारतीय संस्कृति : श्री कृष्ण ओझा
 भारतीय संस्कृति : शिवदत्त ज्ञानी
 भारतीय संस्कृति : प्रीति प्रभा गोयल
 भारतीय संस्कृति—सौरभम् : रामजी उपाध्याय, भारतीय संस्कृति संस्थान, महामनापुरी, वाराणसी—5
Sanskrit Grammar : With an English Version, MLBD, Delhi, 1981
Sanskrit Grammar : (मर्म प्रकाशिका) English Translation, M.R. Kale, MLBD, Delhi, 1976

जयनारायण व्यास विश्वविद्यालय, जोधपुर
संस्कृत-विभाग

बी.ए. तृतीय वर्ष 2019-20

संस्कृत

नोट: इस परीक्षा में दो प्रश्न-पत्र होंगे। प्रत्येक तीन घण्टे की अवधि तथा 100 अंकों का होगा। प्रश्न-पत्र का निर्माण संस्कृत भाषा में होगा, किन्तु विशेष निर्देश के अभाव में प्रश्न-पत्र का उत्तर हिन्दी, संस्कृत अथवा अंग्रेजी में दिया जा सकता है।

प्रथम प्रश्न-पत्र

नाटक तथा व्याकरण

पाठ्यक्रम:-

इकाई 1 : अभिज्ञानशाकुन्तलम् (1 से 4 अंक) कालिदास

इकाई 2 : अभिज्ञानशाकुन्तलम् (5 से 7 अंक) कालिदास

इकाई 3 : निर्धारित कृत् प्रत्यय शब्द रूप तथा धातुरूप

(क) कृत्प्रत्यय -

ण्वुल्, तृच्-ण्वुल्लृचौ

अण्-कर्मण्यण्

अच्, ल्यु, णिनि-नन्दिग्रहिपचादिभ्यो ल्युणिन्यच्, सुप्यजातौ णिनिस्ताच्छील्ये,

एरच्

घञ्-भावे

अप्-ऋदोरप्

खल्-ईषद्दुःसुषु कृच्छ्राकृच्छ्रार्थेषु खल्

णमुल्-आभीक्ष्ये णमुल् च, नित्यवीप्सयोः

उपर्युक्त सूत्रों के आधार पर दो शब्दों (विकल्प सहित) की सूत्रोल्लेखपूर्वक व्युत्पत्ति का एक प्रश्न

(ख) लघुसिद्धान्त कौमुदी के अजन्त पुल्लिङ्ग प्रकरण के 'राम' शब्द की सूत्र सहित रूपसिद्धि

(ग) धातुरूप- निम्नाङ्कित धातुओं में से लट्, लोट्, लृट्, लङ्. एवं विधिलिङ्. लकारों में दो

धातु रूपों (विकल्प सहित) का निर्दिष्ट लकार एवं पुरुष सम्बन्धी प्रश्न धातु रूप -

हस्, पठ्, दृश्, स्था, वृत्, भ्रम्, तुद्, इण्, सिच्, चर्, गण्, चिन्त्, अस्, हन्, दा, कृ,

ज्ञा, तन्, ब्रू, हा, जन्

इकाई 4 : निर्धारित तद्धित प्रत्यय

ठक्-रेवत्यादिभ्यष्ठक्, ठस्येकः, किति च

मतुप्-तदस्यास्त्यस्मिन्निति मतुप्, वसोः सम्प्रसारणम्

इमनिच्-पृथ्वादिभ्य इमनिज्वा, र ऋतो हलादेर्लघोः

अण्- अश्वपत्यादिभ्यश्च, तस्यापत्यम्, ओर्गुणः, शिवादिभ्योऽण्

छ-वृद्धिर्यस्याचामादिस्तद्वृद्धम्, त्यदादीनि च, वृद्धाच्छः, गहादिभ्यश्च,

जिह्वामूलाङ्गुलेश्छः

तरप्, ईयसुन्-द्विवचनविभज्योपपदे तरबीयसुनौ

इष्ठन्, तमप्-अतिशायने तमबिष्ठनौ

च्चि-अभूततद्भाव इति वक्तव्यम्, कृभ्वस्तियोगे सम्पद्यकर्तरि च्चिः, अस्य च्चौ

वति-तेन तुल्यं क्रिया चेद्वतिः

मयट्-नित्यं वृद्धशरादिभ्यः, तत्प्रकृतवचने मयट्

कल्पप्, देश्य, देशीयर्-ईषदसमाप्तौ कल्पब्देश्यदेशीयरः

ढक्-स्त्रीभ्यो ढक्, नद्यादिभ्यो ढक्

साति-विभाषा साति कात्स्न्ये

उतरच्—किंयत्तदोः निर्धारणे द्वयोरेकस्य उतरच्
उतमच्—वा बहूनां जातिपरिप्रश्ने उतमच्

इकाई 5 : निर्धारित समास

समास

अव्ययीभाव—अव्ययं विभक्ति समीपसमृद्धिव्यर्थ्यार्थाभावात्ययासम्प्रति—

शब्दप्रादुर्भावपश्चाद्यथानुपूर्व्ययोगपद्यसादृश्यसम्पत्तिसाकल्यान्तवचनेषु
तत्पुरुष—द्वितीयाश्रितातीतपतितगतात्यस्तप्राप्तापन्नैः, कर्तृकरणे कृता बहुलम्,
चतुर्थी तदर्थार्थबलिहितसुखरक्षितैः, पञ्चमी भयेन,

स्तोकान्तिकदूरार्थकृच्छ्राणि क्तेन, पञ्चम्याः स्तोकादिभ्यः, षष्ठी, सप्तमी

शौण्डैः

द्विगु—संख्यापूर्वो द्विगुः, तद्विधितार्थोत्तरपदसमाहारे च, द्विगुरेकवचनम्, स नपुंसकम्
उपपद—उपपदमतिङ्

प्रश्न—पत्र का निर्माण निम्नानुसार होगा —

खण्ड 'अ' — 20 अंक

1. इस खण्ड के सभी प्रश्न अनिवार्य हैं।
2. सभी प्रश्नों का उत्तर संस्कृत में देना होगा।
3. प्रत्येक इकाई से दो प्रश्न पूछे जाएँगे।
4. प्रश्नों के उत्तर की अधिकतम सीमा 30 शब्द होगी।

खण्ड 'ब' — 35 अंक

1. प्रत्येक इकाई से दो प्रश्न पूछे जाएँगे।
2. प्रत्येक इकाई से एक प्रश्न का उत्तर देना अनिवार्य है, इस प्रकार कुल पाँच प्रश्न करने हैं।
3. प्रश्नों के उत्तर की अधिकतम सीमा 250 शब्द होगी।

खण्ड 'स' — 45 अंक

1. प्रत्येक इकाई से एक प्रश्न पूछा जाएगा।
2. कुल पाँच प्रश्न होंगे जिनमें से परीक्षार्थी को तीन प्रश्नों का उत्तर देना अनिवार्य है।
3. प्रश्न के उत्तर की अधिकतम सीमा 500 शब्द होगी।

सहायक पुस्तकें —

अभिज्ञानशाकुन्तलम् : व्याख्याकार—राधावल्लभ त्रिपाठी, म.प्र. हिन्दी ग्रन्थ अकादमी, भोपाल

अभिज्ञानशाकुन्तलम् : डॉ. रमाशंकर त्रिपाठी, विश्वविद्यालय प्रकाशन, वाराणसी, 1981

Abhijnana Sakuntalam: C.R. Devandhara, MLBD Delhi, 1991

Abhijnana Sakantalam: ed.A.B. Gajendra Gadkar Bombay, 1934

अभिज्ञानशाकुन्तलम् : वासुदेव कृष्ण चतुर्वेदी, महालक्ष्मी प्रकाशन, आगरा (उ.प्र.)

संस्कृत व्याकरण : श्री निवास शास्त्री

संस्कृत व्याकरण प्रवेशिका : बाबूराम सक्सेना, रामनारायणलाल बेनी माधव, इलाहाबाद

संस्कृत व्याकरण कौमुदी (तृतीय भाग): पं. ईश्वरचन्द्र विद्यासागर, चौखम्बा विद्याभवन, वाराणसी

Higher Sanskrit Grammar (हिन्दी संस्करण) रू M.R. ज्ञंसम

प्रौढरचनानवाद कौमुदी : कपिल देव द्विवेदी, विश्वविद्यालय प्रकाशन, वाराणसी

द्वितीय प्रश्न-पत्र
वेद, उपनिषद्, भारतीय दर्शन, व्याकरण एवं निबन्ध

नोट: प्रश्न-पत्र का निर्माण संस्कृत भाषा में होगा।

इकाई 1 : वेद

(क) ऋग्वेद : अग्नि 1.1, विष्णु 1.154, हिरण्यगर्भ 10.121, वाक् सूक्त 10.125, संज्ञान सूक्त 10.191, इन्द्र सूक्त 2.12

इकाई 2 : कठोपनिषद् (प्रथम अध्याय)

इकाई 3 : व्याकरण

(क) लघुसिद्धान्तकौमुदी के निर्धारित (लृट्, लङ्.) लकारों में भू धातु के छः में से तीन रूपों की सिद्धि

(ख) एध् धातु के चार में से दो रूपों की सिद्धि। निर्धारित लकार –लट् लोट्, लृट्, लङ्, विधिलिङ्

इकाई 4 : भारतीय दर्शन के सिद्धान्त

अ. कार्यकारणभावसिद्धान्त

ब. ईश्वर

स. कर्मसिद्धान्त तथा पुनर्जन्म

द. निष्काम कर्म

य. प्रतीत्यसमुत्पाद

र. अनेकान्तवाद

इकाई 5 : निबन्ध

संस्कृत अनुच्छेद/निबन्ध लेखन

प्रश्न-पत्र का निर्माण निम्नानुसार होगा –

खण्ड 'अ' – 20 अंक

1. इस खण्ड के सभी प्रश्न अनिवार्य हैं।
2. सभी प्रश्नों का उत्तर संस्कृत में देना होगा।
3. प्रत्येक इकाई से दो प्रश्न पूछे जाएँगे।
4. प्रश्नों के उत्तर की अधिकतम सीमा 30 शब्द होगी।

खण्ड 'ब' – 35 अंक

1. प्रत्येक इकाई से दो प्रश्न पूछे जाएँगे।
2. प्रत्येक इकाई से एक प्रश्न का उत्तर देना अनिवार्य है, इस प्रकार कुल पाँच प्रश्न करने हैं।
3. प्रश्नों के उत्तर की अधिकतम सीमा 250 शब्द होगी।

खण्ड 'स' – 45 अंक

1. प्रत्येक इकाई से एक प्रश्न पूछा जाएगा।
2. कुल पाँच प्रश्न होंगे जिनमें से परीक्षार्थी को तीन प्रश्नों का उत्तर देना अनिवार्य है।
3. प्रश्न के उत्तर की अधिकतम सीमा 500 शब्द होगी।

**New Vedic Selection Part I & II : Telanga & Chaube, Bhartiya Vidya
Prakashan, Delhi**

वेदचयनम्: व्याख्याकार, विश्वम्भर नाथ त्रिपाठी, विश्वविद्यालय प्रकाशन, वाराणसी

कठोपनिषद्: गीता प्रेस, गोरखपुर

कठोपनिषद् : व्याख्याकार, सुरेन्द्र देव शास्त्री, चौखम्बा विद्याभवन, वाराणसी

लघुसिद्धान्त कौमुदी : अर्कनाथ चौधरी, जगदीश संस्कृत पुस्तकालय, झालानियों का रास्ता, किशनपोल बाजार, जयपुर।

भारतीय दर्शन का इतिहास : बलदेव उपाध्याय

भारतीय दर्शन : चन्द्रधर शर्मा

भारतीय दर्शन : नन्दकिशोर देवराज, हिन्दी समिति लखनऊ

भारतीय दर्शन का परिचय : चटर्जी एवं दत्त

संस्कृत निबन्ध कलिका : रामजी उपाध्याय, भारतीय विद्या प्रकाशन, दिल्ली

बी.ए. प्रथम वर्ष

उर्दू साहित्य

प्रथम प्रश्न-पत्र

नस्र और ड्रामा

नोट : यह प्रश्न-पत्र तीन घण्टे की अवधि और 100 अंको का होगा ।

पाठ्यपुस्तकें

मेयारे अदब : हिस्सा नस्र, एजुकेशनल बुक हाउस, अलीगढ़ (यू.पी.)
कृश्न चन्द : दरवाजे खोल दो

इकाई एवं अंक विभाजन

इकाई 1 : दोनों पाठ्य पुस्तकों से विकल्प सहित दो व्याख्या (20)

इकाई 2 : मेयारे अदब (हिस्सा नस्र) के किसी भी मज्मून की विकल्प सहित तल्खीस (20)

इकाई 3 : विकल्प सहित किसी भी नस्र निगार का तनकीदी तज्जिया (20)

इकाई 4 : विकल्प सहित ड्रामे के फन से मुतालिक आम सवालात (20)

इकाई 5 : विकल्प सहित ड्रामे के मतन/किरदार/मौजू से मुतालिक सवाल (20)

सहायक पुस्तकें

इशरत रहमानी, अनवर अजीम : उर्दू ड्रामा

अत्हर परवेज : उर्दू अदब का मुताल्या

द्वितीय प्रश्न-पत्र

शायरी और कवायद

नोट : यह प्रश्न-पत्र तीन घण्टे की अवधि और 100 अंको का होगा ।

पाठ्यपुस्तकें

शहयारे (नज्म) प्रकाशक, इंदारा-ए-नशत व इशायत, इलाहाबाद (यू.पी.)
दर्से बलागत सम्पादित शम्सउर्रहमान फारूकी, कौमी कौंसिल बराए फरोग उर्दू, दिल्ली।

इकाई एवं अंक विभाजन

इकाई 1 : गजल के अशआर की विकल्प सहित दो तशरीह (मीर, आतिश, मोमिन, गालिब,
फैज (20)

इकाई 2 : नज्म के दो इक्तिबास की तशरीह विकल्प सहित (नजीर, हाली, इकबाल, जोश)
(20)

इकाई 3 : गजलगों और नज्म निगार पर एक सवाल (विकल्प सहित) (20)

इकाई 4 : गजल और नज्म के फन पर विकल्प सहित एक सवाल (20)

इकाई 5 : दर्जे जैल कवायद में से किसी पांच पर विकल्प सहित सवाल (20)

1. तजाद 2. लफ्फो-नस्र 3. तल्मीह 4. हुस्ने-तालील 5. मुबालिगा 6. तशबीह
7. इस्तेआरा 8. मिरातुनजीर 9. सियाकतुद्दाल 10. तनकीस्सुसिफत 11. ऐहाय
12. मजाज 13. तजाहुले-आरिफाना 14. इस्तिहतकाक

सहायक पुस्तकें

डॉ. एजाज हुसैन : अदबी रूज्हानात

रशीद अहमद सिद्की : जदीद उर्दू-गजल

अख्तर : गजल और मुतगजलीन

यूसुफ हुसैन खां : उर्दू-गजल

बी.ए. द्वितीय वर्ष
उर्दू साहित्य
प्रथम प्रश्न-पत्र

नस्र, नज्म और तनकीदी नगजिया

नोट : यह प्रश्न-पत्र तीन घण्टे की अवधि और 100 अंको का होगा ।

पाठ्यपुस्तकें

1. इन्तिखाबे नस्र (हिस्सा-2) (अदब की गरजो गायत तथा नाटक को छोड़कर)
सम्पादक डॉ. शबीहुल हसन और दूसरे, यू.पी. उर्दू अकेडमी लखनउ, 1990 संस्करण
2. शहपारे (हिस्सा नज्म) : सम्पादक इदारा नथ्रो इशायत, इलाहाबाद युनिवर्सिटी, यू.पी.
1991
संस्करण से निम्नलिखित :-
गजलियात-दर्द, नासिख, अजीज
कसीदा-जौक
मस्त्रियां-अनीस

इकाई एवं अंक विभाजन

- इकाई 1 : विकल्प सहित दो नसरी इक्तिबासात की तशरीह (20)
इकाई 2 : विकल्प सहित गजल के पांच अशआर की तशरीह (20)
इकाई 3 : विकल्प सहित कसीदे या मर्सिये के इक्तिबास की तशरीह (20)
इकाई 4 : विकल्प सहित कसीदे या मर्सिये के फन पर एक सवाल (20)
इकाई 5 : विकल्प सहित नस्र निगारों पर एक सवाल (20)

सहायक पुस्तकें

अदबीअस्नाफ : ज्ञानचन्द जैन

जदीद अस्नाफे : नज्मो-नस्र एक तआसफ-सिराजुलहक

तारीखें-अदब-उर्दू : रामबाबू सक्सेना

द्वितीय प्रश्न-पत्र

तर्जुमा, मजमून और तारीखें अदब

नोट : यह प्रश्न-पत्र तीन घण्टे की अवधि और 100 अंको का होगा ।

पाठ्यपुस्तकें

गुल्हाए फारसी : मिस्कीन बुक डिपो, जयपुर

उर्दू की कहानी : प्रो. एहतिशाम हुसैन

इकाई एवं अंक विभाजन

इकाई 1 : (क) विकल्प सहित एक फारसी इक्तिबास का तर्जुमा (10)

(ख) विकल्प सहित एक हिन्दी इक्तिबास का तर्जुमा (10)

इकाई 2 : विकल्प सहित अदबी या समाजी या सकाफती मौजू पर एक मजमून (20)

इकाई 3 : (क) उर्दू की इब्तिदा से मुतलिक एक सवाल (विकल्प सहित) (10)

(ख) उर्दू की कहानी के हवाले शायरो या अदीबो से मुतलिक एक सवाल
(विकल्प सहित) (10)

इकाई 4 : लखनउ और देहली स्कूल से मुतलिक एक सवाल (20)

इकाई 5 : विकल्प सहित दास्तान नावेल और अप्साने के उस्लूब से मुतलिक एक सवाल
(20)

सहायक पुस्तकें

उर्दू अदब की तारीख : नसीम कुरैशी

तारीखें-अदबे-उर्दू : नूरउल हसन नक्वी

उर्दू अदब की तन्कीदी तारीख : एहतिशाम हुसैन

उर्दू इंशाइया : डॉ. अनवर सदीद

बी.ए. तृतीय वर्ष
उर्दू साहित्य
प्रथम प्रश्न-पत्र

उर्दू अदब की तारीख का तारुफ

नोट : यह प्रश्न-पत्र तीन घण्टे की अवधि और 100 अंको का होगा ।

इकाई एवं अंक विभाजन

- इकाई 1 : विकल्प सहित दकनी शायरी का खुसूसियात और ईहाम गौड की तहरीक पर एक सवाल (20)
इकाई 2 : विकल्प सहित दबिस्ताने देहली और दबिस्ताने लखनउ पर एक सवाल (20)
इकाई 3 : विकल्प सहित फोर्ट विलियम कॉलेज और देहली कॉलेज पर एक सवाल (20)
इकाई 4 : विकल्प सहित सर सय्यद तहरीक और रुमानी तहरीक पर एक सवाल (20)
इकाई 5 : विकल्प सहित तरक्की पसन्द तहरीक और जदीदियत पर एक सवाल (20)

सहायक पुस्तकें

कुल्लियाते वली (मुकदमा) : नूरउल हसन हाशमी
उर्दू अदब की एक सदी : सय्यद अब्दुल्ला
देहली की दबिस्ताने शाइरी : नूरउल हसन हाशमी
लखनउ की दबिस्ताने शाइरी : अब्दुल्ईस सिद्दीकी
उर्दू में रोमानवी तहरीक : डॉ. मोहम्मद हसन
सर सयद और अलीगढ तहरीक : खलीक निजामी

द्वितीय प्रश्न-पत्र

जदीद अश्नापे नज्मोनस्र का तारुफ

नोट : यह प्रश्न-पत्र तीन घण्टे की अवधि और 100 अंको का होगा ।

इकाई 1 : विकल्प सहित जदीद उर्दू नज्म एवं आजाद नज्म पर एक सवाल (20)

इकाई 2 : मुअर्रा नज्म, नस्री नज्म और दोहे पर विकल्प सहित एक सवाल (20)

इकाई 3 : विकल्प सहित इन्शाईया निगारी, खाका निगारी और रिपोर्ताज निगारी पर एक सवाल (20)

इकाई 4 : विकल्प सहित नावेल के फन और तकनीक पर एक सवाल (20)

इकाई 5 : विकल्प सहित अफसाने के फन और तकनीक पर एक सवाल (20)

सहायक पुस्तकें

जदीद उर्दू नज्म और योरपीय अस्रात : डॉ. हामिदी काश्मीरी

उर्दू की आजाद और मुअर्रा नज्म : डॉ. हनीफ कैफी

उर्दू खाकानिगारी : डॉ. साबिरा सईद

SYLLABUS

BACHELOR OF COMMECE (B.Com.)

| | | |
|----------------|---|-------------------|
| B.Com. Part I | : | Examination, 2021 |
| B.Com. Part II | : | Examination, 2022 |
| B.Com. Final | : | Examination, 2023 |



JAI NARAIN VYAS UNIVERSITY JODHPUR



NOTIFICATION

In compliance of decision of the Hon'ble High Court all students are required to fulfil 75% attendance rule in each subject and there must be 75% attendance of the student before he/she could be permitted to appear in the examination.

**REGISTRAR
(Academic)**

विज्ञप्ति

माननीय राजस्थान उच्च न्यायालय के निर्णय आदेश की परिपालना के लिये सभी विद्यार्थियों को प्रत्येक विषय में न्यूनतम 75 प्रतिशत उपस्थिति अर्जित करना अनिवार्य है। यदि इससे कम उपस्थिति है तो विद्यार्थियों को परीक्षा में बैठने नहीं दिया जायेगा।

**कुलसचिव
(शैक्षणिक)**

| <i>C o n t e n t s</i> | |
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| SCHEME OF TEACHING AND EXAMINATION | 8 |
| B.COM. PART I | 10 |
| GENERAL HINDI | 10 |
| GENERAL ENGLISH | 11 |
| B.COM. PART II | 23 |
| B.COM. FINAL | 37 |

FACULTY OF COMMERCE AND MANAGEMENT STUDIES
LIST OF TEACHING STAFF

Prof. Raman Kumar Dave
Dean

Department of Accounting :
Dr. Anil Verma, Head

Assistant Professors

Dr. Virendra Tater
Shri Yashpal Meena
Dr. Mangu Ram

Deptt. of Bus. Adm.:
Dr. U.R. Tater, Head

Assistant Professors

Dr. M.L. Vasita (On Leave)
Dr. Asha Rathi
Dr. Ashish Mathur
Dr. Manish Vadera
Dr. Ramesh Kumar Chouhan
Dr. Ashok Kumar
Dr. Vandana Yadav

Deptt. of Bus. Fin. & Eco. :
Prof. Raman Kumar Dave, Head

Professors

Prof. Mahendra Singh Rathore
Prof. Ram Singh Meena
Prof. Sunil Mehta
Prof. D.S. Kheechee
Prof. (Mrs.) Navneeta Singh
Prof. Krishn Awatar Goyal

Associate Professors

Dr. Mahendra Kumar

Assistant Professors

Dr. Anju Agarwal
Dr. Kshitiz Maharshi
Dr. Rajendra Prasad Meena

Deptt. of Mgt. Studies :
Prof. S.P.S. Bhadu, Head

Associate Professors

Dr. (Mrs.) Meeta Nihalani
Dr. (Mrs.) Swapna Patawari

Assistant Professors

Dr. (Mrs.) Puja Gehlot
Dr. (Mrs.) Neelam Kalla
Shri Nishant Gehlot

BACHELOR OF COMMERCE (B.Com.)

General Information for Students

The course of study for the examination shall extend over a period of three years as an integrated course. There shall be an examination at the end of each year. The examination shall be conducted by means of written papers. The subjects, examination and teaching scheme and paper for the examination are as per Table.

Attendance:

1. For all regular candidates in the Faculties of Arts, Education and Social Science, Science, Law, Commerce and Engineering, the minimum attendance requirement shall be that a candidate should have attended at least 75% of the lectures delivered and tutorials held taken together as well as 75% of practicals and sessionals from the date of his/her admission.

Condonation of shortage of attendance:

2. The shortage of attendance up to the limits specified below may be condoned on valid reasons:
 - (i) Up to 6% in each subject plus 5 attendances in all in aggregate of subjects/papers may be condoned by the Vice-Chancellor on the recommendation of the Dean/Director/ Principal for under-graduate students and on the recommendation of the Head of the Department of the post-graduate classes.
 - (ii) The N.C.C./N.S.S. Cadets sent out to parades and camps and such students who are deputed by the University to take part in games, athletic or cultural activities may , for purpose of attendance, be treated as present for the days of their absence in connection with the aforesaid activities and that period shall be added to their subject-wise attendance.

Note : 1. The attendance for supplementary students will be counted from the date of their admission.

Format of Question paper

Durations 3 Hours

Max. Marks : 100

Section-A

Two questions from each Unit.

10 very small question. Each question carry 2 marks.

- a
- b
- c
- d
- e
- f
- g
- h
- i
- j

Answer of each question shall be limited upto 30 words.

Section-B

10 Question (Two questions from each Unit) Students will answer one question from each Unit. Each question will carry 7 Marks.

Unit - 1

1 Question A or B

Unit - 2

2 Question A or B

Unit - 3

3 Question A or B

Unit - 4

4 Question A or B

Unit - 5

5 Question A or B

Answer of each question shall be limited upto 250 words.

Section-C

This section will include 05 questions (One question from each unit).

Student will answer any 03 questions. Each question will carry 15 marks.

1 Unit 1

2 Unit 2

3 Unit 3

4 Unit 4

5 Unit 5

Answer of each question shall be limited up to 500 words.

Note :- In case Numerical, Figures, chart, Diagrams and Graph the above limit of words shall not apply

प्रश्न-पत्र का प्रारूप

अवधि : 3 घंटे

अधिकतम अंक : 100

भाग (अ)

इस भाग की प्रत्येक इकाई में से दो प्रश्न पूछे जायेंगे। कुल मिलाकर दस छोटे प्रश्न होंगे। प्रत्येक प्रश्न दो अंक का होगा :

- अ
- ब
- स
- द
- य
- र
- ल
- व
- छ
- झ

प्रत्येक प्रश्न के उत्तर की सीमा तीस शब्दों की होगी।

भाग (ब)

कुल दस प्रश्न होंगे जो कि प्रत्येक इकाई में से आन्तरिक विकल्प के साथ दो होंगे। प्रत्येक इकाई में से एक प्रश्न का उत्तर देना है।

प्रत्येक प्रश्न सात अंक का होगा :

- इकाई 1— प्रश्न (अ) अथवा प्रश्न (ब)
- इकाई 2— प्रश्न (अ) अथवा प्रश्न (ब)
- इकाई 3— प्रश्न (अ) अथवा प्रश्न (ब)
- इकाई 4— प्रश्न (अ) अथवा प्रश्न (ब)
- इकाई 5— प्रश्न (अ) अथवा प्रश्न (ब)

प्रत्येक प्रश्न के उत्तर की सीमा दो सौ पचास शब्दों की होगी।

भाग (स)

इस भाग में कुल 5 प्रश्न होंगे। प्रत्येक इकाई में से एक प्रश्न दिया जायेगा। विद्यार्थियों को कोई भी तीन प्रश्न के उत्तर हल करने हैं। प्रत्येक प्रश्न पन्द्रह अंक का होगा।

- इकाई 1
- इकाई 2
- इकाई 3
- इकाई 4
- इकाई 5

प्रत्येक प्रश्न के उत्तर की सीमा पांच सौ शब्दों की होगी।

टिप्पणी:— शब्दों की सीमा निम्नलिखित पर लागू नहीं होगी — चार्ट, रेखाचित्र, ग्राफ, नम्बर आधारित व्यावहारिक प्रश्न व तालिका आधारित आंकड़े इत्यादि।

Bachelor of Commerce Teaching and Examination Scheme

The course of study for the examination shall extend over a period of three years as an integrated course. There shall be an examination at the end of each year. The examination shall be conducted by means of written papers. The subjects and paper for the examination are as follows :

| Class | Foundation Course | Elective Course | | |
|----------------------------|---|--|--|---|
| | | Course I: Accounting | Course II : Business Finance & Economics | Course III : Business Administration |
| B.Com Part I 2021 | Hindi or English or Mathematics (one Paper of 100 marks) | Group I Paper : I. Financial Accounting II. Cost Accounting (Each Paper of 100 marks) | Group II Paper I: Business Economics II: Economic Environment (Each Paper of 100 marks) | Group III Paper : I: Principles of Business Management II: Business Regulatory Framework (Each Paper of 100 marks) |
| B.Com Part II 2022 | Environmental Studies (100 marks) | Group I Paper I. Corporate Accounting II Business Statistics (Each Paper of 100 marks) | Group II Paper I Money and Banking System II International Trade and Finance (Each Paper of 100 marks) | Group III Paper I Company Law and Secretarial Practice II Business Communication and Management (Each Paper of 100 marks) |
| B.Com Part III 2023 | ----- | Group I Paper : I. Management Accounting and GST II Income Tax III Auditing (Each Paper of 100 marks) | Group II Paper : I. Financial Market Operations. II Financial Management (Each Paper of 100 marks) | Group III Paper : I International Marketing (100 marks) |

Note :

- Lecture per week for each paper both under foundation course or under elective course will be six. The duration of examination will be 3 hours (Except General Hindi). The maximum marks for each elective group will be 200 at B.Com. Part I and II Examination. In B.Com. Final the maximum marks for Groups I, II and III will be 300, 200 and 100 respectively, Except, UGC vocational course
- Division : For a pass, a candidate must secure 36% marks in each Group at each part of examination. Division is awarded at B.Com. Final on the aggregate of Marks of all the three years.
Division will be awarded as follows :
I Division-60% and above of the aggregate marks.
II Division-48% and above but less than 60% of the aggregate marks. III Division-36% and above but less than 48% of the aggregate marks.
- Supplementary : Eligibility for supplementary examination will be determined on the basis of common rules declared by the University for all general faculties.
There will be no supplementary examinations for B.Com Part I and B.Com Part II. The system of one due paper (group) will be applicable in place of supplementary examinations. The Candidate will have to clear all the due paper/papers, as the case may be, upto the final year examination of the course, otherwise the result of the B.Com final year will not be declared. The degree will be awarded only after clearance of all due papers. (Ref. Res. No. 14 of academic council dated 28.4.2012)
- Vocational course in Foreign Trade Practices and Procedures in place of Paper I of Group II of B.Com. I,II &III
- In B.Com. I select any one out of Gen. Hindi, Gen. English or Bus. Maths.

**बी.कॉम. त्रि-वर्षीय वाणिज्य
पाठ्यक्रम अध्यापन तथा परीक्षा योजना**

यह पाठ्यक्रम परीक्षा अध्ययन के तीन वर्ष एकीकृत पाठ्यक्रम की अवधि के लिये होगा। प्रत्येक वर्ष के अन्त में वार्षिक परीक्षा आयोजित होगी। परीक्षा के सभी प्रश्न-पत्र लिखित होंगे। परीक्षा के विषय तथा पेपर निम्नलिखित हैं –

| कक्षा | आधारभूत पाठ्यक्रम | विषय समूह प्रथम : लेखांकन | विषय समूह द्वितीय : व्यावसायिक वित्त | विषय समूह तृतीय : व्यवसाय प्रशासन तथा अर्थशास्त्र |
|---|--|--|---|---|
| बी.कॉम. भाग प्रथम 2021 | सामान्य हिन्दी अथवा सामान्य अंग्रेजी अथवा व्यावसायिक गणित (एक पेपर 100 अंको का) | प्रथम समूह के पेपर्स: 1 वित्तीय लेखांकन 2 लागत लेखांकन (प्रत्येक पेपर 100 अंको का) | द्वितीय समूह के पेपर्स: 1 व्यावसायिक अर्थशास्त्र 2 आर्थिक पर्यावरण (प्रत्येक पेपर 100 अंको का) | तृतीय समूह के पेपर्स: 1 व्यवसाय प्रबंध के सिद्धान्त 2 व्यवसाय नियामक व्यवस्था (प्रत्येक पेपर 100 अंको का) |
| बी.कॉम. भाग द्वितीय 2022 | पर्यावरण अध्ययन (एक पेपर 100 अंको का) | प्रथम समूह के पेपर्स: 1 निगमीय लेखांकन 2 व्यावसायिक सांख्यिकी (प्रत्येक पेपर 100 अंको का) | द्वितीय समूह के पेपर्स: 1 मुद्रा एवं बैंकिंग प्रणाली 2 अन्तर्राष्ट्रीय व्यापार तथा वित्त (प्रत्येक पेपर 100 अंको का) | तृतीय समूह के पेपर्स: 1 कम्पनी विधि एवं सचिवीय पद्धति 2 व्यावसायिक संप्रेषण तथा प्रबंध (प्रत्येक पेपर 100 अंको का) |
| बी.कॉम. भाग तृतीय (अन्तिम वर्ष) 2023 | | प्रथम समूह के पेपर्स: 1 प्रबन्धकीय लेखांकन एवं वस्तु एवं सेवाकर 2 आय कर 3 अंकेक्षण (प्रत्येक पेपर 100 अंको का) | द्वितीय समूह के पेपर्स: 1 वित्तीय बाजार परिचालन 2 वित्तीय प्रबंध (प्रत्येक पेपर 100 अंको का) | तृतीय समूह के पेपर्स: 1 अन्तर्राष्ट्रीय विपणन (प्रत्येक पेपर 100 अंको का) |

टिप्पणी –

- प्रत्येक पेपर चाहे वह आधारभूत पाठ्यक्रम का हो या चयनित पाठ्यक्रम का, प्रति सप्ताह कालांश 6 का होगा। परीक्षा अवधि तीन घंटे की होगी। (सिवाय सामान्य हिन्दी परीक्षा)। प्रत्येक चयनित समूह का अधिकतम अंक बी. कॉम. भाग प्रथम तथा द्वितीय में 200 अंको का होगा। बी.कॉम. अन्तिम वर्ष परीक्षा में समूह प्रथम, द्वितीय तथा तृतीय में अंक क्रमशः 300, 200 तथा 100 का होगा। सिवाय विश्वविद्यालय अनुदान
 - आयोग द्वारा लागू किये गये वोकेशनल पाठ्यक्रम पर लागू नहीं होगा।
 - श्रेणी :विद्यार्थियोंके पास होने के लिये प्रत्येक परीक्षा भाग तथा समूह में न्यूनतम 36 प्रतिशत अंक अर्जित करने जरूरी होंगे। श्रेणी का निर्धारण बी. कॉम. अन्तिम वर्ष में सभी तीन वर्ष के प्राप्तांक को जोड़कर दिया जायेगा। श्रेणी का निर्धारण निम्नलिखित रूप से होगा :-

| | | |
|----------------|---|---|
| प्रथम श्रेणी | – | कुल प्राप्तांकों का 60 प्रतिशत तथा अधिक। |
| द्वितीय श्रेणी | – | कुल प्राप्तांकों का 48 प्रतिशत तथा अधिक तथा 60 प्रतिशत से कम। |
| तृतीय श्रेणी | – | कुल प्राप्तांकों का 36 प्रतिशत तथा अधिक तथा 48 प्रतिशत से कम। |
- पूरक : पूरक परीक्षा की पात्रता के निर्धारित सामान्य नियम वही लागू होंगे जो विश्वविद्यालय द्वारा सभी सामान्य संकायों के लिये लागू किये गये हैं।
बी. कॉम. प्रथम वर्ष तथा बी.कॉम. द्वितीय वर्ष में पूरक परीक्षा नहीं होगी। पूरक परीक्षा के स्थान पर एक बकाया प्रश्न पत्र (समूह) की पद्धति लागू होगी। विद्यार्थी को अन्तिम वर्ष की परीक्षा तक सभी बकाया प्रश्नपत्रों को उत्तीर्ण करना होगा अन्यथा बी.कॉम. अन्तिम वर्ष का परीक्षा परिणाम घोषित नहीं किया जायेगा। सभी बकाया प्रश्नपत्रों को उत्तीर्ण करने के पश्चात् ही उपाधि प्रदान की जायेगी। (Ref. Res. No. 14 of academic council dated 28.4.2012)
- बी. कॉम. प्रथम वर्ष, द्वितीय वर्ष तथा अन्तिम वर्ष के समूह द्वितीय के पेपर प्रथम की जगह वोकेशनल पाठ्यक्रम का विदेशी व्यापार व्यवहार तथा प्रक्रिया का विषय लागू है।
- बी. कॉम. प्रथम वर्ष में विद्यार्थियों के लिये निम्न में से कोई एक पेपर का चयन करना है।
 - सामान्य हिन्दी या
 - सामान्य अंग्रेजी या
 - व्यावसायिक गणित

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आधार पाठ्यक्रम— सामान्य हिन्दी

नोट: यह प्रश्न पत्र दो घण्टे की अवधि और 100 अंको का होगा।

- इकाई 1** पाठ्य पुस्तक—प्रकीर्णिका—सम्पादक—बालकृष्ण राव एवं श्री राम शर्मा, राजकमल प्रकाशन, नई दिल्ली
- इकाई 2** (क) वर्णों का वर्गीकरण—भेद प्रभेद (ख) सन्धि (ग) समास
(घ) उपसर्ग—प्रत्यय (ड.) तत्सम—तद्भव शब्द (च) शब्द शुद्धि वाक्य शुद्धि
- इकाई 3** (क) संज्ञा और संज्ञा के विकारी तत्त्व—लिंग, वचन, कारक
(ख) सर्वनाम (ग) विशेषण (घ) क्रिया और सहायक क्रिया—क्रिया,काल, वृत्ति,पक्ष वाच्य
(ड.) अविकारी तत्त्व—क्रिया—विशेषण, संबंध बोधक, समुच्चय बोधक, विस्मयादि बोधक, निपात (च) विराम— चिह्न
- इकाई 4** (क) अनेकार्थी शब्द (ख) युग्म शब्द (ग) वाक्यांश के लिए एक शब्द
(घ) पर्यायवाची शब्द (ड.) विलोम शब्द (च) मुहावरे—लोकोक्तियाँ
- इकाई 5** (क) देवनागरी लिपि की विशेषताएँ (ख) मानक हिन्दी वर्णमाला तथा अंक
(ग) हिन्दी वर्तनी का मानक रूप (घ) कार्यालयी पत्र लेखन
(ड.) कार्यालयी टिप्पणी (च) पारिभाषिक शब्दावली (कार्यालयी)

प्रश्न एवं अंक विभाजन

प्रत्येक इकाई 20 अंक की होगी – $20 \times 5 = 100$ अंक

प्रत्येक इकाई से एक-एक अंक के बीस बहुविकल्पात्मक प्रश्न पूछे जाएँगे— $20 \times 5 = 100$ प्रश्न

सहायक पुस्तकें

हिन्दी शब्दानुशासन : किशोरीदास वाजपेयी

हिन्दी व्याकरण: कामताप्रसाद गुरु

हिन्दी का सामान्य ज्ञान: हरदेव बाहरी

आलेख— प्रारूप : शिवनारायण चतुर्वेदी

टिप्पणी —प्रारूप : शिवनारायण चतुर्वेदी

मानक हिन्दी वर्तनी तथा नागरी लिपि: वैज्ञानिक तथा तकनीकी शब्दावली आयोग, नई दिल्ली

B.COM. PART- I (Examination 2021)

FOUNDATION COURSE – 1

GENERAL ENGLISH

Duration: 2 Hrs.

Max Marks: 100

No. of Questions: 100 Multiple types

Unit 1: Prescribed Texts: (20 questions)

1. R.K. Narayan: A Vendor of Sweets (Ten Questions from this text)

2. Remedial Course in English Book II (Ten Questions from this text)

Unit 2: Phrasal Verbs, Antonyms, Synonyms, Prefixes and Suffixes (20 questions)

Unit 3: Compound and Complex Sentences, Transformation of Simple, Compound and Complex sentences. (20 questions)

Unit 4: Modal auxiliaries, Common Errors involving the use of articles, prepositions and tenses. (20 questions)

Unit 5: Active and Passive Voice, Direct and Indirect Speech, Formal and Informal Letters, Sequential Sentences. (20 questions)

Division of Questions And Marks:

Each Unit will be of 20 marks **(20x5=100 Marks)**

From Each Unit 20 multiple choice questions of one mark each will be given. **(20x5 = 100 questions)**

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Group I PAPER I

FINANCIAL ACCOUNTING

- Unit 1 : Meaning and scope of Accounting : Need, development and definition of accounting, Objectives of accounting, Accounting Principles, Concepts & Conventions, Introduction of International Financial Reporting Standards and Indian Accounting Standards (IFRSs and Ind-ASs), Depreciation; Provisions and Reserves, Sectional and Self Balancing System
- Unit 2: (a) Accounts from Incomplete Records
(b) Accounting for Non-Profit-Making Organizations: Receipts and Payment Account, Preparation of Income and Expenditure account and Balance Sheet.
(c) Departmental Accounts
- Unit 3 : Insurance Claims : Loss of Stock & Consequential Losses; Royalty and Lease Accounts, Branch Accounting excluding Foreign Branch
- Unit 4 : Advanced Problems of Partnership Firm related to Admission, Retirement & Death of Partners and Dissolution of Partnership firm, Piecemeal distribution of cash, Amalgamation of two partnership firms and conversion of partnership firm into a company
- Unit 5 : Company Accounts : Issue of Shares, Book Building Process, Buy Back of Shares, Underwriting, Redemption of Preference Shares

समूह-1, प्रश्न पत्र -1 : वित्तीय लेखांकन

- इकाई -1 लेखांकन का अर्थ एवं क्षेत्र: लेखांकन की आवश्यकता, विकास एवं परिभाषा, लेखांकन के उद्देश्य, लेखांकन सिद्धान्त, अवधारणाएं एवं परम्पराएं, अन्तर्राष्ट्रीय वित्तीय रिपोर्टिंग प्रमाण (IFRS) एवं भारतीय लेखांकन प्रमाणों (Ind ASs) का परिचय, हास, प्रावधान एवं संचय, वर्गीय सन्तुलन एवं स्वकीय सन्तुलन खाता पद्धति।
- इकाई-2 (अ) अपूर्ण अभिलेखों से लेखांकन
(ब) गैर लाभकारी संगठनों के लिए लेखांकन-प्राप्ति एवं भुगतान खाता, आय एवं व्यय खाते का निर्माण तथा चिट्ठा।
(स) विभागीय खाते।
- इकाई-3 बीमा सम्बन्धी दावें-स्कन्ध की हानि तथा परिणामी हानि, अधिकार शुल्क एवं पट्टा खाते, शाखा सम्बन्धी खाते (विदेशी शाखा के अलावा)।
- इकाई-4 साझेदारी फर्म में साझेदार के प्रवेश, अवकाश गृहण, साझेदारों की मृत्यु एवं साझेदारी फर्म के विघटन से सम्बन्धित उच्च स्तरीय समस्याएँ, रोकड का क्रमिक वितरण, दो साझेदारी फर्मों का समामेलन एवं साझेदारी फर्म का कम्पनी में परिवर्तन।
- इकाई-5 कम्पनी लेखे-अंशों का निर्गमन, बुक बिल्डिंग प्रक्रिया, अंशों की पुनः खरीद, अभिगोपन, पूर्वाधिकारी अंशों का शोधन।

SUGGESTED READINGS :

- Anthony, R.N. and Reece, J.S. : Accounting Principles, Rich Irwin Inc.
- Gupta, R.L. and Radhaswamy, M: Financial Accounting, Sultanchand and Sons, New Delhi.
- Monga, J.R. Ahuja, Girish, and Sehgal, Ashok: Financial Accounting, Mayur paper Book, Nodia.
- Shukla, M.C. Grewal, T.S. and Gupta, S.C.L.: Advanced Accounting, S. Chand & Co. New Delhi.
- Copendium of Statement and Standards of Accounting, The Insttt. Of Chartered Accountants of India, New Delhi.
- Agarwala, A.N. & Agarwala, K.N. : Higher Science of Accounting, Kitab Mahal, Allahabad.
- Maheshwari S.N: Financial Accounting, Vikas Publishing House, New Delhi.
- Jain, Khandelwal & Pareek: Financial Accounting, Ajmera Book Company, Jaipur.

B.COM. PART- I (Examination 2021)

Group I PAPER II

COST ACCOUNTING

- Unit 1 : Concept and Types of cost, Methods of costing, Types, Elements of cost, Material cost control, Employee cost (Labour Cost), System of wage payments, Incentive plans
- Unit 2: Overhead: Meaning, Classifications, Allocation, Apportionment and Absorption of Overheads, under or over absorption of overheads. Unit or single output costing - cost sheets and cost statements, Tender Quotations, Production Account
- Unit 3 : Job, Batch and Contract Costing , Process Costing : Treatment of Normal and Abnormal Losses and Effectiveness, By-Product and Joint Products, Inter Process Profit, Valuation of Work in Progress (Equivalent Production), Operating Costing
- Unit 4 : Reconciliation between Cost and Financial Profit , Marginal Costing : the basic concept of marginal cost and marginal costing , Break-even Analysis and cost-volume-profit analysis
- Unit 5: Standard Costing and Variance Analysis: Meaning of Standard Cost and Standard Costing; Advantage and Application, Variance Analysis – Material and Labour
Budget and Budgetary Control: Meaning of Budgets and Budgetary Control; Objectives, Merits and Limitations; Types of budgets; Cash and Flexible Budgets

समूह- I प्रश्न पत्र – II : लागत लेखांकन

- इकाई –1 लागत की अवधारणा एवं प्रकार, लागत लेखांकन की विधियाँ, प्रकार, लागत के तत्व, सामग्री लागत नियन्त्रण, कर्मचारी लागत (श्रम लागत), मजदूरी भुगतान पद्धतियाँ, प्रेरणात्मक योजनाएँ।
- इकाई-2 उपरिव्यय- अर्थ, वर्गीकरण, बंटन, अनुभाजन व अवशोषण, उपरिव्ययों का अल्प एवं अधि अवशोषण: इकाई अथवा एकल लागत उत्पादन लेखांकन-लागत पत्र तथा लागत विवरण पत्र, टेण्डर या निविदाएं, उत्पादन खाता।
- इकाई-3 उपकार्य, समूह तथा ठेका लागत लेखांकन: प्रक्रिया लागत लेखांकन-सामान्य एवं असामान्य हानि (क्षय) तथा बचत का उपचार, उप उत्पादन एवं संयुक्त उत्पाद, अन्तः प्रक्रिया लाभ, चालू कार्य का लेखांकन (समतुल्य उत्पाद): संचालन लागत लेखांकन।
- इकाई-4 वित्तीय एवं लागत लेखा विवरण (परिणाम) का मिलान: सीमान्त लागत लेखांकन-सीमान्त लागत एवं सीमान्त लागत लेखांकन की मूल अवधारणा, सम-विच्छेद विश्लेषण व लागत मात्रा लाभ विश्लेषण।
- इकाई-5 प्रमाप लागत लेखांकन एवं विचरण विश्लेषण-प्रमाप लागत एवं प्रमाप लागत लेखांकन का अर्थ, लाभ व अनुप्रयोग, विचरण विश्लेषण-सामग्री एवं श्रम; बजट एवं बजटरी नियन्त्रण, बजट एवं बजटरी नियन्त्रण का अर्थ, उद्देश्य, गुण एवं सीमाएँ, बजट के प्रकार-नकद एवं लोचशील बजट।

SUGGESTED READINGS :

- Arora, M.N. : Cost Accounting-Principles and Practices, Vikas, New Delhi.
- Jain, S.P. and Narang, K.L. : Cost Accounting, Kalyani, Publisher, New Delhi.
- Horngren, Charles, Foster and Datar : Cost Accounting-A, Managerial Emphasis, Prentice Hall of India, N. Delhi.
- Khan, M.Y. and Jain P.K. : Cost Accounting, Tata McGraw-Hill, New Delhi.
- Tulsian P.C. : Practical Costing, New Delhi.
- Maheshwari, S.N. : Advance Problems and Solutions in Cost Accounting, Sultan Chand, N. Delhi.
- Agarwal, M.L. : Cost Accounting, Satiya Bhawan, Agra
- Oswal & Maheshwari: Lagat Lekhankan, Ramesh Book Depot, Jaipur.
- Jain Khandelwal & Pareek : Cost Accounting, Ajmera Book Company, Jaipur

B.COM. PART- I (Examination 2021)

Group II PAPER I

BUSINESS ECONOMICS

Objective : This course is meant to acquaint the student with the principles of Business Economics as are applicable in business

- Unit 1 : Meaning and Scope of Business Economics, Features, Significance, Role, Functions, Responsibilities of a Business Economist, Micro and Macro Economic Analysis: Meaning, Definition, Concept, Importance, National Income and Economic Welfare, Role of Micro and Macro Economics Analysis in formation of business policies, Limitation. Demand Analysis: Utility approach – Meaning, Definition, Characteristics, Measurement, Total and marginal Utility, Law of Diminishing Marginal Utility, Law of Equi-Marginal Utility: Scope, Importance, Criticism.
Demand Analysis : Indifference Curve Approach: Meaning, Definition, Assumption, Characteristics, Limitation, Application, Superiority of indifference curve analysis over utility analysis. Superiority of ordinal approach.
- Unit 2 : Law of Demand : Meaning, Definitions, Demand Function, Determinants, Assumptions, Demand Schedule, Demand Curve, Extension and Contraction, Increase or Decrease in Demand, Exceptions. Elasticity of demand: Meaning, Definition, Price Elasticity of demand, Methods, types of Elasticity, Factors affecting Elasticity of Demand, Significance. Demand Forecasting: Meaning, Definitions, Characteristic, Objectives, determinants, Phases, Methods or Techniques, Significance, Demand forecasting for new Project.
Cost and Output Analysis: Concept, types of cost, short run and long run cost curve, Economics and diseconomies of scale. Production Function: Meaning, Type, Law of Return. ISO-Product-Curve: Meaning, Characteristic, ISO-Cost-Curve, Return to Scale. Law of Supply: Meaning, Definition, supply function, Determinants, Assumption, Supply Curve, Price Elasticity of Supply, Degree of price, Elasticity of Supply. Revenue Analysis: Total revenue, Average revenue, Marginal revenue, Inter-Relationship among TR-AR-MR, Role of Time Element in Price Determination; Market price and Normal price: Characteristic, determination.
- Unit 3 : Market: Meaning, Definition, Characteristic, Classification. Market Structure. Perfect Competition, Monopoly, Imperfect Competition, Monopolistic Competitor, Oligopoly, Duopoly. Price and output determination under perfect competition: Meaning, feature, Firm and Industry equilibrium: short period, long period. Price and output determination under Monopoly: Meaning, Definition, Characteristic, short period, long period, Equilibrium under different cost condition.
Discriminating Monopoly: Meaning, Condition, Types, price and output determination, Dumping, justification for price discrimination, price and output determination under imperfect/monopolistic competition: Meaning, Definition, feature, Firm equilibrium: short period, long period.

Price and output determination under Oligopoly: Meaning and Definition, Characteristic, Independent pricing, Price war, Price Rigidity, price collusion, price leadership.

Unit 4 : Factor Pricing: Meaning and Definition, Need, Problems, Importance, Theory of Distribution: Classical, Modern and Marginal Productivity Theory: Meaning, assumption, criticism, factor pricing under Perfect-competition, Imperfect Competition.

Theory of Rent: Meaning and Definition, Types, Ricardian theory: Evaluation, Intensive and Extensive cultivation, Salient feature, Criticism, Modern theory of Rent, Rent element in wages-interest-profit, Relationship of Rent and price, Scarcity Rent, Quasi Rent, Factor affecting Rent, Rent & Economic Policy.

Theory of Wages: Meaning, Normal and Real wage, Factors affecting Real wage, Marginal and discounted marginal productivity, demand and supply theory of wage,

Unit 5: Theory of Interest: Meaning, Definition, Gross-Net interest, components of interest, causes of variation in interest rate, economic progress and rate of interest, negative rate of interest, justification of interest under Capitalist Economy, Real and Monetary theories of Interest: Fisher, Marginal productivity, classical, Keynes liquidity performance, loanable fund, Modern Theory. Theory of Profit: Meaning, Definition, nature and scope, various concept of profit, Theories of Profit: Marginal productivity, Dynamic, Innovation, Hawley, Knight, demand and supply.

Group II, PAPER I **व्यावसायिक अर्थशास्त्र**

इकाई 1: व्यावसायिक अर्थशास्त्र का अर्थ, एवं क्षेत्र, लक्षण, महत्व, भूमिका, कार्य, व्यावसायिक अर्थशास्त्री का उत्तरदायित्व, व्यष्टि एवं समष्टि आर्थिक विश्लेषण: अर्थ, परिभाषा, अवधारणा, महत्व, राष्ट्रीय आय तथा आर्थिक कल्याण, व्यष्टि एवं समष्टि आर्थिक विश्लेषण की व्यावसायिक नीतियों के निर्धारण में भूमिका, सीमाएँ, माँग विश्लेषण: उपयोगिता दृष्टिकोण—अर्थ, परिभाषा, विशेषताएँ, माप, कुल उपयोगिता एवं सीमान्त उपयोगिता, सीमान्त उपयोगिता ह्यस नियम, सम—सीमान्त उपयोगिता नियम: क्षेत्र महत्त्व, आलोचनाएँ।

माँग विश्लेषण: उदासीनता वक्र दृष्टिकोण: अर्थ, परिभाषा, मान्यता, विशेषताएँ, सीमाएँ, अनुप्रयोग, उदासीनता वक्र विश्लेषण की उपयोगिता विश्लेषण पर श्रेष्ठता: क्रमवाचक दृष्टिकोण की श्रेष्ठता।

इकाई 2: माँग का नियम: अर्थ, परिभाषा, माँग कार्य, निर्धारण, मान्यताएँ, माँग सारणी, माँग वक्र, विस्तार एवं संकुचन, माँग में वृद्धि या कमी, अपवाद, माँग की लोच: अर्थ, परिभाषा, माँग की कीमत लोच, विधियाँ, माँग के प्रकार, माँग की लोच की प्रभावित करने वाले कारक, लक्षण, माँग पूर्वानुमान: अर्थ, परिभाषा, विशेषताएँ, उद्देश्य, निर्धारकों, चरणों, विधियाँ या तकनीकें, लक्षण, नवीन परियोजना के लिए माँग पूर्वानुमान।

लागत एवं उत्पादन विश्लेषण: अवधारणा, लागत के प्रकार, अल्पकाल एवं दीर्घकाल लागत वक्र, पैमाने की मितव्ययिताएँ एवं अमितव्ययिताएँ, उत्पादन फलन: अर्थ, प्रकार, उत्पत्ति के नियम समोत्पाद वक्र: अर्थ विशेषताएँ, सम—लागत वक्र, पैमाने के प्रतिफल, पूर्ति का नियम: अर्थ, परिभाषा, पूर्ति कार्य, निर्धारकों, मान्यताएँ, पूर्ति वक्र, कीमत, पूर्ति की

लोच, कीमत श्रेणी, पूर्ति की लोच, आगम विश्लेषण: कुल आगम, औसत आगम, सीमान्त आगम, कुल आगम-औसत आगम-सीमान्त आगम में अन्तर सम्बंध, मूल्य निर्धारण में समय तत्त्व की भूमिका: बाजार मूल्य और सामान्य मूल्य, विशेषताएँ, निर्धारण ।

इकाई 3: बाजार: अर्थ, परिभाषा, विशेषताएँ, वर्गीकरण, बाजार ढांचा, पूर्ण प्रतियोगिता, एकाधिकार, अपूर्ण प्रतियोगिता, एकाधिकारात्मक प्रतियोगी/प्रतियोगिता, अल्पाधिकार, दूयाधिकार।
पूर्ण प्रतियोगिता में उत्पादन तथा मूल्य का निर्धारण: अर्थ, लक्षण, फर्म एवं उद्योग का साम्य: अल्पकाल, दीर्घकाल एकाधिकार के अन्तर्गत मूल्य एवं उत्पादन निर्धारण: अर्थ, परिभाषा, विशेषताएँ, अल्पकाल, दीर्घकाल, विभेदात्मक लागत दशाओं में साम्य।
विभेदात्मक एकाधिकार: अर्थ, शर्तें/दशा, प्रकार, कीमत तथा उत्पादन निर्धारण, राशि पातन (Dumping), मूल्य विभेद का औचित्य, अपूर्ण प्रतियोगिता/एकाधिकारत्मक प्रतियोगिता के अन्तर्गत मूल्य तथा उत्पादन का निर्धारण: अर्थ, परिभाषा, लक्षण, फर्म का साम्य: अल्पकाल, दीर्घकाल, अल्पाधिकार के अन्तर्गत मूल्य तथा उत्पादन का निर्धारण: अर्थ, परिभाषा, विशेषताएँ, स्वतंत्र कीमत निर्धारण, कीमत युद्ध, मूल्य दृढ़ता, कीमत गुटबन्धी, मूल्य नेतृत्व।

इकाई 4: साधन कीमत निर्धारण: अर्थ, परिभाषा, आवश्यकता, समस्या, महत्त्व, वितरण का सिद्धान्त: परम्परागत, आधुनिक एवं सीमान्त उत्पादकता सिद्धान्त: अर्थ, मान्यताएँ, आलोचना, पूर्ण प्रतियोगिता के अन्तर्गत साधन कीमत निर्धारण, अपूर्ण प्रतियोगिता।
लगान का सिद्धान्त: अर्थ एवं परिभाषा, प्रकार रिकार्डों का सिद्धान्त: मूल्यांकन/समीक्षा, गहन एवं विस्तृत खेती, प्रमुख विशेषताएँ, आलोचना, लगान का आधुनिक सिद्धान्त, मजदूरी, ब्याज व लाभ में लगान तत्त्व, लगान एवं मूल्य में सम्बंध, दुर्लभता लगान, आभास लगान लगान को प्रभावित करने वाले कारक, लगान तथा आर्थिक नीति।
मजदूरी के सिद्धान्त: अर्थ, असल एवं वास्तविक मजदूरी, असल मजदूरी को प्रभावित करने वाले तत्त्व, सीमान्त एवं बह्वायुक्त सीमान्त उत्पादकता, मजदूरी का माँग-पूर्ति सिद्धान्त।

इकाई 5: ब्याज का सिद्धान्त: अर्थ, परिभाषा, सकल-शुद्ध ब्याज, ब्याज के तत्त्व, ब्याज की दरों में भिन्नता के कारण, आर्थिक प्रगति एवं ब्याज दर, ऋणात्मक ब्याज दर, पूंजीवादी अर्थव्यवस्था में ब्याज का औचित्य, ब्याज को वास्तविक एवं मौद्रिक सिद्धान्त: फीशर, सीमान्त उत्पादकता, प्रतिष्ठित सिद्धान्त, कीन्स का तरलता अधिमान सिद्धान्त, ब्याज का उधार देय कोष सिद्धान्त, आधुनिक सिद्धान्त, लाभ के सिद्धान्त: अर्थ, परिभाषा, प्रकृति एवं क्षेत्र, लाभ की विभिन्न अवधारणा, लाभ के सिद्धान्त: सीमान्त उत्पादकता, प्रावैगिक, नव-प्रवर्तन, हॉले, नाइट, मांग एवं पूर्ति।

SUGGESTED READINGS :

- Choudhary, C.M.: Business Economics.
Ojha B.L.: Business Economics.
Agarwal M.D., Somdeo : Business Economics.
Mathur B.L. Rathore M.S. and Dave R.K. : Business Economics.
Seth M.L. : Principles of Economics.
Ahuja H.L. : Advanced Economic Theory.
Dewett K.K. : Modern Economic Theory.
Sinha V.C. : Business Economics.
Mithani, D.M.: Principles of Economics
Agarwal & Agarwal: Vyavsayik Arthshastra

B.COM. PART- I (Examination 2021)

Group II PAPER II

ECONOMIC ENVIRONMENT

Objective : This Course aims at acquainting the student with the emerging issues in business at the national and international level in the light of the policies of liberalization and globalization.

Unit 1: Indian Economic and non-economic environment, concept, components and importance, characteristics, objectives, affecting factors.

Economic Trends: Income and Saving; Investment, Income, Saving, Concept and Trends. Economic planning: Critical Appraisal of 11th and 12th Five Year Plan. Objectives, targets and Strategies of present Five Year Plan.

Unit 2: Problems relating to Population; Unemployment; Poverty; Regional Imbalances; Parallel Economy

Unit 3: Economic Policies : Monetary Policy; Fiscal Policy; Export and Import; Foreign Investment Policy.

Unit 4: Industrial Development & Industrial Policy, Industrial Sickness; Economic Reforms; Liberalization; Small Scale & Cottage and Village Industries

Unit 5: International Environment : India and the World Economy, Problems of Developing countries; International Economic Institutions; WTO, IMF, World Bank, ADB.

Group II, PAPER I

आर्थिक पर्यावरण

इकाई 1 : भारतीय आर्थिक पर्यावरण एवम् गैर-आर्थिक पर्यावरण, अवधारणा, संघटक एवम् महत्त्व विशेषताएँ, उद्देश्य, प्रभावित करने वाले घटक
आर्थिक प्रवृत्तियाँ: आय तथा बचत, विनियोग, आय, बचत, अवधारणा तथा प्रवृत्तियाँ, आर्थिक नियोजन, 11वीं तथा 12वीं पंचवर्षीय योजना का आलोचनात्मक मुल्यांकन, वर्तमान पंचवर्षीय योजना के उद्देश्य, लक्ष्य तथा रणनीति।

इकाई 2 : जनसंख्या, बेरोजगारी, गरीबी, क्षेत्रीय असंतुलन, एवं समानान्तर अर्थव्यवस्था से सम्बन्धित समस्याएँ।

इकाई 3 : आर्थिक नीतियाँ: मौद्रिक नीति, राजकोषिय नीति, आयात एवं निर्यात नीति एवम् विदेशी विनियोग नीति।

इकाई 4 : औद्योगिक विकास तथा औद्योगिक नीति, औद्योगिक रुग्णता, आर्थिक सुधार, उदारीकरण, लघु व कुटीर तथा ग्रामीण उद्योग।

इकाई 5 : अन्तर्राष्ट्रीय पर्यावरण: भारत तथा वैश्विक अर्थव्यवस्था, विकासशील राष्ट्रों की समस्याएँ अन्तर्राष्ट्रीय आर्थिक संस्थाएँ: विश्व व्यापार संगठन, अन्तर्राष्ट्रीय मुद्रा कोष, विश्व बैंक, एशियन विकास बैंक।

SUGGESTED READINGS

Sundaram & Black : *The International Business Environment*, prentice Hall, New Delhi

Agarwal, A.N. : *Indian Economy*, Vikas publishing House, Delhi

Khan, Farooq A. : *Business and Society*, S.Chand, Delhi

Dutt, R. and Sundharam, K.P.M. : *Indian Economy*, S.Chand, Delhi

Misra. S.K. and Puri, V.K. : *Indian Economy*, Himalaya Publishing House, New Delhi

Hedge, Ian : *Environmental Economics*, Macmillan. Hampshire

Dutt Rudder : *Economic Reforms in India - A critique* S. Chand, New Delhi

Gupta, Swami and Vaishnav : *Economic and Business Environment*.

Mathur B.L. & Dave R.K.: *Economic Environment*

B.COM. PART- I (Examination 2021)

Group III PAPER I

PRINCIPLES OF BUSINESS MANAGEMENT

- Unit 1:** Introduction: Concept, nature, process and significance of management; Managerial roles (Mintzberg); An overview of functional areas of management, Development of Management Thoughts - Classical, Neo-classical and Contingency approaches.
- Unit 2:** Environment analysis and diagnosis. Planning: Concept, process, types, levels, advantages, disadvantages and principles of planning. Decision making- concept and process; Bounded rationality; Management by objective (MBO).
- Unit 3:** Organisation: Concept, nature, process and significance, Authority and responsibility relationships. Centralization and Decentralization. Span of Management. Departmentation. Organisation Structure-forms and contingency factors.
- Unit 4:** Direction: Meaning & Principles. Motivation and Leading people at work: Motivation- concept, importance, Theories of - Maslow, Herzberg, McGregor and McClelland: Financial and Non-Financial incentives.
Leadership- concept and leadership styles; leadership theories-Greatman theory, Trait Theory, Managerial Grid, Likert's System of Management.
Communication - Nature, process, networks and barriers; effective communication.
- Unit 5:** Managerial control: concept and process; Effective control system; Techniques of control.
Coordination: Meaning, Importance, Principles and Techniques.

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Group III PAPER I

व्यावसायिक प्रबन्ध के सिद्धान्त

- इकाई 1:** परिचय: अवधारणा, प्रकृति, प्रक्रिया एवं प्रबन्ध की उपादेयता, प्रबंधकीय भूमिका (मिन्टजबर्ग), प्रबन्ध के क्रियात्मक क्षेत्रों का एक परिदृश्य, प्रबंध विचारधारा का विकास— परम्परागत/प्रतिष्ठित, नव-परम्परागत/नव प्रतिष्ठित पद्धतियां, आकस्मिकता उपागम।
- इकाई 2:** वातावरण विश्लेषण एवं नैदानिकी नियोजन: अवधारणा, प्रक्रिया एवं प्रकार। स्तर, लाभ, हानियां, नियोजन के सिद्धान्त, निर्णयन-अवधारणा एवं प्रक्रिया, आबद्ध विवकेशीलता, उद्देश्यों द्वारा प्रबन्ध।
- इकाई 3:** संगठन: अवधारणा, प्रकृति, प्रक्रिया एवं उपादेयता, अधिकार एवं उत्तरदायित्व में संबंध, केन्द्रीयकरण एवं विकेन्द्रीयकरण, प्रबंध का विस्तार, विभागीयकरण, संगठनात्मक संरचना— प्रारूप एवं आकस्मिकता तत्त्व।
- इकाई 4:** निर्देशन : अर्थ एवं सिद्धान्त, अभिप्रेरण एवं कार्य पर लोगो को नेतृत्व देना: अभिप्रेरण-अवधारणा, सिद्धान्त-मास्लो, हर्जबर्ग, मैकग्रेगर एवं मैक्लेलेड: वित्तीय एवं अवित्तीय प्रेरणाएं। नेतृत्व-अवधारणा एवं नेतृत्व शैलियां, नेतृत्व सिद्धान्त, महान व्यक्ति का सिद्धान्त, गुणमूलक सिद्धान्त, प्रबन्धकीय ग्रिड, प्रबंध की लिकर्ट पद्धति। संदेशवाहन-प्रकृति, प्रक्रिया, तंत्र एवं बाधाएं: प्रभावी संदेशवाहन।
- इकाई 5:** प्रबन्धकीय नियंत्रण: अवधारणा एवं प्रक्रिया, प्रभावी नियंत्रण पद्धति, नियंत्रण की तकनीके। समन्वय: अर्थ, महत्व, सिद्धान्त एवं तकनीके।

SUGGESTED READINGS

Harold Knootz & Heinz Wehrich: Essentials of Management, Tata McGraw Hill, New Delhi

Louis A. Allen : *Management and Organisation*, McGraw Hill, Tokyo

Ansoff, H.I. : *Corporate Strategy*, McGraw Hill, New York

Hampton David R. : *Modern Management*, McGraw Hill, New York

James A.F. Stoner, R. Edward Freeman, Daniel R. Gilbert, Jr.:

Management, Prentice Hall, New Delhi.

Harsey, Paul and Blanchard Kenneth H: *Management of Organizational Behaviour-Utilizing the Human Resources*, Prentice Hall of India, New Delhi

John M. Ivancevich, James H. Donnelly, Jr. James L. Gibson,: *Management Principles and Functions*. AITBS Publishers and Distributors, New Delhi.

George R. Terry, Stephgen G. Franklin: *Principles of Management*, AITBS Publishers and Distributors, New Delhi.

R.D. Agarwal: *Organization and Management*, Tata McGraw Hill, New Delhi.

B.COM. PART- I (Examination 2021)
Group III PAPER II
BUSINESS REGULATORY FRAMEWORK

- Unit 1 : The Indian Contract Act, 1872, Section 1 to 36
- Unit 2 : The Indian Contract Act, 1872, Section 37 to 75
- Unit 3: Special Contracts; Indemnity; Guarantee; Bailment and pledge, Agency
- Unit 4 : Indian Sale of Goods Act, 1930
- Unit 5 : The Arbitration and Conciliation Act, 1996

व्यावसायिक नियमन व्यवस्था

- इकाई 1 : अनुबन्ध का कानून (1872) : धारा 1 से 36
- इकाई 2 : अनुबन्ध का कानून (1872) : धारा 37 से 75
- इकाई 3 : विशिष्ट अनुबंध : हानिरक्षा, गारंटी, निक्षेप एवं गिरवी, एजेन्सी
- इकाई 4 : भारतीय वस्तु (माल) विक्रय अधिनियम 1930
- इकाई 5 : माध्यस्थम् और सुलह अधिनियम, 1996

SUGGESTED READINGS

- Desai, T.R. : Contract Act, Sale of Goods Act and Partnership Accounts, S.C. Sarkar & Sons Pvt. Ltd., Kolkata
- Singh, Avtar : The Principles of Mercantile Law, Eastern Book Company, Lucknow
- Kuchal, M.C. : Business Law , Vikas Publishing House, New Delhi
- Kapoor, N.D. : Business Law , Sultan Chand & Sons, New Delhi
- Chandra, P.R. : Business Law, Galgotia, New Delhi
- The Indian Contract Act, 1872- Bare Act.
- The Sale of Goods Act, 1930- Bare Act.
- The Arbitration and Conciliation Act, 1996- Bare Act.
- Vanijyik Vidhi Ke Sidhant- Avtar Singh.
- वाणिज्यिक विधि के सिद्धान्त—अवतार सिंह

B.COM. PART- II (Examination 2022)

COMPULSORY PAPER ENVIRONMENTAL STUDIES

Teaching: 3 period per week in annual system.

Maximum marks 100: Examination duration 2 hours; Objective type multiple choice question papers, 1 mark for each right answer, 20 questions from each unit.

Unit 1 : **The Multidisciplinary nature of Environment:** Definition, scope and importance of Environmental studies; Human population and environment; Environment and human health; Legal issues and environment; Environment protection act; Environmental Ethics; Issues and possible solutions.

Unit 2 : **Natural Resources (Renewal and non-renewable):** Forest resources- Use and over exploitation, deforestation, introduction to afforestation activities in India.

Water Resources : Use and over-utilization of surface and ground water, floods, droughts,

Mineral Resources : Use and exploitation, environmental effects of extracting and using minerals resources, case studies.

Food Resources : World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems.

Energy Resources : Growing energy needs, renewable and non renewable energy sources, use of alternate energy sources, case studies.

Land Resource : Land as a resource, degradation, man induced landslides, soil erosion and desertification.

Unit 3 : **Ecosystem:** Concept of an ecosystem, Structure and function of an ecosystem Producers, consumers, decomposers; abiotic factors; food chain and web; ecological pyramids; energy flow.

Pollution-Definition, causes, effects and management strategies for (i) Air pollution, (ii) Water pollution, (iii) Soil pollution, (iv) Noise pollution, (v) Thermal pollution, (vi) Nuclear hazards. Solid waste management – Causes, effects and management strategies for urban and industrial wastes.

Unit 4 : **Biodiversity and its conservation:** Introduction, definition, levels (genetic, species and ecological); Importance of biodiversity; Status – Global, National and local; Threats to biodiversity- habitat loss, poaching of wildlife, man-wildlife conflicts. Endangered and endemic species of India.

Unit 5 : **Sports for human welfare:** Sports in relation to Philosophy; Sports and health fitness; Social values for sports and sportspersons; Role of sports in personality development; Sports as recreation.

India's policies for Sports: Central and State governments; introduction to sports support facilities in India.

History and Traditional Sports of India- Kabaddi, Kho-Kho, Malakhamb, Jallikattu.

B.COM. PART- II (Examination 2022)

Group I PAPER I

CORPORATE ACCOUNTING

- Unit 1 : (a) Issue and Redemption of Debentures
(b) Acquisition of Business
(c) Profit Prior to Incorporation
(d) Investment Accounts
- Unit 2 : (a) Provision of Indian Company Law in respect of Depreciation, Reserves and Provisions.
(b) Preparation of Final Accounts of Companies.
(c) Disposal of Profits and Capitalization of Profits, Issue of bonus shares.
(d) Liquidation and Winding up of Companies:
i) Statement of Affairs and Deficiency A/c
ii) Preparation of Liquidator's Final Statement
- Unit 3 : Accounting for Business Combinations and Corporate Re-structuring – Merger and Acquisition (Ind AS 103)
- Unit 4: Consolidated Balance Sheet and Profit and Loss Account of Holding Company with one subsidiary company (Ind AS 110)
- Unit 5: Final Accounts of :
(a) Banking Company
(b) Insurance Company
(c) Electricity Company and Double Account System

समूह-1 प्रश्न पत्र -1 : निगमीय लेखांकन

- इकाई -1 (a) ऋणपत्रों का निर्गमन एवं शोधन,
(b) व्यापार का अधिग्रहण,
(c) समामेलन से पूर्व के लाभ,
(d) विनियोग खाते।
- इकाई-2 (a) ह्रास, संचय एवं प्रावधान के सम्बन्ध में भारतीय कम्पनी अधिनियम के प्रावधान,
(b) कम्पनी के अन्तिम खातों का निर्माण,
(c) लाभों का निस्तारण एवं पूंजीकरण-बोनस अंशों का निर्गमन
(d) कम्पनियों का निस्तारण एवं समापन
(i) स्थिति पत्रक एवं न्यूनता खाता
(ii) समापक के अन्तिम पत्रक का निर्माण
- इकाई-3 व्यापारिक संयोजन हेतु लेखांकन तथा निगमीय पुनः संरचना- अधिग्रहण एवं विलय (Ind AS 103)
- इकाई-4 सूत्रधारी कम्पनी के लाभ-हानि खाता तथा स्थिति विवरण का समेकन (केवल एक सहायक कम्पनी हेतु) (Ind AS 110)
- इकाई-5 अन्तिम खाते:
(a) बैंकिंग कम्पनी
(b) बीमा कम्पनी
(c) विद्युत कम्पनी एवं दोहरा खाता पद्धति।

SUGGESTED READINGS :

Gupta, R.L. Radhaswamy, M. : Company Accounts, Sultan chand & sons, New Delhi.
Maheshwari, S.N. : Corporate Accounting, Vikas publishing House, New Delhi.
Monga, J.R., Ahuja, Girish and Sehgal, Ashok : Financial Accounting, Mayur Paper Back, Noida.
Shukla, M.C., Grewal, T.S. and Gupta, S.C. : Advanced Accounts, S.Chand & Co., New Delhi.
Moore, C.L. and jaedicke, R.K. : Managerial Accounting, South Western publishing Co., Cincinnati, Ohio.
Jain, Khandelwal, Pareek, Dave: Corporate Accounting, Ajmera Book Company, Jaipur

B.COM. PART- II (Examination 2022)

**Group I PAPER II
BUSINESS STATISTICS**

- Unit 1 : Statistics : Introduction and Definition, Functions, Importance, Limitations, Statistical investigation - Planning, Types, Collection of Data, Editing, Classification and tabulation; Presentation of data - graphic and diagrammatic
- Unit 2 : Measures of Central Tendency: Arithmetic, Geometric, Harmonic and Weighted Mean, Mode, Median and other Partition Values, Moving Progressive and Composite Average. Measures of Dispersion - Absolute and Relative (Mean, Standard and Quartile deviation); Measures of Skewness - Absolute and Relative (Karl Pearson and Bowley's Methods)
- Unit 3 : Correlation - Meaning, Importance, Types, Methods-Scatter Diagram, Karl Pearson's, Spearman (Rank) and concurrent deviation method. Regression: Meaning, Importance, coefficients, equations and estimation, standard error of estimates
- Unit 4 : Analysis of Time Series - Meaning, Importance, Components, Measurement of Secular Trend and Seasonal Variations; Construction of Index Number - base conversion , base shifting, deflation, test of reversibility. Interpolation and Extrapolation - Binomial, Newton, Lagrange and Parabolic Curve Method
- Unit 5: Theory of Probability - Permutation and Combination, Events, Addition and Multiplication Theorem, Mathematical expectation; Theoretical Frequency Distribution - Binomial, Poisson and Normal Distribution

समूह- I प्रश्न पत्र – II : व्यावसायिक सांख्यिकी

- इकाई –1 सांख्यिकी : परिचय एवं परिभाषा, कार्य, महत्व, सीमाएं, सांख्यिकीय अनुसंधान-नियोजन, प्रकार, समंक संग्रहण, संपादन, वर्गीकरण एवं सारणीयन, समंकों का प्रस्तुतीकरण-चित्रमय एवं ग्राफिक।
- इकाई-2 केन्द्रीय प्रवृत्ति के माप- समान्तर माध्य, गुणोत्तर एवं हरात्मक माध्य, भारित माध्य, बहुलक, मध्यका एवं अन्य विभाजन मूल्य- चल, प्रगतिशील एवं संयुक्त माध्य: अपकिरण के माप-सापेक्ष एवं निरपेक्ष (माध्य, प्रमाप एवं चतुर्थक विचलन) विषमता के माप-सापेक्ष एवं निपेक्ष (कॉल पियर्सन एवं बाउले)
- इकाई-3 सह सम्बन्ध-अर्थ, महत्व, प्रकार, विधियां, प्रकीर्ण चित्र, कॉल पियर्सन , स्पियरमैन का कोटि सह-सम्बन्ध गुणांक, एवं संगामी विचलन रीति: प्रमापीगमन विश्लेषण अर्थ , महत्व, गुणांक, समीकरण एवं अनुमान, अनुमान की प्रमाप त्रुटि।
- इकाई-4 काल श्रेणी का विश्लेषण- अर्थ, महत्व, अंग, उपनति एवं मौसमी विचलनों का मापन, सूचकांकों का निर्माण- आधार परिवर्तन, आधार बदलाव, अपस्फीति, उल्काम्यता, परीक्षा, आन्तरगणन एवं बाह्यगणन-द्विपद, न्यूटन, लाग्रैज एवं परवलचिक वक्र विधि।
- इकाई-5 प्रायिकता सिद्धान्त-क्रमचय एवं संचय, घटनाएं, योग एवं गुणन प्रमेय, गणितीय प्रत्याशाः, सैद्धान्तिक आवृत्ति बंटन- द्विपद, प्वायसन एवं प्रसामान्य बंटन।

SUGGESTED REDINGS

Elhance D.N.: Fundamentals of Statistics, Kitab Mahal Allahabad.

Nagar, K.N. (Hindi) Sankhyiki ke Mool Tatva, Meenakshi Prakashan, Meerut

Gupta, S.P. : Statistcial Methods, Sultan Chand & Sons, New Delhi

Sancheti D.C. and Kapoor V.C.: Statistics Theory, Methods and Application Sultan Chand & Sons, New Delhi

Patri, Digambar Statistical Methods, Kalyani Publishers, Ludhiana

Levin, Richard Statistics for Management, PHI, New Delhi

Srivastava. T.N. and Shailaja Rego Statistics for Management, Tata McGraw Hill New Delhi

Bajpai, Naval, Business Statistics, Pearson, Delhi

B.COM. PART- II (Examination 2022)

Group II PAPER I

MONEY AND BANKING SYSTEM

Objective: This course exposes the students to the working of money and banking system prevailing in India

- Unit 1: Money- Definition, Functions, importance, Classification of money. Money supply Components and Determinants, Measurement of Money by RBI, Money Multiplier. Inflation and Deflation: Causes and Remedial Action.
- Unit 2: Fisher's quantity theory of money the Cambridge equation, The Keynesian approach, saving and Investment. Business cycle: Nature, Phases of a Business Cycle, the problems of Business Cycle.
- Unit 3: Commercial Banks- Meaning, definition, functions and importance, types and organization. Structure of Banking System. Instrument of Credit Control, Retail Banking, Recent development and changes in Indian Banking: Innovative Banking and Virtual Banking. E-Banking, Internet banking, National Electronic banking System: (NEFT), ECS, RTGS, Mobile banking, plastic Money: Debit, Credit & ATM Card. Regional Rural Bank.
- Unit 4 : State Bank of India- History, objectives, Functions, Structure, Organization, Working and progress, Reserve Bank of India - Objective, organization, functions and working system.
- Unit 5 : Development Banks and Other Non Banking Financial Institutions: Organisation, Function and working of IDBI, ICICI, IFCI, SFCS, SIDBI.

मुद्रा एवं बैंकिंग प्रणाली

- इकाई 1 मुद्रा: परिभाषा, कार्य, महत्व, मुद्रा का वर्गीकरण मुद्रा आपूर्ति एवं संघटक और निर्धारक, भारतीय रिजर्व बैंक द्वारा मुद्रा का मापन, मुद्रा गुणक, मुद्रास्फीति तथा अपस्फीति: कारण तथा उपचारात्मक कार्य।
- इकाई 2 :फिशर का मुद्रा का परिमाण सिद्धान्त, केम्ब्रिज समीकरण, केन्जीय बचत-निवेश दृष्टिकोण, व्यापार-चक्र: प्रकृति, व्यापार-चक्र की अवस्थाएँ, व्यापार-चक्र की समस्याये।

Group II PAPER I

मुद्रा एवं बैंकिंग प्रणाली

इकाई 3 :वाणिज्यक बैंक— अर्थ, परिभाषा, कार्य एवम् महत्व, प्रकार तथा संगठन, बैंकिंग प्रणाली की संरचना, साख नियंत्रण के उपकरण, खुदरा बैंकिंग, भारतीय बैंकिंग में वर्तमान विकास तथा परिवर्तन, नवाचार बैंकिंग तथा आभाषी बैंकिंग, ई-बैंकिंग, इंटरनेट बैंकिंग, राष्ट्रीय इलेक्ट्रानिक कोष अन्तरण (NEFT) ई.सी.एस. आर.टी.जी.एस. मोबाईल बैंकिंग, प्लास्टिक मुद्रा, डेबिट, क्रेडिट एवं ए.टी.एम.कार्ड, क्षेत्रिय ग्रामीण बैंक।

इकाई 4 :भारतीय स्टेट बैंक— इतिहास, उद्देश्य, कार्य, संरचना, ढांचा, संगठन, कार्य तथा प्रगति, भारतीय रिजर्व बैंक—उद्देश्य, संगठन, कार्य व कार्य प्रणाली।

इकाई 5 : विकास बैंक एवं अन्य गैर बैंकिंग वित्तीय संस्थायें: संघटन, कार्य तथा भारतीय औद्योगिक विकास बैंक, (IDBI) भारतीय औद्योगिक ऋण एवं निवेश निगम (ICICI), भारतीय औद्योगिक वित्त निगम (IFCI),राज्य वित्तीय निगम (SFCS), भारतीय लघु उद्योग विकास बैंक (SIDBI) की कार्य प्रणाली।

SUGGESTED READINGS

- Vasant Desai: Indian Banking Nature and Problems, Himalaya Publishing House, Delhi
Natarajan S, Parameshwaran R: Indian Banking, S.Chand & Company
Averbach, Robert D: Money, Banking and Financial Markets Macmillan, London.
Varshney, P.N. : Indian Financial System, Sultan Chand & Sons, New Delhi.
Khan, M.Y.: Indian Financial System, Tata McGraa Hill, Delhi.
Mittani D.M.: Money, Banking & International Trade, Himaliya Publishing, Delhi
Bhole L.M.: Financial Market and Institution, Tata McGraa Hill, Delhi
J.K. Tandon and T.N. Mathur, Banking and Finance, Shivam Book House, Jaipur (Hindi & English Version)
Vashitha, Swami, Gupta: Banking and Finance, RBD, Jaipur
Agarwal & Singh: Internet Banking Technology, Raj Publishing house, Jaipur
Mathur B.L. & Dave R.K.: Money and Banking System, (Hindi & English), Vide Vision, Jaipur

B.COM. PART- II (Examination 2022)

Group II PAPER II

INTERNATIONAL TRADE & FINANCE

Objective : This course enables the student to know the working of the international trade and Finance.

- Unit 1: Meaning, nature, advantages and disadvantages in international trade Terms of trades; Balance of Trade and Balance of Payment- Concept, cause of Disequilibrium and Measures for Correction. Adjustment Mechanism: Equilibrium, disequilibrium and adjustment.
- Unit 2 : Foreign Exchange Rates- Meaning and determination- mint par parity Theory; Purchasing Power Parity Theory; Demand and supply Theory. Fixed Flexible and floating Exchange rate- Meaning and their advantages and disadvantages. Fluctuations in exchange rates, causes, effects and methods of controlling the fluctuations, Exchange control- Meaning, Objectives, methods, Exchange control in India.
- Unit 3 : Methods of International Payment and Settlements. Documentary credit as method of payment. Export Finance, Import finance. Role of STC & MMTC and Export promotion Councils
- Unit 4 : Export Promotion and Import substitution, ECGC, Exim Bank, Infrastructure and Institutional Setup for Exports, 100% EOU, Export Houses and Trading houses, EPZs, SEZs.
- Unit 5 : Free trade policy, Protection, Advantage; Role of underdeveloped countries, Protection trade devices: Tariffs; effect of Tariffs, Import Quotas; Planning international trade operations.

अन्तर्राष्ट्रीय व्यापार एवं वित्त

- इकाई 1: अन्तर्राष्ट्रीय व्यापार: अर्थ, प्रकृति, लाभ-दोष, व्यापार शर्तें, व्यापार संतुलन एवं भुगतान संतुलन: अवधारणा, असंतुलन के कारण एवं ठीक करने के उपाय, समायोजन प्रक्रिया: संतुलन, असंतुलन तथा समायोजन।
- इकाई 2 : विदेश विनिमय दरें: अर्थ एवं निर्धारण, टकसाली क्षमता सिद्धान्त, क्रय शक्ति क्षमता सिद्धान्त, मांग एवं पूर्ति सिद्धान्त, स्थिर, लोचशील एवं परिवर्तनशील विनिमय दरें: अर्थ, गुण एवं दोष विनिमय दरों में परिवर्तन: कारण एवं प्रभाव, परिवर्तनों को नियंत्रित करने की विधियाँ, विदेशी विनिमय नियंत्रण : अर्थ, उद्देश्य एवं विधिया: भारत में विदेशी विनिमय नियंत्रण।

INTERNATIONAL TRADE & FINANCE

- इकाई 3 : अन्तराष्ट्रीय भुगतान एवं निपटान की विधिया भुगतान की विधि के रूप में प्रलेखीय साख निर्यात वित्त, आयात वित्त, राज्य व्यापार निगम (STC) एवं खनिज एवं धातु व्यापार निगम, व्यापार निगम की भूमिका, निर्यात प्रोत्साहन परिषदे।
- इकाई 4 : निर्यात संवर्द्धन एवं आयात प्रतिस्थापन्न, निर्यात एवं प्रत्याभूति निगम (ECGC) निर्यात-आयात बैंक, निर्यात के लिए संरचनात्मक एवं संस्थागत ढांचा, 100% निर्यातीन्मुखी इकाईयाँ, निर्यात प्रसंस्करण क्षेत्र, विशेष आर्थिक क्षेत्र।
- इकाई 5 : स्वतंत्र व्यापार नीति, संरक्षण, लाभ/लाभदायक, विकासशील देशो की भूमिका, व्यापार संरक्षण युक्ति: प्रशुल्क, प्रशुल्क का प्रभाव, आयात मात्रा, अन्तराष्ट्रीय व्यापार परिचालन नियोजन।

SUGGESTED READINGS

K.D. Swami : International Trade

Singhal : International Trade

M.C. Vaish : Macro Economics

Daniels & Radebaugh : International Business

Cheruvilam : International Business

Mathur B.L. & Dave R.K.: International trade and Finance

Agarwal, Singh & Gupta: International trade and Finance

Ojha B.L. & Hai M.A.: International trade and Finance

Mittani D.M.: Money, Banking, International trade and Public Finance

B.COM. PART- II (Examination 2022)

Group III PAPER I

COMPANY LAW AND SECRETARIAL PRACTICE

- Unit 1 : Background and Salient Features of the Companies Act, 2013. Overview of the Changes introduced by the Act of 2013. Company and its Characteristics. Types of Companies. Distinction between a company and a partnership. Lifting of Corporate Veil.
Formation and Incorporation of company- Promoters and their legal position, pre-incorporation contract and provisional contract, Online registration of a company, Certificate of Incorporation.
Memorandum of Association, Articles of Association - Doctrine of Constructive Notice and Indoor Management.
- Unit 2 : Prospectus: Meaning and Definition – Contents, Statutory requirements in relation to prospectus. Deemed prospectus, Shelf and Red herring prospectus, Statement in lieu of prospectus, Mis-statement in Prospectus: Civil and Criminal Liability.
Various Modes for Raising of Capital. Global Depository Receipts (GDR), Book Building, Issue of Securities - Private Placement, Public Issue, Rights Issue, Bonus Shares; Employee Stock Option Scheme (ESOS), Sweat Equity Shares. Buy-back of shares, Allotment of Shares, Forfeiture of shares, and Transfer and Transmission of Securities.
- Unit 3 : Directors: Classification of Director- Women Director, Independent Director, Shareholder Director, Director Identification Number (DIN), Appointment of Director, Qualification and Dis-Qualifications. Legal Position, Powers and Duties, Removal of Director, Remedies for breach of duties, Loans to Director and Remuneration to Director. Various Committee of the Board of Directors.
Key Managerial Personnel – Managing Director, Whole time Directors, Manager, the Company Secretary, Chief Executive Officer, Resident Director.
Prevention and Oppression of Mis-Management.
- Unit 4 : Meetings: Statutory Meeting, Annual General Meeting (AGM), Extra- Ordinary Meeting, Class Meeting, Virtual Meeting, Meeting of Stakeholders. Requisite of a Valid Meeting.
Winding-up: Meaning of winding-up, Dissolution of company, Conceptual understanding of winding-up by the Tribunal, Compulsory winding-up, Members' voluntary winding-up, Creditors' voluntary winding-up. Insider Trading; meaning & legal provisions.
- Unit 5 : Company Secretary - Meaning, Types, Qualification, Appointment, Position, Rights, Duties, Liabilities & Removal or dismissal. Secretarial Practice and Law relating to formation Issue, Allotment, Forfeiture and Transfer of shares, Payment of dividend, Resolutions, Notices, Agenda, Quorum and Minutes. Miscellaneous Provisions – Corporate Social Responsibility (CSR), Books of accounts, registers; Online filing of documents; Dividend Provisions; Director's Report; Auditor's Report; Secretarial Audit; Special Courts. SEBI Act 1992: Establishment, Legal Status, Functions and Powers.

Group III PAPER I

कम्पनी कानून एवं सचिवीय पद्धति

- इकाई 1 : भारतीय कम्पनी अधिनियम 2013 की पृष्ठभूमि एवं मुख्य विशेषताएं, 2013 के अधिनियम के परिवर्तन का अवलोकन, कम्पनी की परिभाषा एवं मुख्य विशेषताएं, कम्पनी के प्रकार, कम्पनी एवं साझेदारी में अन्तर, कम्पनी का पर्दा उठाना। कम्पनी का निर्माण एवं निगमन:—प्रवर्तक और उनकी कानूनी स्थिति, पूर्व समामेलन अनुबन्ध और अनंतिम अनुबन्ध। कम्पनी का ऑनलाईन पंजीकरण, समामेलन प्रमाणपत्र।
पार्षद सीमानियम, पार्षद अर्न्तनियम, रचनात्मक सूचना एवं आन्तरिक प्रबन्ध का सिद्धान्त।
- इकाई 2 : प्रविवरण: अर्थ और परिभाषा:— विषय सामग्री, प्रविवरण के सम्बन्ध में वैधानिक व्यवस्थाएं:— डीम्ड, शेल्फ और रेड हेरिंग प्रविवरण, स्थानापन्न प्रविवरण, प्रविवरण में मिथ्या कथन: सिविल व आपराधिक दायित्व।
पूँजी जुटाने के विभिन्न तरीके— वैश्वीक निक्षेपागार रसीद (GDR), बुक बिलिडिंग।
प्रतिभूतियों का निर्गमन:— प्राईवेट प्लेसमेन्ट, सार्वजनिक निर्गमन, अधिकार अंशों का निर्गमन, बोनस अंशों का निर्गमन, इम्पलोई स्टॉक ऑप्शन स्कीम (ESOS), स्वेद साधारण शेयर, अंशों का पुनः क्रय, प्रतिभूतियों का आवंटन, प्रतिभूतियों का हरण, प्रतिभूतियों का अंतरण और पारेषण।
- इकाई 3 : निर्देशक: निदेशक का वर्गीकरण, महिला निदेशक, स्वतन्त्र निर्देशक, अंशधारक निर्देशक, निर्देशक पहचान संख्याक (DIN), निर्देशक की नियुक्ति, अर्हता और निरर्हता। कानून स्थिति, शक्तियां एवं कर्तव्य, निदेशक को हटाया जाना, कर्तव्य उल्लंघन के उपचार, निदेशको को ऋण और निर्देशकों को पारिश्रमिक। बोर्ड निर्देशको की विभिन्न समितियां।
प्रमुख प्रबन्धकीय कार्मिक—प्रबन्धकीय संचालक, पूर्णकालिक निदेशक, प्रबन्धक, कम्पनी सचिव, मुख्य कार्यपालक अधिकारी, निवासी निदेशक।
अन्यायपूर्ण आचरण और कुप्रबंध को रोकना।
- इकाई 4 : सभाएं: संवैधानिक सभा, वार्षिक साधारण सभा, असाधारण सामान्य सभा, कक्षीय बैठक, आभासी बैठक, हितधारको की सभा। वैद्य सभा के आवश्यक लक्षण।
समापन: समापन का अर्थ, कम्पनी का विघटन, ट्रिब्यूनल द्वारा समापन की संकल्पनात्मक समझ, अनिवार्य समापन, सदस्यों द्वारा ऐच्छिक समापन, ऋणदाताओं द्वारा ऐच्छिक समापन। भेदिया व्यापार/भेदिया लेनदेन: अर्थ और वैधानिक व्यवस्था।

Group III PAPER I
कम्पनी कानून एवं सचिवीय पद्धति

इकाई 5 :कम्पनी सचिव— अर्थ, प्रकार, योग्यता, नियुक्ति, स्थिति, अधिकार, कर्तव्य, दायित्व, हटाना या बर्खास्तगी।

सचिवीय पद्धति एवं निर्माण से सम्बन्धित कानून, निर्गमन, आबंटन, हरण एवं अंशों का हस्तान्तरण, लाभांश का भुगतान, प्रस्ताव, सूचना, एजेन्डा, न्यूनतम कार्यवाहक संख्या और संचालको का प्रतिवेदन।

विविध प्रावधान— निगमीय सामाजिक उत्तरदायित्व (CSR), लेखा पुस्तकें, रजिस्ट्रर्स, दस्तावेजों का ऑनलाईन दाखिलीकरण, लाभांश के प्रावधान, संचालको का प्रतिवेदन, आंकेशक का प्रतिवेदन, सचिवीय अंकेक्षक, विशेष अदालतें।

सेबी अधिनियम, 1992: स्थापना, कानूनी स्थिति, कार्य एवं शक्तियां।

SUGGESTED READINGS

Avtar Singh : Indian Company Law

Bahal J.C. : Secretarial Practice of India

Shukla S.M. : Company Adhinyam evam Sachiviya padhati

Shukla M.C. : Company Law

Kuchhal M.C. : Secretarial Practice

Kuchhal M.C. : Modern Indian Company Law

Sharlekar, S.A. : Secretarial Practice

Taxman : Companies Act, Special Student Edition

Mittal and Agarwal : Company Adhinyam Evam Sachiviya Vidhi

Avtar Singh : Company Adhinyam

Mathur and Sahal : Mercantile Law

Relevant Bare Acts

B.COM. PART- II (Examination 2022)

Group III PAPER II

BUSINESS COMMUNICATION AND MANAGEMENT

- Unit 1 : Business Communication; Introduction, Basic forms of Communicating, communication Models and processes, Theories of communication, Corporate Communication, Improving communication Practices in business communication, Group discussions, Mock Interviews, Seminar, Effective Listening Exercises, Individual and Group presentation and Report writing.
- Unit 2 : Purchasing: Concept and scope of Purchasing Management, Principles and objectives of Purchasing, Purchasing procedure; Requisitioning, Selecting Source of supply, ordering, Delivery, Scientific Purchasing.
- Unit 3 : Production : Meaning and Scope, Production, Planning and Control-Objectives, Techniques, Importance, and Advantages of Production Planning and Control, Quality Control and Inspection : Concept and Importance, Plant layout, Plant Location : Meaning, Determinants and Basis of Optimum Plant Location.
- Unit 4 : Marketing : Concept, Functions and importance, Marketing Research : Meaning, Scope, Contributions and limitations of Marketing Research procedure, Types and Techniques.
- Product : Meaning, role, planning, process and Life cycle, pricing, Meaning, role procedure and Management, Channels of Distribution : Meaning, role, Classification and Factors governing choice of channels of distribution.
- Unit 5 : Personnel : Meaning, Scope, Functions of personnel Management. Introduction to Recruitment, Selection, Evaluation, Methods of job Analysis and Evaluation, Scheme and limitations of Job Evaluation, Merit Rating, Meaning, objectives and techniques. Training and Development.

व्यावसायिक संदेशवाहन एवं प्रबन्ध

- इकाई 1 : व्यावसायिक संदेशवाहन: परिचय, संवहन के आधारभूत प्रारूप, संदेशवाहन के प्रतिरूप एवं प्रक्रिया, संदेशवाहन विचारधारा, निगमीय संदेशवाहन, व्यावसायिक संदेशवाहन में संदेशवाहन व्यवहार में सुधार, समूह परिचर्चा, बनावटी (मॉक) साक्षात्कार, सेमिनार, प्रभावी श्रवण अभ्यास, व्यक्तिगत एवं समूह प्रदर्शन एवं प्रतिवेदन लेखन।
- इकाई 2 : क्रयण : अवधारणा एवं क्रयण प्रबन्ध का क्षेत्र, क्रयण के सिद्धान्त एवं उद्देश्य, क्रयण प्रक्रिया : अनुग्रहण, आपूर्ति के स्रोत का चयन, आदेश देना, सुर्पुदगी, वैज्ञानिक क्रयण।

Group III PAPER II

व्यावसायिक संदेशवाहन एवं प्रबन्ध

इकाई 3 : उत्पादन : अर्थ एवं क्षेत्र, उत्पादन, नियोजन एवं नियंत्रण – उद्देश्य, तकनीके, महत्व, उत्पादन नियोजन एवं नियंत्रण के लाभ, किस्म नियंत्रण एवं निरीक्षण: अवधारणा एवं महत्व, संयंत्र अभिविन्यास, संयंत्र स्थान निर्धारण : अर्थ, अनुकूल स्थान निर्धारण के निर्धारक एवं आधार ।

इकाई 4 : विपणन : अवधारणा, कार्य एवं महत्व, विपणन शोध : अर्थ, क्षेत्र, विपणन शोध का योगदान एवं सीमाएं, प्रक्रिया, प्रकार एवं तकनीके। उत्पाद : अर्थ, भूमिका, नियोजन, प्रक्रिया, उत्पाद जीवन चक्र। मूल्य: अर्थ, भूमिका, प्रक्रिया एवं प्रबन्ध, वितरण के माध्यम: अर्थ, भूमिका वर्गीकरण एवं वितरण के माध्यमके चयन को प्रभावित करने वाले तत्व

इकाई 5 : सेविवर्गीय : अर्थ, क्षेत्र, सेविवर्गीय प्रबन्ध के कार्य। भर्ती— परिचय, चयन, मूल्यांकन, कार्य विश्लेषण एवं मूल्यांकन की विधियां, कार्य मूल्यांकन की पद्धतियां एवं सीमाएं, योग्यता अंकन: अर्थ, उद्देश्य एवं तकनीके। प्रशिक्षण एवं विकास।

SUGGESTED READINGS

Bovee and Thill : Business Communication Today, Tata McGraw Hill, New Delhi

Randall, E. Magors : Business Communication, Harper and Row, New York

Kaul : Business Communication, Prentice Hall, New Delhi

Kaul : Effective Business Communication, Prentice Hall, New Delhi

Robinson, Netrakanti and Snintre : Communicative Competence in Business English, Orient Longman, Hyderabad

Agarwal, R.D. : Organisation and Management

Philip Kotler : Marketing Management

Saxena, S.C. : Business Administration and Management

Gandhi, J.C. : Marketing : A Managerial Introduction

Gupta, M.S. : Kriyatmak Prabandh, Modern Publications, Jodhpur

Upadhyay & Kumbhat : Utpadan Prabandh

B.COM. FINAL (Examination 2023)

Group I PAPER I

MANAGEMENT ACCOUNTING AND GST

- Unit 1 : Management Accounting: Meaning, Nature, Scope and Functions of Management Accounting, Role of Management Accounting in Decision Making; Tools and Techniques of Management Accounting
Financial Statement Analysis - Meaning, types, objectives and methods, comparative and common size statements, Trend Analysis
- Unit 2 : Ratio Analysis - Classification of Ratios, Importance, Limitations and Financial Performance Appraisal, Cash Flow Statement (Ind AS 7)
- Unit 3: Cost Based Decision Making: Break-even Analysis and Cost-Volume-Profit Analysis, Application of Marginal Costing in Decision Making – make or buy, own or lease, shut or continue, foreign market and product-mix.
- Unit 4: Goods and Service Tax: Basic concepts and Overview of GST, Definitions, Threshold Exemptions, GST Council, Levy of GST, Meaning of Supplies, Non-taxable supplies, Time of supply and Valuation of GST
- Unit 5: Registration Process of GST, Payment of Tax and interest, Due dates under GST law, TDS scheme, Types of Returns, Concept of Input tax credit and concept of input service distributor in GST, Job work under GST, Concept of E-way bill and procedure of generation of E-way bill

Group I PAPER I

प्रबन्धकीय लेखाकन एवं वस्तु एवं सेवाकर

- इकाई –1 प्रबन्धकीय लेखाकन— अर्थ, प्रकृति, क्षेत्र व प्रबन्धकीय लेखाकन के कार्य, प्रबन्धकीय लेखाकन की निर्णयन में भूमिका: लेखाकन प्रबन्ध के उपादान एवं तकनीके
वित्तीय विवरण विश्लेषण— अर्थ, प्रकार, उद्देश्य, एवं विधियां, तुलनात्मक एवं समानाकार विवरण , प्रकृति विश्लेषण।
- इकाई—2 अनुपात विश्लेषण— अनुपातों का वर्गीकरण, महत्व, सीमाएं एवं वित्तीय निष्पादन मूल्यांकन: नकद प्रवाह विवरण (Ind AS 7)
- इकाई—3 लागत आधारित निर्णयन— सम-विच्छेद विश्लेषण, लागत—मात्रा—लाभ विश्लेषण, प्रबन्धकीय निर्णयन प्रक्रिया में सीमान्त लागत लेखांकन का अनुप्रयोग— बनाना या खरीदना, स्वयं का या पट्टे पर, बन्द करना या जारी रखना, विदेशी बाजार एवं उत्पाद मिश्रण।
- इकाई—4 वस्तु एवं सेवा कर— आधारभूत अवधारणाएं एवं वस्तु एवं सेवा कर का परिचय, परिभाषाएँ, छूट सीमा, वस्तु एवं सेवा कर परिषद, वस्तु एवं सेवा कर आरोपण, आपूर्ति का अर्थ, गैर कर योग्य आपूर्ति, आपूर्ति समय एवं वस्तु एवं सेवा कर का मूल्यांकन।
- इकाई—5 वस्तु एवं सेवा कर के पंजीकरण की प्रक्रिया, कर एवं ब्याज का भुगतान, वस्तु एवं सेवा कर अधिनियम के तहत देय तिथियाँ, उद्गम स्थान पर कटौति स्कीम, विवरणियों के प्रकार, वस्तु एवं सेवा कर में आगत सेवा वितरक की अवधारणा एवं आगत कर जमा की अवधारणा, वस्तु एवं सेवा कर के तहत उपकार्य, ई—वे बिल की अवधारणा एवं ई—वे बिल के निर्माण की प्रक्रिया।

SUGGESTED READINGS:

- Anthony, Robert & Reece, et. al : Principles of Management Accounting, Richard Irwin Inc.
Horngren, Charles, Foster and Datar et al. : Cost Accounting-A Managerial Emphasis, Prentice Hall, New Delhi.
Khan, M.Y. and Jain, P.K. : Management Accounting, Tata McGraw Hill New Delhi.
Kaplan R.S. and Atkinson, A.A. : Advanced Management Accounting, Prentice Hall India, New Delhi.
Manmohan and Goyal S.N. : Principles of Management Accountancy
Agarwal, J.K.&Agarwal, R.K. : Prabandhkiya Lekhankan.
Gupta, S.D. : Prabandhkiya Lekha Vidhi.
Maheshwari, S.N. : Management Accounting and Financial Control.
GST one nation one tax one market by LVR Prasad and GJ Kiran kumar.
GST Ready Reckoner By V.S. Datay.
GST and Customs Law by Niti Bhasin and Sameer Lama, Taxman Publications
GST, Taxman Publication

B.COM. FINAL (Examination 2023)

Group I PAPER II

INCOME TAX

- Unit 1 : Constitutional Provisions: Distribution of tax proceeds amongst Centre and States - a brief study. Basic concepts and definitions: Income, agriculture income, casual income, Basis of charge, Scope of total income, Residence and tax liability
- Unit 2 : Heads of Income: Income from Salaries, Income from House Property
- Unit 3: Profits and Gains of Business and Profession, Depreciation, Capital Gains, Income from Other Sources, Deemed Incomes and Aggregation of Income
- Unit 4 : Set off and carry forward of losses, Deductions from Gross Total Income, Rebates and Reliefs, Assessment of Individuals
- Unit 5 : Assessment of Hindu Undivided Family, Assessment of Firm & Association of Person and Body of Individual (AOP/BOI), Income Tax authorities and their powers; filing of income tax returns

समूह-I प्रश्न पत्र-II

आयकर

- इकाई -1 संवैधानिक प्रावधान-केन्द्र एवं राज्यों के बीच कर राजस्व का विभाजन एक संक्षिप्त अध्ययन, मूल अवधारणाएं एवं परिभाषाएं-आय, कृषि आय, आकस्मिक आय, कर का आधार, कुल आय का क्षेत्र, निवासीय स्थिति एवं दायित्व।
- इकाई-2 आय के स्रोत: वेतन से आय, मकान सम्पत्ति से आय।
- इकाई-3 व्यापार एवं पेशे के लाभ एवं प्राप्तियां; ह्रास; पूंजीलाभ; अन्य साधनों से आय; मानी गई आयें एवं आयों का संकलन।
- इकाई-4 हानियों की पूर्ति एवं आगे ले जाना, सकल कुल आय में से दी जाने वाली कटौतियां, छूट एवं राहतें, व्यक्तियों का कर निर्धारण।
- इकाई-5 हिन्दु अविभाजित परिवार का कर निर्धारण, फर्म व्यक्तियों का समूह एवं व्यक्तियों के संघ का कर निर्धारण; आयकर प्राधिकारी एवं उनके अधिकार, आयकर विवरणी दाखिल करना।

SUGGESTED READINGS:

- Singhania, V.K. : Student's Guide to Income Tax, Taxmann, Delhi
Prasad, Bhagwati: Income Tax Law & Accounts, Wiley Publication, New Delhi
Mehrotra, H.C. : Income Tax Law & Accounts, Sahitya Bhawan, Agra
Dinker Pagare : Income Tax Law and practice, Sultan Chand & Sons, New Delhi
Girish Ahuja and Ravi Gupta : Systematic Approach to Income Tax, Sahitya Bhawan Publication, New Delhi
Chandra, Mahesh and Shukla, D.C. : Income Tax Law and Practice, Pragati Publication, New Delhi
Bhattacharya : Income Tax Law and Practice Lal, B.B. : Income Tax Law and practice Pager, Dinkar : Income Tax
Kanga and Paliwala : Law and Practice of Income Tax in India

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Group I PAPER III

AUDITING

- Unit 1 : Auditing : Meaning , Objectives, Frauds, Errors, Accounting & Auditing, Types of Audit, Internal Control, Internal Check & Internal Audit, Evaluation of Internal Control System, Internal control system regarding purchases, sales, Salaries and wages
- Unit 2 : Audit Procedure : Planning & procedure of audit, Audit Programme, Audit working papers and evidences, Routine check & test check. Vouching: Meaning, importance, vouching of cash and trading transactions
- Unit 3 : Verification & valuation of Assets & Liabilities, Auditor's Report : Clean & Qualified Report
- Unit 4 : Audit of limited companies, Company Auditor: Appointment, Rotation of Auditors, Powers, Duties & Liabilities , Information Systems Audit (ISA)
- Unit 5 : Special Audit: Banking Companies, General Insurance Companies, Educational institutions & Clubs. Investigation: Meaning, Objectives, Procedure, Investigation of frauds, Investigation on behalf of - (a) A prospective purchaser of a business (b) A banker for granting credit

समूह-I प्रश्न पत्र-III

अंकेक्षण

- इकाई -1 अंकेक्षण- अर्थ, उद्देश्य, कपट, त्रुटि, लेखांकन एवं अंकेक्षण, अंकेक्षण के प्रकार: आन्तरिक नियन्त्रण, आन्तरिक जाँच एवं आन्तरिक अंकेक्षण, आन्तरिक नियन्त्रण प्रणाली का मूल्यांकन, क्रय, विक्रय वेतन एवं मजदूरी के सन्दर्भ में आन्तरिक नियन्त्रण।
- इकाई-2 अंकेक्षण क्रिया विधि-अंकेक्षण योजना एवं प्रक्रिया, अंकेक्षण कार्यक्रम, अंकेक्षण कार्य प्रपत्र व साक्ष्य, नैतिक जाँच व परीक्षण जाँच; प्रमाणन-अर्थ महत्व, रोकड़ व व्यावसायिक व्यवहारों का प्रमाणन।
- इकाई-3 सम्पत्तियों एवं दायित्वों का सत्यापन व मूल्यांकन; अंकेक्षण प्रतिवेदन- स्वच्छ एवं मर्यादित प्रतिवेदन।
- इकाई-4 सीमित दायित्व वाली कम्पनियों का अंकेक्षण: कम्पनी अंकेक्षक, अंकेक्षकों का आवर्त एवं नियुक्ति , अधिकार, कर्तव्य एवं दायित्व: सूचना प्रणाली अंकेक्षण।
- इकाई-5 विशेष अंकेक्षण- बीमा कम्पनियां, सामान्य बीमा कम्पनियां, शैक्षणिक संस्थाएँ एवं क्लब; अनुसंधान - अर्थ, उद्देश्य, प्रक्रिया, कपट की अनुसंधान प्रक्रिया (अ) व्यवसाय के क्रेता की ओर से अनुसंधान (ब) ऋण देने वाले बैंक की ओर से अनुसंधान।

SUGGESTED READINGS:

- Gupta, Kamal : Contemporary Auditing, Tata McGraw Hill, N. Delhi.
Spicer & Pegler : Practical Auditing, W.W. Bigg., Indian Edition by S.V. Gratalia, Allied publishers.
Tandon, B.N. : Principles of Auditing, S. Chand & Co., New Delhi.
Pagare, Dinkar : Principles of Auditing, S. Chand & co., New Delhi.
Pagare, Dinker : Principles & Practice of Auditing, Sultan Chand, New Delhi.
Sharma, T.R. : Auditing Principles & Problems, Sahitya Bhawan, Agra.
Jain, Khandelwal & Pareek : Auditing, Ramesh Book Depot, Jaipur.

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Group II PAPER I

FINANCIAL MARKET OPERATION

Objective: This Course aims at acquainting the students with the working of financial markets in India

- Unit 1 : An overview of financial market in India. Money Market: India money market's composition and structure; objective, importance, suggestion for improving money market, Recent trends in Indian money market.
- Unit 2 : Capital market : Security market (a) New issue market (b) Secondary market : Function and role of stock exchange; Listing procedure and legal requirements; Public issue pricing and marketing; Reform of secondary market
- Unit 3 : Investors protection : Complaints of investors, Grievances concerning stock exchange dealing and their removal Grievance cells for Investor Protection: stock exchanges; SEBI; Company Law Board.
- Unit 4 : Functionaries on Stock Exchanges; Brokers, sub-brokers, market makers, jobbers portfolio consultants, institutional investors and NRIs
- Unit 5 : Financial Services : Merchant banking-functions and role; Credit rating-concept, functions and types. Guidelines of SEBI : New Issue market, IPO, Listing, underwriting and bonus share.

वित्तीय बाजार परिचालन

- इकाई 1 : भारत में वित्तीय बाजार का परिदृश्य, मुद्रा बाजार: भारतीय मुद्रा बाजार की संरचना तथा ढांचा, उद्देश्य, महत्व, मुद्रा बाजार में सुधार हेतु उपाय, भारतीय मुद्रा बाजार की आधुनिक प्रवृत्तियाँ।
- इकाई 2 : पूंजी बाजार: प्रतिभूति बाजार(अ) नव निर्गमन बाजार(ब) सहायक बाजार: स्कन्ध विपणी का कार्य एवं भूमिका, सूचीयन प्रक्रिया एवं विधियन आवश्यकताएँ, सार्वजनिक निर्गमन-मूल्यन एवं विपणन, सहायक बाजार के सुधार।
- इकाई 3 : निवेशक संरक्षण: निवेशकों की शिकायते, स्कन्ध विपणी व्यवहार सम्बन्धी परिवेदना एवं उनका निवारण: निवेशक संरक्षण हेतु परिवेदना प्रकोष्ठ: स्कन्ध विपणी, भारतीय विनिमय एवं प्रतिभूति बोर्ड (सेबी), कम्पनी विधि मण्डल।
- इकाई 4 : स्कन्ध विपणी कार्यकारी दलाल, उप-दलाल, बाजार नियामक, जॉबर, पोर्टफोलियों सलाहकार, संस्थागत निवेशकर्ता एवं अनिवासी भारतीय
- इकाई 5 : वित्तीय सेवाएँ: मर्चेन्ट बैंकिंग-कार्य एवं भूमिका, साख-क्षमता (क्रेडिट-रेटिंग)-अवधारणा, कार्य एवं प्रकार: भारतीय विनिमय एवं प्रतिभूति बोर्ड (सेबी) के मार्गदर्शी सिद्धान्त: नया निर्गमन बाजार, इनिशियल पब्लिक ऑफर (आई. पी. ओ.) सूचियन, अभिगोपन और बोनस अंश।

SUGGESTED READINGS

- Chandler, M.V. and Goldfeld, S.M. : Economics of Money and Banking, Harper and Row, New York
- Gupta, Suraj B. : Monetary Economics, S. Chand and Co., New Delhi
- Gupta, Suraj B. : Monetary planning in India, Oxford, Delhi
- Bhole, L.M. : Financial Markets and Institutions, Tata McGraw Hill, New Delhi
- Hooda, R.P. : Indian Securities Market-Investors view point, Excell Books, New Delhi
- Bhall V.K.: Financial Market
- Mathur B.L. & Dave R.K.: Financial Market Operations
- Saraswat & Choudhary: Financial Market Operations
- Mishra V.K.: Financial Market Operations

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Group II PAPER II

FINANCIAL MANAGEMENT

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

Objective : The objective of the course is to help students to understand the conceptual frame work of financial management/institution and its applications under various environment constraints

- Unit 1 : Financial Management: Meaning, nature and scope of finance, Importance and Limitation, Financial goal: Profit vs. wealth maximization; finance functions- investment, financing and dividend decisions, Organization of Finance Function. Financial Planning: Meaning, Definition, Contents, Types, process, estimating Financial requirement, Factors affecting Financial planning, Characteristic of sound financial plan, Significance, Limitation.
- Unit 2 : Capital Budgeting: Meaning, Definition, importance, kinds, types, process, investment evaluation criteria, net present value, internal rate of return, profitability index, payback period, accounting rate of return, NPV an IRR comparison, Capital rationing, Risk analysis in capital budgeting. Capital Structure: Meaning and Definition, Factor affecting Capital structure, optimum capital structure, Trading on equity, Capital Gearing, Theories of capital structure: Net Income, Net Operating Income, Modigliani-Miller, Traditional Theory.
- Unit 3 : Cost of Capital :Meaning, Definition, and significance, characteristic, calculation of cost of debt; preference capital, equity capital, retained earnings, Combined Cost of capital (weighted). Operating and Financial Leverage Concept, characteristic, Measurement, Effect of operating and financial leverage on profit Analysis, Combined leverage.
- Unit 4 : Working Capital: Meaning, Concept, Type, Importance, Calculation, deterrents of Working Capital. Management of receivables: Meaning, objectives, Factors determining, functions, Ageing Schedule. Management of Cash: Meaning, Need, factors determining, objectives, advantages and disadvantages, models. Management of Inventory: Meaning, objective, Need of hold inventory, Techniques of inventory control.
- Unit 5 : Dividend Policy : Meaning, Forms of dividend, sound dividend policy, Factor affecting Dividend policy, Types, dividend decisions, Walter's model, Gordon's model.

Group II PAPER II

वित्तीय—प्रबन्ध

इकाई 1 : वित्तीय प्रबंध: अर्थ, प्रकृति तथा वित्त का क्षेत्र, महत्व तथा सीमाये, वित्तीय लक्ष्य लाभ बनाम सम्पदा अधिकतम। वित्त कार्य –विनियोजन वित्तीयन तथा लाभांश निर्णय, वित्त कार्य का संगठन वित्तीय नियोजन: अर्थ परिभाषा विषय–वस्तु, प्रकार, वित्तीय आवश्यकता का निर्धारण, वित्तीय आयोजन के प्रभावी तत्व, सुदृढ़ वित्तीय योजना की विशेषताएँ, अवधारणा, सीमायें।

इकाई 2 : पूंजी बजटन: अर्थ, परिभाषा, महत्व, प्रकार, प्रक्रिया, विनियोजन मूल्यांकन के मापदण्ड, शुद्ध वर्तमान मूल्य, आन्तरिक प्रत्याय दर, लाभदायकता सूचकांक, पुर्नभुगतान अवधि, लेखांकन प्रत्याय दर, शुद्ध वर्तमान मूल्य (NPV), तथा आन्तरिक प्रत्याय दर की तुलना, पूंजी राशनिंग, पूंजी बजटन में जोखिम विश्लेषण, पूंजी संरचना: अर्थ तथा परिभाषा, पूंजी संरचना को प्रभावित करने वाले कारक, अनुकूलतम पूंजी संरचना, समता पर व्यापार, पूंजीगत लाभांश, पूंजी संरचना के सिद्धान्त: शुद्ध आय, शुद्ध परिचालन आय, मोदिगिल्यानी–मिलर, परम्परागत सिद्धांत।

इकाई 3 : पूंजी की लागत: अर्थ, परिभाषा तथा अवधारणा, विशेषताएँ, ऋण लागत की गणना, पूर्वाधिकार अंश पूंजी, समता पूंजी, प्रतिधारित अर्जन, संयुक्त पूंजी की लागत (भारित) परिचालन तथा वित्तीय उत्तोलक, अवधारणा, विशेषताएँ, मापन, परिचालन तथा वित्तीय उत्तोलक का लाभांश विश्लेषण पर प्रभाव, संयुक्त उत्तोलक।

इकाई 4 : कार्यशील पूंजी: अर्थ, अवधारणा, प्रकार, महत्व, गणना, कार्यशील पूंजी के निर्धारक प्राप्यों का प्रबंध: अर्थ, उद्देश्य, निर्धारणात्मक कारक, कार्य, देनदार कॉलसूची: रोकड़ का प्रबंध: अर्थ, आवश्यकता, निर्धारक तत्व, उद्देश्य, लाभ–हानि, मॉडल्स, स्कन्ध का प्रबंध: अर्थ, उद्देश्य, स्कन्ध रखने की आवश्यकता, स्कन्ध नियंत्रण की तकनीके।

इकाई 5 : लाभांश नीति: अर्थ, लाभांश के प्रकार, सुदृढ़ लाभांश नीति, लाभांश नीति को प्रभावित करने वाले घटक, प्रकार, लाभांश निर्णय, वाल्टर मॉडल, गॉर्डन मॉडल।

SUGGESTED READINGS

- Van Home, J.C. : *Financial Management and Policy*, Prentice Hall of India, New Delhi
Van Horne, J.C. : *Fundamentals of Financial Management*, Prentice Hall of India, New Delhi
Khan, M.Y. and Jain, P.K. : *Financial Management*, Text and problems, Tata McGraw Hill, New Delhi
Prasanna Chandra : *Financial Management Theory and practice*, Tata McGraw Hill, New Delhi
Pandey, I.M. : *Financial Management*, Vikas Publishing House, New Delhi
Brigham, E.F., Gapenski L.C. and Ehrhardt, M.C. : *Financial Management-Theory and practice*, Harcourt College Publishers, Singapore
Bhalla, V.K. : *Modern Working Capital Management*, Anmol pub, Delhi
Agarwal, Agarwal, Kothari : *Financial Management*
Kothari & Dave: *Financial Management*

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Group III PAPER I

INTERNATIONAL MARKETING

Unit 1 : Introduction to International Marketing : Nature and significance. Complexities in international marketing : Transition from domestic to transnational marketing :International market orientation - EPRG framework ; International market entry strategies.

International Marketing Environment: Internal environment; External environment geographical, demographic, economic, socio-cultural, political and legal environment; Impact of environment on international marketing decisions.

Unit 2 : Foreign Market Selection : Global Market segmentation; Selection of foreign markets; International positioning.

Product Decisions : Product planning for global markets; Standardisation Vs. Product adaptation ; New product development; Management of international brands ; Packaging and labeling; Provision of sales related services.

Unit 3 : Pricing Decisions : Environmental influences on pricing decision; International pricing policies and strategies.

Promotion Decisions: Complexities and issues; International advertising, personal selling, sales promotion and public relation.

Unit 4 : Distribution Channels and Logistics : Functions and types of Channels : Channel selection decisions : Selection of Foreign distributors/agents and managing relations with them; International logistics decisions.

International Marketing Planning, Organizing and Control : Issues in International marketing planning : International Marketing Information System : Organizing and controlling : International marketing operations.

Unit 5 : Emerging issues and developments in international marketing: Ethical and Social issues :International Marketing of services: Information technology and International marketing Impact of globalization : WTO

Group III PAPER I

अन्तर्राष्ट्रीय विपणन

- इकाई 1 :अन्तर्राष्ट्रीय विपणन का परिचय: प्रकृति एवं उपादेयता। अन्तर्राष्ट्रीय विपणन की जटिलताएँ: घरेलू से अन्तर्राष्ट्रीय विपणन में अन्तरण: अन्तर्राष्ट्रीय बाजार आमूखीकरण, ईपीआरजी ढाँचा: अन्तर्राष्ट्रीय बाजार प्रवेश रणनीतियाँ। अन्तर्राष्ट्रीय विपणन वातावरण: आन्तरिक वातावरण, बाह्य वातावरण: भौगोलिक, जनसंख्या संबंधी, आर्थिक, सामाजिक-सांस्कृतिक, राजनैतिक एवं कानूनी वातावरण, अन्तर्राष्ट्रीय विपणन निर्णयों पर वातावरण का प्रभाव।
- इकाई 2 विदेशी बाजार चयन: भूमण्डल बाजार विभक्तिकरण, विदेशी बाजारों का चयन, अन्तर्राष्ट्रीय स्थितीकरण। उत्पाद निर्णय: भूमण्डल बाजार हेतु उत्पाद नियोजन, प्रमापीकरण बनाम उत्पाद स्वीकारीकरण, नये उत्पाद का विकास, अन्तर्राष्ट्रीय ब्राण्ड का प्रबन्ध, पैकजिंग एवं लेबलिंग, विक्रय संबंधी सेवाओं के प्रावधान
- इकाई 3 : मूल्य निर्णय: मूल्य संबंधी निर्णय पर वातावरण का प्रभाव, अन्तर्राष्ट्रीय मूल्य नीतियाँ एवं रणनीतियाँ, संवर्द्धन निर्णय: जटिलताएं एवं मुद्दे, अन्तर्राष्ट्रीय विज्ञापन,व्यक्तिगत विक्रय, संवर्द्धन एवं जन-सम्पर्क।
- इकाई 4 : वितरण के माध्यम एवं भौतिक वितरण : वितरण के माध्यम के कार्य एवं प्रकार, माध्यम के चयन निर्णय, विदेशी वितरकों/एजेन्टों का चयन एवं उनके साथ सम्बन्धों का प्रबन्ध, अन्तर्राष्ट्रीय भौतिक वितरण निर्णय। अन्तर्राष्ट्रीय विपणन नियोजन, संगठन एवं नियंत्रण, अन्तर्राष्ट्रीय विपणन नियोजन के मुद्दे, अन्तर्राष्ट्रीय विपणन सूचना प्रणाली: संगठन एवं नियंत्रण : अन्तर्राष्ट्रीय विपणन परिचालन।
- इकाई 5 :अन्तर्राष्ट्रीय विपणन में उभरते मुद्दे एवं विकास, नैतिक एवं सामाजिक मुद्दे, सेवाओं का अन्तर्राष्ट्रीय विपणन: सूचना औद्योगिकी एवं अन्तर्राष्ट्रीय विपणन, भूमण्डलीकरण का प्रभाव: विश्व व्यापार संगठन।

SUGGESTED READING :

- Czinkota, M.R. : International Marketing Dryden Press, Boston
Fayerweather, John : International Marketing, Prentice Hill, New Delhi.
Jain, S.C. : International Marketing : CBS Publications, New Delhi.
Keegan, Warren Global Marketing Management, Prentice Hall, New Delhi.
Onkvisit, Sak and John J. Shaw : International Marketing : Analysis and Strategy, Pentice Hall, New Delhi.
Paliwoda, S.J. (ED) International Marketing, Reader, Routledge, London
Pallwode, Stanly J : The Essence of International Marketing, Prentice Hall New Delhi.
Sarathy, R and V Terpstra : International Marketing, Dryden Press, Boston
Vsudeva P.K. : International Marketing Excel Books, New Delhi

B.Sc.

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General Hindi

बी.एससी. प्रथम वर्ष परीक्षा 2017
आधार पाठ्यक्रम : सामान्य हिन्दी

नोट : यह प्रश्न-पत्र दो घण्टे की अवधि और 100 अंकों का होगा।

- इकाई 1 – पाठ्य पुस्तक-प्रकीर्णिका : सम्पादक-बालकृष्ण राव एवं श्रीराम शर्मा, राजकमल प्रकाशन, नई दिल्ली
- इकाई 2 – (क) वर्णों का वर्गीकरण – भेद प्रभेद, (ख) सन्धि (ग) समास
(घ) उपसर्ग – प्रत्यय (ङ) तत्सम- तद्भव (च) शब्द शुद्धि, वाक्य शुद्धि
- इकाई 3 – (क) संज्ञा और संज्ञा के विकारी तत्त्व-लिंग, वचन, कारक (ख) सर्वनाम (ग) विशेषण (घ) क्रिया और सहायक क्रिया-क्रिया, काल वृत्ति, पक्ष, वाच्य (ङ) अविकारी तत्त्व-क्रिया विशेषण, संबंध बोधक, समुच्चय बोधक, विस्मयादि बोधक, निपात (च) विराम-चिह्न
- इकाई 4 – (क) अनेकार्थी शब्द (ख) युग्म शब्द (ग) वाक्यांश के लिए एक शब्द (घ) पर्यायवाची शब्द (ङ) विलोम शब्द (च) मुहावरे-लोकोक्तियाँ
- इकाई 5 – (क) देवनागरी लिपि की विशेषताएँ (ख) मानक हिन्दी वर्णमाला तथा अंक, (ग) हिन्दी वर्तनी का मानक रूप (घ) कार्यालयी पत्र लेखन (ङ) कार्यालयी टिप्पणी (च) पारिभाषिक शब्दावली (कार्यालयी)

प्रश्न एवं अंक-विभाजन

- प्रत्येक इकाई 20 अंक की होगी – $20 \times 5 = 100$ अंक
- प्रत्येक इकाई से एक-एक अंक के बीस बहुविकल्पात्मक प्रश्न पूछे जाएँगे—
 $20 \times 5 = 100$ प्रश्न

सहायक पुस्तकें—

हिन्दी शब्दानुशासन : किशोरीदास वाजपेयी

हिन्दी व्याकरण : कामताप्रसाद गुरु

हिन्दी का सामान्य ज्ञान : हरदेव बाहरी

आलेख –प्रारूप : शिवनारायण चतुर्वेदी

टिप्पणी- प्रारूप : शिवनारायण चतुर्वेदी

मानक हिन्दी वर्तनी तथा नागरी लिपि : वैज्ञानिक तथा तकनीकी शब्दावली आयोग, नई दिल्ली।

B.Sc. Part I Examination, 2017

Foundation Course: General English

Duration: 2 Hrs.

Max Marks: 100

No. of Questions: 100 Multiple Choice Questions

Unit 1: **Texts Prescribed:** (20 questions)

1. R.K. Narayan: *A Vendor of Sweets*
(Ten questions from this text)
2. *Remedial Course in English Book II*
(Ten questions from this text)

Unit II: Phrasal Verbs, Antonyms, Synonyms, Prefixes and Suffixes.
(20 questions)

Unit III: Compound and Complex Sentences, Transformation of simple,
Compound and Complex sentences. (20 questions)

Unit IV: Modal auxiliaries, Common Errors involving the use of articles,
prepositions and tenses. (20 questions)

Unit V: Active and Passive Voice, Direct and Indirect Speech, Formal and
Informal Letters, Sequential Sentences. (20 questions)

NOTE:

Division Of Questions and Marks :

Each Unit will be of 20 marks (20x5=100 Marks)

From Each Unit 20 multiple choice questions of one mark each will be given.

(20x5 = 100 questions)

RECOMMENDED READINGS:

Close, R.A. *A Reference Grammar of English*.

Corder, S. Pit. *An Intermediate English Practical Book*. Orient Longman.

Seely, John. *Writing with a Purpose*. Oxford University Press.

Thomson & Martinet. *A Practical English Grammar*. Oxford University Press.

B.Sc. PART I 2019-20

ENVIRONMENTAL STUDIES

Teaching : 3 periods / week in Annual System

Maximum Marks : 100

Examination duration : 2 hours

Objective type multiple choice question papers, 1 mark for each right answer, 20 questions from each Unit.

Unit I : Multidisciplinary Nature of Environmental Studies : Definition, scope and importance; Human Population and Environment; Environment and Human Health; Legal Issues and Environment : Environment Protection Act; Environmental Ethics : Issues and possible solutions.

Unit II : Natural Resources : Renewable and Non-Renewable : Forest Resources - Use and over exploitation, deforestation, introduction to afforestation activities in India. Water Resources - Use and over utilization of surface and ground water; floods and droughts
Mineral Resources - Use and exploitation, environmental effects of extracting and using mineral resources, case studies.
Food Resources - World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems.
Energy Resources - Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources, case studies.
Land Resources - Land as a resource, degradation, man induced landslides, soil erosion and desertification.

Unit III : Ecosystems : Concept of an ecosystem, Structure and function of ecosystem, Producers, consumers and decomposers; abiotic factors; food chain and web; ecological pyramids; energy flow.
Pollution – Definition, causes, effects and management strategies for (i) Air Pollution, (ii) Water Pollution, (iii) Soil Pollution, (iv) Noise Pollution, (v) Thermal Pollution, (vi) Nuclear hazards.
Solid waste management – Causes, effects and management strategies for urban and industrial wastes.

Unit IV : Biodiversity and its conservation : Introduction, definition, levels (genetic, species and ecological), Importance of biodiversity; Status – Global, National and Local; Threats to biodiversity – habitat loss, poaching of wildlife, man-wildlife conflicts. Endangered and endemic species of India.

Unit V : Sports for human welfare : Sports in relation to Philosophy; Sports and health fitness; Social values for sports and sportspersons, Role of sports in personality development; Sports as recreation.
India's policies for Sports : Central and State Governments; introduction to sports support facilities in India.
History and Traditional Sports of India – Kabaddi, Kho-Kho, Mallakhamb, Jallikattu.

B.Sc. Part – I
BOTANY 2019

Theory

| Course | Nomenclature | Number of Papers | Number of Periods per week | Maximum marks | Minimum marks |
|------------------|---|------------------|----------------------------|---------------|---------------|
| Paper I | Algae, Lichens and Bryophytes | 1 | 2 | 50 | 54 |
| Paper II | Mycology, Microbiology and Phytopathology | 1 | 2 | 50 | |
| Paper III | Palaeobotany, Pteridophytes and Gymnosperms | 1 | 2 | 50 | |
| PRACTICAL COURSE | | | 6 | 75 | 27 |

Duration of examination of each theory papers 3 hours

Duration of examination of practicals 5 hours

PAPER I: ALGAE, LICHENS AND BRYOPHYTES

Unit I: General characters, Classification (ICBN) and economic importance of Algae. Important features and life history of Chlorophyceae and Charophyceae. Structure and life cycle of *Volvox*, *Oedogonium*, *Coleochaete* and *Chara*.

Unit II: Important features and life history of Xanthophyceae and Phaeophyceae. Structure and life cycle of *Vaucheria*, *Ectocarpus* and *Sargassum*.

Unit III: Important Features and life history of Rhodophyceae. Structure and life cycle of *Polysiphonia*. Lichens: Morphology and structure of the two components; biological, ecological and economic importance. Vegetative multiplication methods with special reference to *Parmelia* and *Usnea*.

Unit IV: Bryophytes: General characters, alternation of generations and classification. Characters and Classification of Hepaticopsida. Morphology and life history of *Riccia*, *Marchantia* and *Plagiochasma*.

Unit V: Characters and classification of Anthocerotopsida and Bryopsida. Morphology and life history of *Anthoceros* and *Sphagnum*.

Suggested Laboratory Exercises

Algae: Microscopic preparation and study of following algal materials: *Volvox*, *Oedogonium*, *Coleochaete*, *Vaucheria*, *Chara*, *Ectocarpus*, *Sargassum* and *Polysiphonia*

Lichens: Study of Lichens

Bryophytes: Study of external morphology and microscopic preparations of following Bryophytes: *Riccia*, *Marchantia*, *Plagiochasma*, *Anthoceros* and *Sphagnum*

Suggested Readings

- Bold, H.C., Alexopoulos, C.J. and Delevoryas, T. Morphology of Plant and Fungi (4th Ed.) Harper & Foul Co., New York, 1980.
- Ghemawat, M.S., Kapoor, J.N. and Narayan, H.S. A text book of Algae, Ramesh Book Depot, Jaipur, 1976.
- Gilbert, M.S. Cryptogamic Botany, Vol. I & II (2nd Ed.), Tata McGraw Hill, Publishing Co. Ltd., New Delhi, 1985.
- Kumar, H.D. Introductory Phycology, Affiliated East–West Press, Ltd., New York, 1988.
- Pandey, S.N. and Trivedi, P.S.A Text Book of Botany 2000 Volume I, Vikas Pub. House Pvt. Ltd., New Delhi.
- Puri, P. Bryophytes, Atmaram & Sons, Delhi, Lucknow, 1985.
- Singh, V., Pande, P.C. and Jain, D.K. A Text Book of Botany, Rastogi & Co., Meerut, 2001.
- Vashista, B.R. Botany for Degree Students (Algae, Fungi Bryophyta), S. Chand & Co. Ltd., New Delhi, 2002.

PAPER II: MYCOLOGY, MICROBIOLOGY AND PHYTOPATHOLOGY

Unit I: General characters, Classification and economic importance of fungi. Important features and life history of Mastigomycotina–*Pythium* and *Albugo*; Zygomycotina–*Rhizopus*; Ascomycotina–*Saccharomyces*, *Aspergillus* and *Penicillium*.

Unit II: Important features and life history of Basidiomycotina– *Puccinia*, *Agaricus* and wild Mushroom and *Ustilago*; Deuteromycotina–*Collectotrichum* and *Alternaria*.

Unit III: Viruses: Chemical and physical nature; Structure, multiplication and transmission of plant viruses. Tobacco mosaic virus and yellow vein mosaic virus disease. General account of Viroids, AIDS and Prions.

Unit IV: Bacteria–Structure, nutrition, cell division, reproduction and economic importance. Biofilms and Quorum sensing in microbes. Cyanobacteria–Life history of *Nostoc* and *Oscillatoria*; Nitrogen fixation – by BGA (Blue green algae). General account and biology of Mycoplasma and Phytoplasma.

Unit V: Causes and symptoms of plant diseases with special reference to green ear disease of Bajra, smut of wheat, citrus canker, little leaf of brinjal and root knot disease. A brief account of principles of plant protection.

Suggested Laboratory Exercises

Microscopic preparation and study of following fungal materials: *Albugo*, *Rhizopus*, *Saccharomyces*, *Aspergillus*, *Penicillium*, *Ustilago*, *Agaricus*, local Mushroom, *Collectotrichum* and *Alternaria*. Viruses: Study of disease symptoms caused by Tobacco mosaic virus and yellow vein mosaic virus.

Bacteria: Gram staining of bacteria. *Nostoc*, *Oscillatoria* and study of bacteriological specimens. Study of symptoms of following diseases: (specimen or photographs)

Green ear disease of bajra

Smut of wheat

Citrus canker

Rust of wheat

Little leaf of brinjal

Root knot nematode.

Suggested Readings

- Alexopoulos, C.J. and Mims. Introductory Mycology, John Wiley and Sons, New York, 2000.
- Bilgrami, K.S. and Dube, H.C. A Text Book of Modern Plant Pathology, Vikas Publ. House, New Delhi, 1976.
- Biswas, S.B. and Biswas, A. An Introduction to Viruses, Vikas Publ. House, New Delhi, 2000.
- Clifton, A. Introduction to Bacteria, McGraw Hill Co., New York, 1985.
- Dube, H.C. Fungi, Rastogi Publication, Meerut, 1989.
- Kaushik, P. Microbiology, Emkay Publication, 2001.
- Madahar, C.L. Introduction to plant viruses, S. Chand & Co. Ltd., New Delhi, 1978.
- Palezer, Chan and King. Microbiology, McGraw Hill Book Co., London, 1995.
- Pathak, V.N. Fundamentals of Plant Pathology, Agro Botanica. 2000.
- Purohit, S.S. Microbiology, Agro. Bot. Publication, Jodhpur, 2002.
- Sharma, O.P. Fungi, Today and tomorrow Publication, 2000.
- Sharma, P.D. Microbiology and Plant Pathology, Rastogi Publ. Meerut, 2003.
- Singh, V. and Srivastava, V. Introduction to Bacteria, Vikas Publication, 1998.
- Vashista, B.R. Botany for Degree Student Fungi, S. Chand & Co., New Delhi, 2001.

PAPER III: PALAEOBOTANY, PTERIDOPHYTES AND GYMNOSPERMS

Unit I: Geological time scale, Fossilization. General characters and classification and Pteridophytes. Important characteristics of Psilopsida, Lycopsidea, Sphenopsida and Pteropsida. Stellar systems in Pteridophyta. Structure and reproduction in *Rhynia* and *Psilotum*.

Unit II: Occurrence, Structure and life history of *Lycopodium*, *Selaginella* and *Equisetum*.

Unit III: Occurrence, structure and life history of *Adiantum*, *Marsilea* and *Azolla*. Heterospory in Pteridophyta.

Unit IV: Characteristics of seed plants, evolution of the seed habit. General features of gymnosperms and their classification; evolution, diversity and economic importance of Gymnosperms. *Cycas*: Morphology of vegetative and reproductive parts, anatomy of root, stem and leaf; Reproduction and life cycle.

Unit V: *Pinus* and *Ephedra*: Morphology of vegetative and reproductive parts, anatomy of root, stem and leaf, reproduction and life cycle.

Suggested Laboratory Exercises

Palaeobotany: Microscopic examination of slides of *Rhynia*.

Pteridophytes: Study of external morphology of *Lycopodium*, *Selaginella*, *Equisetum*, *Adiantum*, *Marsilea*, and *Azolla*. Microscopic study of temporary double stained preparations of stem/rhizome of *Lycopodium*, *Selaginella*, *Equisetum* and *Marsilea*.

Study of temporary single stained microscopic preparations of cone of *Selaginella* and T.S. of Sporophyll of *Adiantum* and sections of sporocarp of *Marsilea*.

Gymnosperms: Study of external morphology of plant parts of *Cycas*: young and old foliage leaf, scale leaf, bulbils, male cone, microsporophyll, megasporophyll and mature seed (if material is not available show photographs).

Microscopic temporary double stained preparations of rachis and leaflet of *Cycas*. Study of T.S. normal and Corolloid root by permanent slides.

Study of external morphology of plant parts of *Pinus* habit, long and dwarf shoot, male cone; female cone; winged seeds.

Microscopic temporary preparation of pollen grains (W.M.) of *Pinus*. Study through permanent slides T.S. stem: young and old; male/female cone of *Pinus*.
Study of habit and structure of whole male and female cone of *Ephedra*.
Microscopic preparation of male and female flowers of *Ephedra*.

Suggested Readings

- Bold, H.C., Alexopolous, C.J. and Delevoryas, T. Morphology of plant and fungi (4th ed.), Harper and Foul, Co., New York, 1980.
- Gifford, E.M. and Foster, A.S. Morphology and Evolution of Vascular Plants, W.H. Freeman and Company, New York, 1988.
- Pandey, S.N., Mishra, S.P., Trivedi, P.S. A Text Book of Botany Vol. II, VikasPub.House Pvt. Ltd., New Delhi 2000.
- Raven, P.H. Evert, R.F. and Eichhom, S.C. Biology of plants, (5th ed.), W.H. Reema and Co., Worth Publication, New York, U.S.A., 1999.
- Sharma, O.P. Pteridophytes, Today and tomorrow Publication, 2000.
- Sporne, K.R. The Morphology of Gymnosperms, B.I. Publ. Pvt., Bombay, Calcutta, Delhi, 1991.
- Vashista, P.C. Gymnosperm, S. Chand & Co. Ltd., New Delhi, 2002.
- Vashista, P.C. Pteridophyta, S. Chand & Co. Ltd., New Delhi, 2002.
- Wilson, N.S. and Rothewall, G.W. Palaeobotany and evolution of Plants, (2nd ed.), Cambridge University Press, U.K., 1993.

Suggested Laboratory Exercises

Part -I: Algae, Fungi, Lichens, Microbiology and Plant Pathology

Part-II: Bryophytes, Pteridophytes, Gymnosperms and Palaeobotany

Part-I

Algae: *Volvox*, *Oedogonium*, *Coleochaete*, *Chara*, *Ectocarpus*, *Sargassum* and *Polysiphonia*

Fungi: *Albugo*, *Rhizopus*, *Saccharomyces*, *Penicillium* (specimen/slides), *Aspergillus*, *Ustilago*, *Puccinia* (Wheat), *Agaricus*, *Alternaria* and *Colletotrichum* (Specimen/slides).

Lichen: External morphology of different types. Crustose (*Rhizocarpon*), Foliose (*Parmelia*) and Fruticose (*Usnea*)

Microbiology:

- Gram's staining of bacteria
- Nostoc*
- Oscillatoria*
- Rhizobia (Root nodules)
- Phytoplasma (Photograph)
- Tobacco mosaic virus
- Yellow vein mosaic virus of Bhindi

Plant Pathology: Symptoms of the following diseases:

- Green ear disease of bajra
- Smut of wheat (Loose)
- Black rust of wheat
- Citrus canker
- Little leaf of brinjal
- Root knot nematodes

Part-II

Bryophytes: External morphology and microscopic preparation of following genera:

Riccia, *Marchantia*, *Plagiochasma*, *Anthoceros* and *Sphagnum*

Pteridophytes:*Lycopodium*: External morphology, stem and cone (slide only)*Selaginella*: External morphology, stem and cone.*Equisetum*: External morphology, stem (internodes) and cone (slide only)*Marsilea*: External morphology, rhizome, petiole and sporocarp (H.L.S.)*Adiantum*: External morphology and sporophyll(T.S.)*Azolla*: External morphology**Gymnosperms:***Cycas*: External morphology, (normal root, coralloid root and rachis- slides only),

Leaflet (T.S.), male cone and female Megasporophyll (specimen)

Pinus: External morphology, needle (T.S.), stem (slide only) pollen grains, male and female cones*Ephedra*: External morphology, stem (T.S.), male and female reproductive parts.**Palaeobotany:***Rhynia* (specimen)**Practical Examination Scheme
B.Sc. Botany Part I****Time: 5 hours****Max. Marks 75****Min. Pass Marks 27**

| | Regular | Ex- student |
|---|-----------|----------------|
| 1. Cut a T.S of the given material "A" and make double stained temporary mount of the same. Draw labeled diagram. Identify the material and giving reasons. | 13 | 15 |
| 2. Make suitable preparation of the reproductive parts of the given material "B". Draw labeled diagram. Identify and comments upon the features of interest | 06 | 07 |
| 3. Make suitable preparation of the given materials "C", "D", "E" and "F". Identify and comments upon your preparation (NO description is required for the Material "F"). | | |
| Material "C" | 06 | 07 |
| Material "D" | 06 | 07 |
| Material "E" | 06 | 07 |
| Material "F" | 04 | 06 |
| 4. (A) Identify and comments upon the given spots 1 to 7 | 21 | 21 |
| (B) Microbiological Experiment | 04 | 05 |
| 5. Practical record | 09 | 00 |
| Total | 75 | 75 |

**B.Sc. Part – II
BOTANY 2019**

Theory

| Course | Nomenclature | Number of Papers | Number of Periods per week | Maximum marks | Minimum marks |
|------------------|---|------------------|----------------------------|---------------|---------------|
| Paper I | Taxonomy and Embryology of Angiosperms | 1 | 2 | 50 | 54 |
| Paper II | Anatomy of Angiosperms, Economic Botany and Ethnobotany | 1 | 2 | 50 | |
| Paper III | Cell Biology, Genetics, Plant Breeding and Evolution | 1 | 2 | 50 | |
| PRACTICAL COURSE | | | 6 | 75 | 27 |

Duration of examination of each theory papers 3 hours

Duration of examination of practicals 5 hours

PAPER I: TAXONOMY AND EMBRYOLOGY OF ANGIOSPERMS

Unit I: Diversity in plant form in annuals, biennials and perennials, Canopy architecture in angiosperms: tree-origin, development, arrangement and diversity in size and shape, Flower-modified shoot, structure and development of flower, Inflorescence-types of Inflorescence.

Unit II: Angiosperms: Origin and evolution. Some examples of primitive angiosperms. Angiosperm taxonomy; (Alpha-taxonomy, Omega-taxonomy, holotaxonomy) Taxonomic literature. Botanical nomenclature; principles and rules; taxonomic ranks, type concept, principle of priority. Classification of angiosperms; salient features of the systems proposed by Bentham and Hooker and Engler and Prantl.

Unit III: Major contributions of cytology and molecular biology, phytochemistry and taximetrics to taxonomy. Diversity of flowering plants as illustrated by members of the families Ranunculaceae, Papaveraceae, Caryophyllaceae, Capparidaceae, Cucurbitaceae, Rutaceae and Apiaceae.

Unit IV: Diversity of flowering plants as illustrated by members of the families Asteraceae, Acanthaceae, Apocynaceae, Asclepiadaceae, Scrophulariaceae, Lamiaceae, Euphorbiaceae, Musaceae and Poaceae.

Unit V: Embryology: Structure of anther and pistil. Development of the male and female gametophytes; pollen-pistil interactions, self incompatibility; Double fertilization;

Development of endosperm and embryo; Brief account of experimental embryology.
Basics of gene imprinting.

Suggested Laboratory Exercises

Field study of diversities found in leaf shapes, size, thickness and surface properties.

The following families are for detailed taxonomic studies:

1. Ranunculaceae: *Ranunculus*, *Delphinium*
2. Papaveraceae: *Papaver*, *Argemone*
3. Caryophyllaceae: *Dianthus*, *Gypsophylla*, *Saponaria*
4. Capparidaceae: *Capparis*, *Cleome*
5. Rutaceae: *Murraya*, *Citrus*
6. Apiaceae: *Coriandrum*, *Foeniculum*, *Anethum*
7. Cucurbitaceae: *Luffa* or anyCucurbit
8. Asteraceae: *Helianthus*, *Calandula*, *Sonchus*
9. Acanthaceae: *Adhatoda*, *Barleria*
10. Apocynaceae: *Catharanthus*, *Thevetia*, *Nerium*
11. Asclepiadaceae: *Calotropis*
12. Scrophulariaceae: *Linaria*, *Antirrhinum*
13. Euphorbiaceae: *Euphorbia*, *Phyllanthus*
14. Lamiaceae: *Ocimum*, *Salvia*
15. Musaceae: *Musa*
16. Poaceae: *Avena*, *Triticum*, *Hordeum*, *Poa*, *Sorghum*

Suggested Readings

Bhandari, M.M. Flora of Indian Desert.

Bhojwani, S.S. and Bhatnagar, S.P. The Embryology of Angiosperms, 4th Revised and enlarged edition, Vikas Publ., New Delhi, 2002.

Davis, P.H. and Heywood, V.H. Principles of Angiosperm Taxonomy, Oliver and Boyd, London, 1963.

Fegerig K. and Vender Pifi The Principles of Pollination Ecology, Pergamon Press, 1979.

Gifford, E.M. and Foster, A.S. Morphology and Evolution of Vascular Plants, W.H. Freeman and Company, New York, 1979.

Heywood, V.H. and Moore, D.M. (eds.) Morphology and Evolution of Vascular Plants, W.H. Freeman and Company, New York, 1984.

Jeffrey, C. An Introduction to Plant Taxonomy, Cambridge University Press, Cambridge, London, 1982.

Jones, S.D. Jr. and Suchsinger, A.E. Plant Systematic (2nd ed.) McGraw-Hill Book Co., New York, 1986.

Maheshwari, J.K. Flora of Delhi, CSIR, New Delhi, 1963.

Redford, A.E.: Fundamentals of Plant Systematics, Harper and Row, New York, 1986.

Sharma, O.P. Taxonomy: Tata McGraw Hill Pub. Company Ltd., New Delhi 2000.

Singh, G. Plant Systematics – Theory and Practices, Oxford and IBH Pvt. Ltd., New Delhi, 1999.

Singh, V., Pandey, P.C. and Jain, D.K. Angiosperms, 2005, Rastogi Pub., Meerut.

PAPER II: ANATOMY OF ANGIOSPERMS, ECONOMIC BOTANY AND ETHNOBOTANY

Unit I: Anatomy of Angiosperms: Concept of stem cell in plants. Root system; Root apical meristem; differentiation of primary and secondary tissues and their roles; structural modification for storage, respiration, reproduction and for interaction with microbes.

Unit II: Shoot system: The shoot apical meristem and its histological organization; vascularization of primary shoot in monocotyledons and dicotyledons; cambium and its functions; formation of secondary xylem, a general account of wood structure in relation to conduction of water and minerals; characteristics of growth rings, sapwood and heart wood; secondary phloem-structure, function relationship; Periderm.

Unit III: Abnormal secondary growth and Leaf: Abnormal secondary growth in stems due to abnormal origin and activity of cambium. Leaf: Internal structure in relation to photosynthesis and water loss; adaptations to water stress; senescence and abscission.

Unit IV: Economic Botany, Food plants: Rice, wheat, maize, potato, sugarcane. Fibers: Cotton and Jute. Vegetable oils: Groundnut, mustard and coconut, General account of sources of firewood, timber and bamboos. Beverages: Tea and coffee; Rubber.

Unit V: Spices and Condiments: General account. Medicinal plants with special reference to Rajasthan: *Aloe, Asparagus, Commiphora, Boswellia, Pedalium, Zyziphus, Haloxylon, Tribulus, Vitex, and Withania*. Ethnobotany: Introduction, Methods of Ethnobotanical studies, knowledge of aboriginals in Rajasthan.

Suggested Laboratory Exercises

Anatomy:

- (i) Types of simple and complex tissues: (Sunflower, Cucurbit stem)
- (ii) **Dicot stem:** *Sunflower, Cucurbit, Capparis, Nyctanthes, Bignonia, Leptadenia, Salvadoria, Boerhavia* and *Achyranthes*
- (iii) **Monocot stem:** *Maize/Triticum* and *Dracaena*
- (iv) **Dicot root:** *Tinospora*
- (v) **Monocot root:** *Maize*
- (vi) **Dicot leaf:** *Nerium* and *Ficus*
- (vii) **Monocot leaf:** *Maize*

ECONOMIC BOTANY: Food plants: Study of morphology and structure. Simple microchemicals tests of the food storing tissues in rice, wheat, maize, potato and sugarcane. Microscopic examination of starch in these plants (except sugarcane)

Fibers: Study of cotton fiber, tests for cellulose. Vegetable oils: study of hand sections of Groundnut, Mustard and Coconut and staining of oils droplets by Sudan III and Sudan Black

Field visits: To study sources of firewood (10 plants), timber-yielding trees (10 trees) and bamboos. A list to be prepared mentioning special features

Medicinal Plants & Spices: Black pepper, cloves, cardamom describe them in briefly. Study of 10 medicinal plants. Write their botanical and common names, parts used and diseases/disorders for which they are prescribed.

Beverages & Rubber: Coffee, Tea & Rubber

ETHNOBOTANY: Ethnobotanically important plants of Rajasthan (*Abrus*, *Leptidenia* and *Calotropis*)

Suggested Readings

Cutter, E.G. Plant Anatomy: Experiment and Interpretation, Part II. Organs, Edward Arnold, London, 1971.

Esau, K. Anatomy of Seed Plants, 2nd John Wiley & Sons, New York, 1977.

Fahn, A. Plant Anatomy. 2nd ed. Pergamon Press, Oxford, 1974.

Kocchar, S.L. Economic Botany in Tropics. 2nd ed. Mac-millan India Ltd., New Delhi, 1998.

Mauseth, J.D. Plant Anatomy, The Benjamin/Cummings Publ. Company Inc., Menlo Park, California, USA, 1988.

Sambamurthy, A.V.S.S. and Subramanyam, N.S. A Text book of Economic Botany, Wiley Eastern Ltd., New York, 1989.

Sharma, O.P. Hill's Economic Botany (Late Dr. A.F. Hill, Adapted by O.P. Sharma), Tata McGraw Hill Co., Ltd., New Delhi, 1996.

Simposon, B.B. and Conner-Ororzaly, M. Economic Botany Plants in Our World, McGraw Hill, New York, 1986.

PAPER III: CELL BIOLOGY, GENETICS, PLANT BREEDING AND EVOLUTION

Unit I: History of cell biology: Concept of cell and cell theory. Cell cycle and its regulation. Mitosis and meiosis. Structural and Molecular organization of cell. Structure and function of cell wall; plasmodesmata, plasma membrane; golgi complex, plastid, mitochondria, endoplasmic reticulum, peroxisomes, vacuoles and nucleus.

Unit II: Chromatin organization: Organization and structure of chromosomes. Concept of nucleosomes, chromatin remodeling. Types of chromosomes and determination of sex in plants. Chromosome alteration: Structural alteration; deletion, duplication, translocation, inversion; Numerical variation: aneuploidy and polyploidy. Molecular basis of mutation: Spontaneous and induced, brief account of DNA damage and repair. Introduction to epigenetics.

Unit III: Nature of inheritance; Laws of Mendelian inheritance and its exceptions. Crossing-over and linkage analysis. DNA the genetic material: Structure and replication, brief account of DNA-protein interaction. Definition of a gene-modern Concept of gene (Promoter, coding sequences, terminator). RNA polymerases and general transcription. Regulation of gene expression in prokaryotes and basics of gene regulation in eukaryotes.

Unit IV: Origin of Agriculture, Centers of origin of crop plants and centers of Diversity. Concepts of Centers and Non-center (Harlan Hypothesis) Principles of plant breeding- Domestication, Introduction, Selection, Clonal propagation,

Hybridization, Mutation breeding; Breeding work done on wheat; Green revolution; Assessment and Consequences; Biodiversity and Conservation of germplasm.

Unit V: Theories of Evolution: Catastrophism, The Lamark's theory, Darwin's theory, Evidences of organic evolution, mechanism of evolution. Origin of basic biomolecules evolution of prokaryotic and eukaryotic cell. and Origin of species. Population genetics: Allele and genotype frequency, Hardy- Weinberg principles.

Suggested Laboratory Exercises

CYTOLOGY

1. Study of cell structure from onion leaf peels
2. Comparative study of cell structure in onion cells and *Hydrilla*
3. Smear preparation of root tips for different stages in *Allium* root tip
4. Cytological examination special types of chromosomes (Slides)
5. Examination of electron micrographs of eukaryotic cells and cell organelles

GENETICS

1. Working out laws of inheritance using seed mixtures
2. Monohybrid, dihybrid and test crosses using seed samples

PLANT BREEDING

1. Demonstration of Emasculation techniques.

Suggested Readings

- Alberts, B., Bray, D. Lewis, J., Raff, M., Roberts, K. and Watson, I.D. *Molecular Biology of cell*. Garland publishing Co., New York, USA
- Chaudhary, H.K. *Elementary principles of plant Breeding*, Oxford & IBH Publishing New Delhi.
- Gupta, P.K. *A Textbook of cell and Molecular Biology*, Rastogi Publications, Meerut, 1999
- Gupta, P.K. *Cytology, Genetics, Evolution and plant Breeding*, Rastogi, Publication, Meerut, 2000.
- Lodish, H., Berk, A., Zipursky, S.L., Matsudaira, P., Baltimore, D. and Darnell, J. *Molecular Cell Biology*, W.H. Freeman & Co. New York, USA
- Miglani, G.S. *Advanced Genetics*, Narosa publishing Co., Inc., USA
- Russel, P.J. *Genetics*. The Benjamin/ Cummings Publishing Co., Inc., USA
- Shukla, R.S. and Chandel, P.S. *Cytogenetics, Evolution and Plant Breeding*, S.Chand&Co.Ltd., New Delhi
- Singh B.D. *Textbook of plant Breeding*. Kalyani publishers, Ludhiana, 1999
- Sinha, U. and Sinha, S. *Cytogenetics, Plant Breeding and Evolution*, Vikas Publishing House, New Delhi, 1997
- Sunstand, D.P. and Simmons, M.J. *Principles of Genetics*, John Wiley & Sons Inc., USA 2000

**Practical Examination Scheme
B.Sc. Botany Part II**

Time: 5 hours

Max. Marks 75

Min. Pass Marks 27

| | | Regular | Ex- student |
|-----|---|-----------|----------------|
| Q.1 | (a) Describe the given flower in semi-technical language with floral diagram and floral formula, mentioning special feature of identification. Cut a T.S. of anther/ovary/ovule of the same flower and describe from embryological point of view. Material 'A' | 10 | 12 |
| | (b) Prepare a temporary Slid of Given Gynoecium / Androecium / Embryo material. Draw a Labeled Diagram and comment on it Embryological point of view. Material 'B' | 4 | 4 |
| Q.2 | Cut a T.S./V.S. of given stem/root/leaf and make a double stained preparation of the same. Draw a labeled diagram (outline & cellular), identify with special features. Material 'C' | 14 | 16 |
| Q.3 | Prepare a suitable smear preparation of the given plant material to observe mitosis. Draw a labeled diagram of any two visible stages. Submit the smear for evaluation. Material 'D' | 14 | 16 |
| Q.4 | Spots (Three from each paper) | 27 | 27 |
| Q.5 | Practical records | 06 | - |
| | Total | 75 | 75 |

**B.Sc. Part – III
BOTANY 2019**

Theory

| Course | Nomenclature | Number of Papers | Number of Periods per week | Maximum marks | Minimum marks |
|------------------|---|------------------|----------------------------|---------------|---------------|
| Paper I | Ecology and Environmental Biology | 1 | 2 | 50 | 54 |
| Paper II | Plant Physiology and Biochemistry | 1 | 2 | 50 | |
| Paper III | Plant Biotechnology and Molecular Biology | 1 | 2 | 50 | |
| PRACTICAL COURSE | | | 6 | 75 | 27 |

Duration of examination of each theory papers 3 hours

Duration of examination of practicals 5 hours

PAPER I: ECOLOGY AND ENVIRONMENTAL BIOLOGY

Unit I: Plants and Environment: Atmosphere (gaseous composition), water (properties of water cycle), light (global radiation, photosynthetically active radiation), temperature, soil (development, soil profiles, physico-chemical properties) and biota.

Morphological, anatomical and physiological responses of plants to water (hydrophytes and xerophytes) temperature (thermoperiodicity and vernalization), light (photoperiodism, heliophytes and sciophytes) and salinity

Unit II: Population ecology: Concept and characters, growth curves, biotic potential, ecotypes and ecads. Seed: The significance, suspended animation; ecological adaptation and dispersal strategies

Community ecology and Succession: Community characteristics, frequency, density, cover, life forms and biological spectrum. Succession: concept, classification and examples (hydrosere&xerosere)

Unit III: Ecosystems and Productivity: Ecosystem — Structure, abiotic & biotic components, food chain, food web, ecological pyramids, energy flow, biogeochemical cycles of carbon, nitrogen, phosphorus and Sulphur.

Productivity: Primary productivity, its measurements and factors affecting primary productivity

Unit IV: Environmental Biology of Indian Desert: Climate, vegetation types, adaptive strategies of desert plants. Desertification: meanings, causes, critical issues & driving

forces. Agroforestry and its impact on desert agriculture. Desert biodiversity, Geomorphology, natural resources exploitation and their impact on desert environment

Unit V: Pollution Ecology: Definitions, classification, air, water and land pollution. Concepts of Industrial Ecology in pollution management. Global warming: Concepts and Current status.

Phytogeography: Vegetation types of India — Forest and Grasslands. Biogeographical regions of India, Remote sensing: The basics and applications in ecological studies

Suggested Laboratory Exercises

1. To determine minimum number of quadrats required for reliable estimation of biomass in herbaceous vegetation
2. To study the frequency of herbaceous species and to compare the frequency distribution with Raunkaier's Standard frequency diagram
3. To estimate Importance Value Index for herbaceous vegetation on the basis of relative frequency, relative density and relative biomass in protected and Gochar land
4. To measure the vegetation cover of grassland through point frame
5. To measure the above ground plant biomass in a natural field
6. To determine diversity indices (richness Simpson, Shannon-Weaver) in natural fields
7. To estimate bulk density and porosity of soil samples
8. To determine moisture contents, water holding capacity and texture of soil samples
9. To estimate qualitatively nitrate, phosphate and potassium in soil samples
10. To study the vegetation structure through profile diagram
11. To estimate transparency and pH of different water bodies
12. To measure dissolved oxygen content in polluted and unpolluted water samples
13. To estimate salinity, hardness, carbonates and bicarbonate in different water samples
14. To determine the percent leaf area injury of different leaf samples collected around polluted site
15. To estimate dust holding capacity of the leaves of different plant species
16. Plant adaptive modifications: Specimens/Slides:
 - i) Succulents: *Opuntia*, *Euphorbia*
 - ii) Salt secretion: *Atriplex*, *Chloris*
 - iii) Salt accumulation: *Suaeda*, *Salsola*, *Zygophyllum*
 - iv) Xerophytes: *Calligonum*, *Capparis*, *Leptadenia*, *Parkinsonia*
 - v) Hydrophytes: *Eichhornia*, *Nymphaea*, *Hydrilla*

Suggested Readings

Dash, M.C. Fundamental of Ecology, Tata McGraw Hill Publishing Co. Ltd., New Delhi, 1996
Kormondy, E.J. Concepts of Ecology, Prentice – Hall of India Pvt., New Delhi, 1996
Kumar, H.D. General Ecology, Vikash Publishing House Pvt. New Delhi, 1995
Mukherjee, B. Environmental Biology, Tata McGraw Hill Publishing Co. Ltd., New Delhi, 1997
Odum, E.P. Basic Ecology, Saunders, Philadelphia, 1983
Sen, D.N. Environment and Plant Life in Indian Desert, Geobios International, Jodhpur, 1982
Sharma, P.D. Ecology and Environment, Rastogi Publications, Meerut 2002

PAPER – II
PLANT PHYSIOLOGY AND BIOCHEMISTRY

Unit 1: Plant-water relations: Importance of water to plant life; physical properties of water; diffusion and osmosis; absorption, transport of water and transpiration; physiology of stomata. Mineral nutrition: Essential macro- and micro-elements and their role, mineral uptake; deficiency and toxicity symptoms. Introduction to phloem transport; source-sink relationship; factors affecting translocation

Unit 2: Photosynthesis: Significance; historical aspects; photosynthetic pigments; action spectra and enhancement effects; concept of two photosystems; Z-scheme; photophosphorylation; Calvin cycle; C4 pathway; CAM plants; photorespiration. Rubisco enzyme.

Unit 3: Respiration: Aerobic and anaerobic respiration; Krebs' cycle; electron transport mechanism (chemi – osmotic theory); redox potential; oxidative phosphorylation pentose phosphate pathway. Basics of enzymology: Discovery and nomenclature; characteristics of enzymes; concept of holoenzyme, apoenzyme, coenzyme and cofactors; regulation of enzyme activity; mechanism of action, Protein structures

Unit 4: Nitrogen and lipid metabolism: Biological Nitrogen fixation. Importance of nitrate reductase and its regulation; ammonium assimilation. Structure and function of lipids; fatty acid biosynthesis; β -oxidation; storage and mobilization of fatty acids

Unit 5: Growth and development: Definitions; phases of growth and development. Brief account on seed dormancy, seed germination and senescence. Photoperiodism, physiology of flowering; florigen concept, biological clock, vernalization. Plant Hormones-auxins, gibberellins, cytokinins, abscisic acid and ethylene, history of their discovery, Physiological role and general mode of actions. Photomorphogenesis; Brief account on phytochromes and cryptochromes.

Suggested Laboratory Exercises

1. To study the permeability of plasma membrane using different concentrations of organic solvents
2. To study the effect of temperature on permeability of plasma membrane
3. To prepare the standard curve of protein and determine the protein content in unknown samples
4. To study the enzyme activity of catalase and peroxidase as influenced by pH and temperature
5. Comparison of the rate of respiration of various plant parts
6. Separation of chloroplast pigments by solvent method
7. Determining the osmotic potential of *vacuolar sap* by plasmolytic method
8. Determining the water potential of *any tuber*
9. Separation of amino acids in a mixture by paper chromatography and their identification by comparison with standards
10. Bioassay of auxin, cytokinin, GA, ABA and ethylene using appropriate plant material

11. To study the regulation of stomatal movement using growth regulators, KCI and anti-transpirants

Suggested Readings

- Dennis, D.T., Turpin, D.H., Lefebvre, D.D. and Layzell (eds.). Plant Metabolism (2nd ed.), Longman, Essex, England, 1997
- Galston, A.W. Life processes in Plants, Scientific American Library, Springer-Verlag, New York, USA, 1989
- Hopkins, W.G. Introduction to plant physiology, John Wiley & Sons, Inc., New York, USA, 1995
- Lea, P.J. and Leegood, R.C. Plant Biochemistry and Molecular Biology, John Wiley & Sons, Chichester, England, 1999
- Mohr, H. and Schopfer, P. Plant Physiology, Springer-Verlag, Berlin, Germany, 1995
- Salisbury, F.B. and Ross, C.W. Plant Physiology (4th ed.), Wadsworth Publishing Co., California, USA, 1992
- Srivastava, H.S. Plant Physiology, Rastogi Publication, Meerut, 2001
- Taiz, L. and Zeiger, E. Plant Physiology (2nd ed.), SinauerAssociats, Inc. Publishers, Massachusetts, USA, 1998

Suggested Readings

(for Laboratory Exercises)

- Amar Singh. Practical Plant Physiology, Kalyani Publishers, New Delhi, 1977
- Moore, T.C. Research Experiences in Plant Physiology: A Laboratory Manual, Springer-Verlag, Berlin, 1974
- Nifa, A.J. and Ballou, D.P. Fundamental Laboratory Approaches for Biochemistry and Biotechnology, Fitzrerald Science Press, Inc., Maryland, USA, 1998
- Robalts and Tucker, G.A. (Eds.) Plant Hormone Protocols, Humana Press, New Jersey, USA, 2000
- Scot, R.P.W. Techniques and Practice of Chromatography Marcel Dekker, Inc., New York, 1995
- Wilson, K. and Goulding, K.H. A Biologists Guide to principles and techniques of Practical Biochemistry, Ed-ward Arnold, London, 1986

PAPER-III

PLANT BIOTECHNOLOGY AND MOLECULAR BIOLOGY

- Unit 1:** Cell theory and concept of totipotency and pluripotency. History of plant tissue culture and biotechnology. Basic tools and techniques of Plant tissue culture and molecular biology: General introduction about applications of biotechnology, bioinformatics and Nano Biotechnology.
- Unit 2:** Introduction to Bacterial Genome organization Genetic recombination in bacteria. Introduction to vectors for gene cloning: p-BR322, Cosmids, Phagemids and BAC. c-DNA libraries. Detection and screening of recombinant DNA.
- Unit 3:** Concepts of organogenesis-somatic embryogenesis and androgenesis. Somaclonal variations and its applications. Protoplast isolation, fusion and somatic hybridization. Cryopreservation of germplasm. Introduction to bioreactors and production of secondary metabolites with special reference to alkaloids obtained from *Ephedra*, shikonin, diosgenin and Strategies used to optimize secondary metabolite production.
- Unit-4:** Genetic engineering of plants: *Agrobacterium* mediated gene transfer, t-DNA transfer mechanism integration and expression in plants. Direct method of gene transfer in plants: Chemical methods electroporation, particle gun delivery, lipofection, microinjection, macroinjection, pollen transformation, laser induced and silicon fiber mediated. Reporter (Luciferase, GUS and GFP) and marker genes.
- Unit-5:** Biotechnology and society: Development of transgenic crop plants against biotic and abiotic stresses. Genetically modified crops: Golden rice, Bt cotton (as a model system). Intellectual Property Right (IPR) and Plant Breeder's Rights (PBR) in current regime of WTO. Impact of GM crops on society and environment.

SUGGESTED LABORATORY EXERCISES

1. Surface sterilization and aseptic inoculation of suitable explants for activation of axillary shoot bud/induction of cell or callus culture (haploid or somatic cell)
2. Plant (Cauliflower/Onion) DNA extraction by Rapid Method

Suggested Readings

- Bhojwani, S.S. Plant Tissue Culture: Application and Limitation, Elsevier Science Publishers, New York, USA, 1990
- Old, R.W. and Primrose, S.B. Principles of Gene Manipulation, Black well Scientific Publications, Oxford, U.K., 1986
- Raghavan, O. Embryogenesis in Angiosperms: A Developmental and Experimental Study, Cambridge University, Press, New York, USA, 1986
- Vasil, I.K. and Thorpe, T.A. Plant Cell and Tissue Culture, Kluwer Academic Publishers, The Netherlands, 1994

Suggested Readings

(for Laboratory Exercises)

Ball, R.D. (ed.) Plant Cell Culture Protocols, Humana Press, Inc. New Jersey, USA, 1999

Dixon, R.A. (ed.) Plant Cell culture: a Practical Approach, IRL, Press Oxford, 1987

Glick, B.R. and Thompson, J.E. Methods in Plant Molecular Biology and Biotechnology, CRC Press, Boca Raton, Florida, 1993

Roberts, J. and Tucker, G.A. (eds.) Plant Hormone Protocols Humana Press, New Jersey, USA 2000.

Practical Examination Scheme B.Sc. Botany Part III

Duration: 5 h

| | | Regular Students | Ex- Students |
|----|---|---------------------|-----------------|
| Q1 | Perform the ecological experiments allotted to you by lots and report the results in suitable form. | 10 | 11 |
| | A. Major Experiment | 04 | 05 |
| | B. Minor Experiment | | |
| Q2 | Perform the physiological experiments allotted to you by lots and report the results in suitable form. | 10 | 11 |
| | A. Major Experiment | 04 | 05 |
| | B. Minor Experiment | | |
| Q3 | Perform Molecular Biology (DNA extraction) and Plant Biotechnology (surface sterilization and aseptic inoculation of explants) exercise and report results in suitable form | | |
| | A. Major Exercise | 09 | 11 |
| | B. Minor Exercise | 05 | 05 |
| Q4 | Spots (Two from each paper) | 18 | 18 |
| Q5 | Viva voce | 07 | 09 |
| Q6 | Records | 08 | - |
| | Total | <u>75</u> | <u>75</u> |

B.Sc. FIRST YEAR-2020

PAPER - I

Paper I CH-101 Inorganic Chemistry

UNIT: I

Chemical Bonding-Covalent bond

Valence bond theory and its limitation, Directional characteristics of covalent bond, Hybridizations- sp , sp^2 , sp^3 , dsp^2 , sp^3d , dsp^3 , sp^3d^2 and d^2sp^3 with suitable examples. Shapes of inorganic molecules and ions. Valence shell electron pair repulsion (VSEPR) theory and its application to study the geometry of NH_3 , H_2O , H_3O^+ , SF_4 , ICl_2^- , ClF_3 , ICl_4^- , XeF_4 , XeF_6 , molecules. Molecular orbital theory and molecular orbital diagrams for homo and heterodiatomic molecules- H_2 , H_2^+ , He_2^+ , HHe^+ , Li_2 , Be_2 , B_2 , C_2 , N_2 , O_2 , F_2 , O_2^+ , O_2^- , O_2^{2-} , O_2^{2+} , CO and NO . Bonding in diborane (3c-2e bonding).

UNIT: II

Chemical Bonding- Ionic Bond

Lattice energy and Born-Haber cycle. Solvation energy, solubility of ionic solids, Fajan's rule, polarizing power and polarizability of ions. Structures of ionic solids, radius ratio effect and co-ordination number. Limitations of radius ratio rule. Hydrogen bonding and vander-waal's forces of attractions.

UNIT: III

s-Block elements

Periodicity in properties of alkali and alkaline earth metals. Complexation tendency, Solvation tendency, stability and solubilities of carbonates, bicarbonates and sulphates of Magnesium and Calcium, Synthesis and applications of important hydrides: NaH , $NaBH_4$, LiH , $LiBH_4$, $LiAlH_4$ and CaH_2 .

Cement: Composition and types of Cement, Manufacture of Portland cement.

Lime: Industrial preparation, Properties and Uses.

UNIT: IV

p-Block elements

Periodicity in properties of III A, IV A, V A, VI A and VII A group elements.

Silicates, oxides of nitrogen, phosphorous and sulphur- their structure and preparations.

Glass: Types and properties of glasses, coloring agents, Industrial manufacturing of glass.

Nitrogen fixation- Natural and Artificial fixation. Role of nitrogenase in biological nitrogen fixation.

UNIT: V

Qualitative Analysis

Theoretical basis of qualitative analysis, Systematic analysis of Acidic and Basic radicals (including interfering radicals). Chemical reactions involved.

Common- ion effect, solubility product & their applications. Oxidizing and reducing agents and buffers used in analysis.

Books Recommended:

1. Inorganic Chemistry by Satya Prakash
2. Inorganic Chemistry by R.C. Agarwal
3. Inorganic Chemistry by B.R. Puri and L.R. Sharma
4. Inorganic Chemistry by P.L. Soni
5. Inorganic Chemistry by G.C. Shivhare and V.P. Lavania
6. Practical Chemistry by Giri, Bajpai and Pandey

PAPER-II

CH-102 Organic Chemistry

UNIT: I

Mechanism of Organic Reactions

Classification of organic compounds their general characteristics. Types of reagents – electrophiles and nucleophiles. Types of organic reactions. Reactive intermediates – carbocations, carbanions, free radicals, carbenes, arynes and nitrenes (with examples). Assigning formal charges on intermediates and other ionic species. Methods of determination of reactions mechanism (product analysis, intermediates, isotope effects, kinetic and stereochemical studies).

UNIT: II

Stereochemistry of Organic Compounds

Concept of isomerism. types of isomerism
Optical isomerism – elements of symmetry, molecular chirality, enantiomers, stereogenic center, optical activity, properties of enantiomers, chiral and achiral molecules with two stereogenic centers, diastereomers, threo and erythro diastereomers, meso compounds, resolution of enantiomers, inversion, retention and racemization. Relative and absolute configuration, sequence rules, D & L and R & S systems of nomenclature.

Geometric isomerism : Determination of configuration of geometric isomers. E & Z system of nomenclature, geometric isomerism in oximes and alicyclic compounds.

Conformational isomerism :Newman projection and Sawhorse formulae, Fischer and flying wedge formulae. Difference between configuration and conformation.

conformational analysis of ethane and n-butane; conformations of cyclohexane, axial and equatorial bonds, conformation of mono substituted cyclohexane derivatives.

UNIT: III

Alkanes , Cycloalkanes, Dienes and Alkynes

Mechanism of free radical halogenation of alkanes: orientation, reactivity and selectivity Cycloalkanes – nomenclature, methods of formation, chemical reactions, Baeyer's strain theory and its limitations. Ring strain in small rings (cyclopropane and cyclobutane), theory of strainless rings. The case of cyclopropane ring: banana bonds.

Nomenclature and classification of dienes: isolated, conjugated and cumulated dienes. Structure of allenes and butadiene, methods of formation, polymerization. Chemical reactions – 1, 2- and 1, 4- additions, Diels-Alder reaction.

Nomenclature, structure and bonding in alkynes. Methods of formation. Chemical reactions of alkynes, acidic nature of 1-alkynes. Mechanism of electrophilic and nucleophilic addition reactions, hydroboration-oxidation, oxidation and polymerization.

UNIT: IV

Arenes and Aromaticity

Nomenclature of benzene derivatives. Aryl group. Aromatic nucleus and side chain. Structure of benzene: molecular formula and Kekule structure. Stability and carbon-carbon bond lengths of benzene, resonance structure, MO picture.

Aromaticity: the Huckel rule, aromatic ions.

Aromatic electrophilic substitution – general pattern of the mechanism, role of σ - and π - complexes. Mechanism of nitration, halogenation, sulphonation, mercuration and Friedel-Crafts reaction. Energy profile diagrams. Activating and deactivating substituents, orientation and ortho/para ratio. Side chain reactions of benzene derivatives. Birch reduction.

Methods of formation and chemical reactions of alkylbenzenes, Structure, preparation and properties of naphthalene.

UNIT: V

Alkyl and Aryl Halides

Nomenclature and classes of alkyl halides, methods of formation, chemical reactions. Mechanisms of nucleophilic substitution reactions of alkyl halides, S_N2 and S_N1 reactions with energy profile diagrams. Mechanism of elimination reactions of alkyl halides, regioselectivity in dehydrohalogenation, Saytzeff rule.

Methods of formation of aryl halides, nuclear and side chain reactions. The addition-elimination and the elimination-addition mechanisms of nucleophilic aromatic substitution reactions.

.Relative reactivities of alkyl halides vs allyl, vinyl and aryl halides towards nucleophilic-substitution reactions. Synthesis and uses of DDT and BHC.

Books Recommended:

1. Advanced Organic Chemistry by Mukheri and Kapoor Vol. I & II
2. A Text Book of Organic Chemistry by M.K. Jain

3. A Text Book of Organic Chemistry by R.K. Bansal
4. Organic Chemistry, R.T. Morrison and R.N.Boyd, Prentice-Hall

B.Sc. I 2019

PAPER – III

CH-103 Physical Chemistry

UNIT: I

Mathematical Concepts

Logarithmic relations, curve sketching, linear graphs and calculation of slopes, differentiation of functions like a^x , e^x , x^n , $\sin x$, $\cos x$, $\tan x$, $\log x$; maxima and minima, partial differentiation. Integration of some useful functions; like x^n , $1/x$, e^x , constant, $\sin x$, $\cos x$, integration by parts. Permutations and combinations. Probability.

UNIT: II

Gaseous State

Deviation from ideal behavior, Vander Waals equation of state and its discussion.

Critical Phenomena: PV isotherms of real gases, continuity of states, relationship between critical constants and Vander Waals constants, the law of corresponding states, reduced equation of state.

Molecular velocities: Root mean square, average and most probable velocities (No derivation). Qualitative discussion of the Maxwell's distribution of molecular velocities, collision number, mean free path and collision diameter. Liquification of gases (based on Joule-Thomson effect). Numericals.

UNIT: III

Liquid and Colloidal State

Liquid State: Intermolecular forces, structure of liquids (a qualitative description).

Structural differences between solids, liquids and gases.

Liquid crystals: Classification-nematic, smectic and cholestric phases. Theory of liquid crystal (Swarm theory).

Colloidal State: Definition of colloids, classification of colloids.

Solids in liquids (sols): properties – kinetic, optical and electrical; stability of colloids, Hardy-Schulze law, protective action, Gold number.

Liquids in liquids (emulsions): types of emulsions, preparation, Emulsifier, Theory of Emulsion.

Liquids in solids (gels): classification, preparation and properties, imbibitions and syneresis. General applications of colloids.

UNIT: IV

Solutions

Types of liquid mixtures, ideal and non-ideal mixtures, vapour pressure of liquid mixtures, distillation of immiscible liquid mixtures. Partially miscible liquids-phenol-water, triethylamine-water, nicotine-water-systems, consolute temperature-lower and upper, Effect of impurity on consolute temperature-Phenol-water system, immiscible liquids, Principle and Methodology of steam distillation. Numericals

UNIT V

Chemical Kinetics

Rate, order, molecularity and stoichiometry of a reaction, Derivation of Integrated rate law and characteristics of zero, first and second order reactions, Pseudo-first order reaction, Determination of the order of reaction-differential method, method of integration(hit and trial method), half-life method and isolation method.

Theories of Reaction Rate: Simple collision theory and its limitations, transition state theory (equilibrium hypothesis) and derivation of the rate constant, Thermodynamical formulation of rate constant, Comparison of collision theory and transition state theory, Numericals.

Books Suggested:

1. The Elements of Physical Chemistry, P.W. Atkins, Oxford.
2. Physical Chemistry Through problems, S.K. Dogra and S. Dogra, Wile Eastern Ltd.
3. Principles of Physical Chemistry, B.R. Puri, L.R. Sharma and M.S. Pathania, Shobhan Lal Naginchand & Co.
4. Physical Chemistry, Bahl and Tuli, S. Chand & Co.(P) Ltd.
5. Physical Chemistry, Vol. I & II, S. Pahari, New Central Book Agency (P) Ltd.
6. Bhotic Rasayan, K.R. Genwa, RBD Jaipur

B. Sc. I Year (Practicals)

CH – 104 Laboratory Course I

1. Inorganic Chemistry:

[20]

Qualitative analysis of inorganic mixture containing 5-radicals (anions and cations), separation and identification of (group 0, I, II, III, IV, V and VI) and anions including interfering radicals and special combination of acidic radicals (CO_3^{2-} , SO_3^{2-} ; NO_3^- , NO_2^- ; NO_3^- , Br^- ; Cl^- , Br^- , I^- ; S^{2-} , SO_3^{2-} , SO_4^{2-})

2. Physical Chemistry:

[15]

(a) Viscosity:

(I) To determine the viscosity of the given organic liquid by Ostwald Viscometer

(II) To determine the % composition of a binary solution by Viscosity measurement.

(b) Surface Tension:

(I) To determine the surface tension of a given organic liquid by Stalagmometer.

(II) To determine the % composition of a binary solution by surface tension measurement.

3. Volumetric analysis

[15]

Redox Titrations:

(i) To determine the strength of given unknown copper sulphate solution iodometrically using starch as indicator.

(ii) To determine the strength of given unknown potassium dichromate solution iodometrically using starch as indicator.

4. Organic Models:

[5]

R and S configuration of optical isomers

E/Z configuration of geometrical isomers

Conformation isomerism of ethane and n-butane

Viva-Voce

[5]

Sessional/Record

[15]

Books Suggested (Laboratory Courses):

1. Practical Chemistry by S.Giri, D.N.Bajpai and O.P.Pandey
Publ. S. Chand

Examination & Marking Scheme

| Time: 5 hours | Max. Marks: 75 | Min. Pass Marks: 27 |
|----------------------|-----------------|---------------------|
| | Regular Student | Ex- Student |
| Inorganic Mixture | 20 | 20 |
| Volumetric Exercise | 15 | 15 |
| Physical Experiment | 15 | 15 |
| Organic Models | 05 | 05 |
| Viva- Voice | 05 | 05 |
| Sessional and Record | 15 | ---- |
| Total | 75 | 60* |

*To be converted out of 75

Inorganic qualitative mixture for 5 radicals: Correct Identification of group- 1 mark each, correct radical reporting- 2 marks each and proper reporting of observations- 1 marks.

1. **Volumetric Exercise:** An error up to 0.1% carries full marks. For each subsequent 0.1% error deduct 1 mark, 8 marks reserved for procedure.
2. **Physical Experiment:** Correct Observations- 6 mark, Calculation and Formula-5, Correct Result-4 marks.

B.Sc. II YEAR-2021

PAPER - I

CH-201 Inorganic Chemistry – II

UNIT I

Chemistry of Transition Elements

General Characteristics and Periodicity in properties with emphasis on their electronic configuration and multiple oxidation states of 3d, 4d and 5d series elements.

Colored ion formation, magnetic, catalytic properties and complex formation tendency in 3d series elements.

UNIT II

Coordination compounds

Werner's coordination theory and experimental verification, Effective Atomic Number concept, chelates, nomenclature of coordination compounds, stereoisomerism in complexes of coordination number 4 and 6. Complexometric titrations and theory of metallochrome indicators.

UNIT III

f-Block elements

Chemistry of Lanthanides: Electronic structure, oxidation state, ionic radii, colors, spectral and magnetic properties. Lanthanide contraction and its consequences.

Chemistry of actinides: General characteristics, comparative treatment of actinides and lanthanides with respect to ionic radii, oxidation states, Magnetic behavior and spectral properties.

UNIT IV

Concepts of acids and bases: Arrhenius, Brønsted-Lowry, Lewis and Usanovich concept. Acid base titrations, Theory of indicators, Redox titrations

Non aqueous solvents: Physical properties of solvent, types of solvents and their general characteristics. Reactions in non aqueous solvents with reference to liquid NH₃ and liquid SO₂

UNIT V

Quantitative analysis

Types of quantitative analysis: Gravimetric and volumetric analysis. Precipitation, Co-precipitation and Post precipitation.

Errors in chemical analysis: types of error and their minimization;
Accuracy, Precision, Standard Deviation.

Books Recommended:

1. Inorganic Chemistry by Satya Prakash
2. Inorganic Chemistry by B.R.Puri & L.R. Sharma
3. Inorganic Chemistry by Sangeeta Loonkar , Ramesh Book Depot, Jaipur

PAPER - II

CH-202 Organic Chemistry

UNIT : I

Electromagnetic Spectrum : Absorption Spectra

Ultraviolet (UV) absorption spectroscopy – absorption laws (Beer-Lambert law), molar absorptivity, presentation and analysis of UV spectra, types of electronic transitions, effect of conjugation. Concept of chromophore and auxochrome. Bathochromic, hypsochromic, hyperchromic and hypochromic shifts. UV spectra of conjugated enes and enones. UV applications including identification of groups

UNIT : II

Alcohols

Classification and nomenclature.

Monohydric alcohols – nomenclature, methods of formation by reduction of aldehydes, ketones, carboxylic acids and esters. Hydrogen bonding. Acidic nature. Reactions of alcohols.

Dihydric alcohols – nomenclature, methods of formation, chemical reactions of vicinal glycols, oxidative cleavage [Pb(OAc)₄ and HIO₄] and pinacol-pinacolone rearrangement.

Trihydric alcohols – nomenclature and methods of formation, chemical reactions of glycerol.

Phenols

Nomenclature, structure and bonding. Preparation of phenols, physical properties and acidic character. Comparative acidic strengths of alcohols and phenols, resonance stabilization of phenoxide ion. Reactions of phenols – electrophilic aromatic substitution, acylation and carboxylation. Mechanisms of Fries rearrangement, Claisen rearrangement, Gatterman synthesis, Hauben-Hoesch reaction, Lederer-Manasse reaction and Reimer-Tiemann reaction.

UNIT : III

Aldehydes and Ketones

Nomenclature and structure of the carbonyl group. Synthesis of aldehydes and ketones with particular reference to the synthesis of aldehydes from acid chlorides, synthesis of aldehydes and ketones using 1,3-dithianes, synthesis of ketones from nitriles and from carboxylic acids. Physical properties. Mechanism of nucleophilic additions to carbonyl group with particular emphasis on benzoin, aldol, Perkin and Knoevenagel condensations. Condensation with ammonia and its derivatives. Wittig reaction. Mannich reaction. Use of acetals as protecting group. Oxidation and reduction of aldehydes and ketones, Baeyer-Villiger oxidation, Cannizzaro reaction. MPV, Clemmensen, Wolff-Kishner, LiAlH_4 and NaBH_4 .

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UNIT : IV

Carboxylic Acid

Nomenclature, structure and bonding, physical properties, acidity of carboxylic acids, effects of substituents on acid strength. Preparation of carboxylic acids. Reactions of carboxylic acids. Hell-Volhard-Zelinsky reaction. Reduction of carboxylic acids. Mechanism of decarboxylation, esterification and hydrolysis of esters (acidic and basic). Reactive methylene compounds: malonic ester and acetoacetic ester – preparation and synthetic applications. Mechanism of Claisen condensation

Ethers and Epoxides

Nomenclature of ethers and methods of their formation, physical properties. Chemical reactions – cleavage and autoxidation, Ziesel's method for methoxy group.

Synthesis of epoxides. Acid and base-catalyzed ring opening of epoxides, orientation of epoxide, reactions of Grignard and organolithium reagents with epoxides.

UNIT : V.

Organic Compounds of Nitrogen

Preparation of nitroalkanes and nitroarenes. Chemical reactions of nitroalkanes. Mechanisms of nucleophilic substitution in nitroarenes and their reductions in acidic, neutral and alkaline media. Picric acid. Alkyl and Aryl amines : Reactivity, structure and nomenclature of amines, physical properties. Stereochemistry of amines. Separation of a mixture of primary, secondary and tertiary amines. Structural features effecting basic nature of amines. Amine salts as phase-transfer catalysts. Preparation of alkyl and aryl amines (reduction of nitro compounds, nitriles), reductive amination of aldehydic and ketonic compounds. Gabriel-phthalimide reaction, Hofmann bromamide reaction. Reactions of amines, electrophilic aromatic substitution in aryl amines, reactions of amines with nitrous acid. Synthetic transformations of aryl diazonium salts, azo coupling.

Books Recommended:

1. Advanced Organic Chemistry by Mukherji, Singh & Kapoor
2. Organic Chemistry by Bahal and Bahal
3. Advanced Organic Chemistry by Morrison & Boyd
4. Carbanic Rasayan By K.M Gangotri RBD

PAPER - III

CH-203 Physical Chemistry

UNIT I

Thermodynamics – I

First Law of Thermodynamics: statement, definition of internal energy and enthalpy. Joule-Thomson Effect, Joule – Thomson coefficient and inversion temperature. Calculation of w , q , dU & dH for the expansion of ideal gases under isothermal and adiabatic conditions for reversible process. Second Law of Thermodynamics: need for the law, different statements of the law. Carnot cycle and its efficiency, Carnot theorem. Numericals.

UNIT II

Thermodynamics – II

Entropy: Concept of Entropy, entropy as a state function, entropy as a function of V & T , entropy as a function of P & T , entropy change in physical change, Clausius inequality, entropy as a criteria of spontaneity and equilibrium. Entropy change in ideal gases and mixing of gases. Gibbs and Helmholtz function as thermodynamic quantities, Gibbs – Helmholtz equation. Equilibrium constant and free energy. Reaction isotherm and reaction isochore. Clapeyron equation and Clausius – Clapeyron equation, applications. Third law of thermodynamics: Nernst heat theorem, Statement of third law and evaluation of absolute entropy from heat capacity data. Numericals.

UNIT III

Phase Equilibrium

Statement and meaning of the terms – phase, component and degree of freedom, Gibbs phase rule, phase equilibria of one component system – water and sulphur systems.

Phase equilibria of two-component system: simple eutectic systems,– Pb-Ag system, desilverisation of lead.

Two Component Systems– compound formation with congruent melting point (Mg-Zn) and incongruent melting point, (FeCl₃-H₂O)system. Freezing mixtures.

Nernst distribution law, deviations from Nernst Law, applications to study of complex ion and solvent extraction.

UNIT IV

Electrochemistry – I

Conductance, Specific conductance and equivalent conductance. Activity, activity coefficient and ionic strength. Debye-Huckel-Onsager's equation for strong electrolytes (elementary treatment only). Transport number, definition and determination by Hittorf method and moving boundary method.

Applications of conductivity measurements: determination of degree of dissociation, determination of K_a of acids, determination of solubility product of a sparingly soluble salt, Conductometric titrations and their types.

B.Sc. 12019

UNIT V

Electrochemistry – II.

Nernst equation, derivation of cell E.M.F. and single electrode potential, standard hydrogen electrode, reference electrodes, standard electrode potential, sign conventions. Electrolytic and Galvanic cells – reversible and irreversible cells, conventional representation of electrochemical cells. EMF of a cell and its measurements. Computation of cell EMF. Calculation of thermodynamic quantities of cell reactions (ΔG , ΔH and K). Concentration cell with and without transport (mathematical treatment), liquid junction potential, application of concentration cells, valency of ions, solubility product and activity coefficient. Potentiometric titrations, Determination of pH using hydrogen, quinhydrone and glass electrodes. Numericals.

Books Suggested:

1. The Elements of Physical Chemistry, P.W. Atkins, Oxford.
2. Physical Chemistry Through problems, S.K. Dogra and S. Dogra, Wiley Eastern Ltd.
3. Principles of Physical Chemistry, B.R. Puri, L.R. Sharma and M.S. Pathania, Shobhan Lal Naginchand & Co.
4. Physical Chemistry By K.R. Genwa RBD
5. Physical Chemistry, Bahal & Tuli, S. Chand & Co. Ltd.
6. Physical Chemistry, R.C. Saraswat and A.K. Goswami, RamPrasad & Sons.

CH-204 Laboratory Course – II

Inorganic Chemistry:

[20]

Gravimetric analysis (by using Silica / Sintered Crucible)

- (i) To estimate Barium as barium sulphate.
- (ii) To estimate copper as cupric oxide/ copper (I) thiocyanate.
- (iii) To estimate Zinc as Zinc oxide.

Organic Chemistry:

[20]

- (i) Calibration of Thermometer: - The following compounds may be used for the calibration purpose 800-820 (Naphthalene), 113.50-1140 (Acetanilide), 132.50-1330 (Urea) and 1220 (Benzoic acid).
- (ii) Qualitative Analysis: - Identification of organic compounds (one liquid one solid) through the functional group analysis (containing only one functional group).

Physical Chemistry:

[15]

Chemical Kinetics:

- (i) To study the hydrolysis of an ester catalyzed by an acid and determine the rate constant and order of reaction.
- (ii) To study saponification of ester and determine the rate constant and order of reaction.
- (iii) To study the reaction b/w acetone and iodine with respect to iodine and determine the rate and order of reaction.

Viva

[5]

Record

[15]

Books Suggested (Laboratory Courses):

1. Experimental Organic Chemistry Vol I & II, P.R. Singh, D.S. Gupta and K.S. Bajpai, Tata McGraw Hill.
2. Practical Chemistry, S.Giri, D.N.Bajpai and O.P.Pandey Publ. S. Chand
3. Laboratory Manual in Organic Chemistry, R.K. Bansal, Wiley Eastern.
4. Experiments in General Chemistry, C.N.R. Rao and U.C. Agarwal, East-West Press.
5. Advanced Practical Physical Chemistry, J.B. Yadav, Goel Publishing House.
6. Advanced Experimental Chemistry, Vol. I-Physical, J.N. Gurtu and R. Kapoor, S. Chand & Co.
7. Selected Experiments in Physical Chemistry, N.G. Mukherjee, J.N. Ghose & Sons.

Examination & Marking Scheme

Time: 5 hours

Max. Marks: 75 Min. Pass

Marks: 27

| | Regular Student | Ex Student |
|------------------------------|--------------------|---------------|
| Gravimetric Exercise | 20 | 20 |
| Qualitative Organic Analysis | 20 | 20 |
| Physical Experiment | 15 | 15 |
| Viva- Voice | 5 | 5 |
| Sessional and Record | 15 | ... |
| | ----- | ----- |
| Total | 75 | 60* |

*To be converted

out of 75

Gravimetric Exercise- An error up to 0.5% carries full marks. For each subsequent 0.1% error deduct 1 mark, 8 marks reserved for procedure.

Qualitative Organic Analysis: Two organic compounds (one solid and one liquid) 2 mark each for correct identification of functional group, 2 marks each for element detection, 4 marks each for identification and 2 mark each for systematic work and proper record.

Physical Experiment: Observations- 6 mark, Calculation and Formula- 5, Result-4 marks.

B.Sc. 12020

B.Sc. III YEAR-2022

PAPER - I

CH – 301 Inorganic Chemistry – III

UNIT I

Metal-Ligand bonding in transition metal complexes:

Valence bond theory of complexes and its limitation, Crystal field theory, Crystal field splitting of energy levels in octahedral, tetrahedral and square planer complexes, crystal-field stabilization energy of octahedral complexes (Calculation Only).

UNIT II

Hard and soft Acid Base Concept (HSAB): Classification of acid and base as hard and soft. Pearson's HSAB concept and its application.

Magnetic properties of transition metal complexes: Types of magnetic behaviour, magnetic properties of metal complexes, spin only formula, methods of determining magnetic moment and magnetic susceptibility.

UNIT III

Stability of metal complexes: A brief outline of thermodynamic stability of metal complexes and factors affecting the stability. Kinetic stability, labile and inert complexes, colour of transition metal complexes, effective atomic number (EAN), pi acceptor ligands, experimental determination of stability constant and composition of complex (Job's Method and Bjerrum's Method).

UNIT IV

Organometallic Chemistry: Definition, nomenclature and classification of organometallic compounds, bonding, preparation, properties and application of organometallic compounds of Li, Al, Hg and Sn (alkyls and aryl).

Bioinorganic Chemistry: Essential and trace elements in biological processes, Biological role of alkali (Na, K, Li) and alkaline earth (Mg, Ca) metals.

UNIT V

Basic principles of Metallurgy and metallurgical processes.

Metallurgy of Copper, Zinc, Platinum and Uranium from their main ores.

Books Recommended:

1. Inorganic Chemistry Part I and part II by N.C.Sogani, M.L.Sharma, G.K.Rastogi
2. Inorganic Chemistry by G.C.Shivhare, V.P.Lawania
3. Text Book of Inorganic Chemistry by P.L.Soni
4. Text Book of Inorganic Chemistry by Satya Prakash, Tuli & Madan

PAPER – II

CH-302 Organic Chemistry

UNIT : I.

Spectroscopy

Nuclear magnetic resonance (NMR) spectroscopy.

Proton magnetic resonance (^1H PMR) spectroscopy, nuclear shielding and deshielding, chemical shift and molecular structure, spin-spin splitting and coupling constants, areas of signals, interpretation of PMR spectra of simple organic molecules such as ethyl bromide, acetaldehyde, 1,1,2-tribromoethane, ethyl acetate, toluene and acetophenone.

UNIT : II

Heterocyclic Compounds

Introduction: Molecular orbital picture and aromatic characteristics of pyrrole, furan, thiophene and pyridine. Methods of synthesis and chemical reactions with particular emphasis on the mechanism of electrophilic substitution. Mechanism of nucleophilic substitution reactions in pyridine derivatives. Comparison of basic nature of pyridine, piperidine and pyrrole.

Introduction to condensed five and six – membered heterocycles. Preparation and reactions of indole, quinoline and isoquinoline with special reference to Fisher indole synthesis, Skraup synthesis and Bischler-Napieralski synthesis. Mechanism of electrophilic substitution reactions of indole, quinoline and isoquinoline.

UNIT : III.

Carbohydrates

Classification and nomenclature. Monosaccharides, interconversion of glucose and fructose, chain lengthening and chain shortening of aldoses. Configuration of monosaccharides. Erythro and threo diastereomers. Conversion of glucose into mannose. , mechanism of osazone formation, Formation of glycosides, ethers and esters. Cyclic structure of D(+)-glucose. Determination of ring size of monosaccharides, Mechanism of mutarotation. Structures of ribose and deoxyribose.

An introduction to disaccharides (maltose, sucrose and lactose) and polysaccharides(starch and cellulose)without involving structure determination.

UNIT – IV.

Amino Acids, Peptides, Proteins and Nucleic Acids

Classification, structure and stereochemistry of amino acids; Acid-base behavior, isoelectric point, electrophoresis and separation of amino acids by chromatography.

Preparation and reactions of α -amino acids. Structure and nomenclature of peptides and proteins. Classification of proteins. selective hydrolysis of peptides. Classical

peptide synthesis, solid-phase peptide synthesis. Peptide structure determination, end group analysis, Structures of peptides and proteins. Levels of protein structure. Protein denaturation/renaturation.

Nucleic acids: introduction. Constituents of nucleic acids. Ribonucleosides and ribonucleotides. The double helical structure of DNA.

UNIT –V:

Fats, Oils, Detergents and Synthetic Polymers : Natural fats, edible and industrial oils of vegetable origin, common fatty acids, glycerides, hydrogenation of unsaturated oils. Saponification value, iodine value, acid value. Soaps, synthetic detergents, alkyl and aryl sulphonates. Addition or chain-growth polymerization. Free radical vinyl polymerization, ionic vinyl polymerization, Ziegler-Natta polymerization and vinyl polymers. Condensation or step growth polymerization. Polyesters, polyamides, phenol formaldehyde resins, urea formaldehyde resins, epoxy resins and polyurethanes

Books Recommended:

1. Advanced Organic Chemistry by Morrisom & Boyd
2. Organic Chemistry by Behal & Behal
3. Text Book of Organic Chemistry by M.K.Jain
4. Polymer Chemistry by P. Bahadur and N.V. shastri.

PAPER – III

CH-303 Physical Chemistry – III

UNIT I

Elementary Quantum Mechanics

Black-body radiation, Planck's radiation law, photoelectric effect. Compton effect, De Broglie hypothesis, the Heisenberg's uncertainty principle, Schrodinger wave equation and its importance, physical interpretation of wave function.

Adsorption: Difference between adsorption, absorption and sorption, Chemisorption, adsorbent and adsorbate, reversible and irreversible adsorption, characteristics of adsorption, adsorption of gases by solids, factors affecting adsorption, types of adsorption, types of adsorption isotherms, Freundlich and Langmuir adsorption isotherms. Numericals

UNIT II

Spectroscopy

Introduction: electromagnetic radiation, regions of the spectrum, Basic features of different Spectrometers, Born-Oppenheimer approximation, degrees of freedom.

Rotational Spectrum: Diatomic molecules, Energy levels of a rigid rotator (semi-classical principles), selection rules, spectral intensity, distribution using population distribution (Maxwell-Boltzmann distribution) determination of bond length, qualitative description of non-rigid rotator, isotope effect. Numericals.

UNIT III

Vibration and Raman Spectroscopy

Vibrational Spectrum: Infrared spectrum: Energy levels of simple harmonic oscillator, selection rules, pure vibrational spectrum, intensity, determination of force constant and qualitative relation of force constant and bond energies, effect of anharmonic motion and isotope on the spectrum.

Raman Spectroscopy: concept of polarizability, pure rotational and pure vibrational Raman spectra of diatomic molecules, selection rules. Numericals.

UNIT IV

Electronic Spectrum: Origin of electronic spectrum, Selection rules, vibrational course structure and rotational fine structures considering no interaction of rotational and vibrational energies. qualitative description of selection rules and Franck-Condon principle.

Photochemistry: Interaction of radiation with matter, difference between thermal and photochemical processes. Laws of photochemistry: Grothus – Drapper law, Stark – Einstein law, Jablonski diagram depicting various processes occurring in the excited state, qualitative description of fluorescence, phosphorescence, non-radiative processes (internal conversion, intersystem crossing), quantum yield, photosensitized reactions – energy transfer processes (simple examples). Numericals

UNIT V

Solid State

Crystal state, classification of crystals, space lattice, unit cell.

Laws of crystallography – (i) Law of constancy of interfacial angles (ii) Law of rationality of indices (iii) Law of symmetry. Symmetry elements in crystals.

X-ray diffraction by crystals. Derivation of Bragg equation. Determination of crystal structure of NaCl, KCl and CsCl (Laue's method and powder method). Numericals.

Books Suggested:

1. The Elements of Physical Chemistry, P.W. Atkins, Oxford.
2. Physical Chemistry Through problems, S.K. Dogra and S. Dogra, Wiley Eastern Ltd.
3. Principles of Physical Chemistry, B.R. Puri, L.R. Sharma and M.S. Pathania, Shobhan Lal Nagin Chand & Co.
4. Physical Chemistry by S.C.Ameta, A.V.Singh, R.Ameta, R.Mathur
5. Bhotic Rasayan, K.R. Genwa, RBD Jaipur

CH – 304 Laboratory Course – III

Inorganic Chemistry:

Preparations: [5]

Micro cosmic salt., Tetraammine copper(II) sulphate, Nickel ammonium sulphate, Sodium thiosulphate, Chrome Alum, Ferrous Sulphate, Ferrous Ammonium Sulphate

Organic Chemistry:

(a) **Qualitative Analysis:** - Analysis of an organic mixture is containing two solid components, using water, NaHCO_3 and NaOH for separation. [15]

(b) **Synthesis of organic compounds:-** [10]

(i) Acetylation of salicylic acid, aniline and p-nitroacetanilide.

(ii) Preparation of iodoform from ethanol and acetone.

(iii) Diazotization/Coupling of primary aromatic amines (aniline).

(iv) Preparation of methyl orange.

(c) **Thin Layer Chromatography** [10]

(i) Separation of dyes

(ii) Separation of green leaf (Spinach) pigments.

Physical Chemistry [15]

(a) **Colloids:** To determine precipitation value for the following sols and also verify Hardy's Schultz law (i) As_2S_3 Sol (ii) $\text{Fe}(\text{OH})_3$ Sol .

(b) **Distribution law:** To determine the partition coefficient of benzoic acid between water and benzene at R.T.

(c) **Adsorption:** To study the adsorption of acetic acid by activated charcoal and verify the Freundlich adsorption isotherm.

Viva [5]

Record [15]

Books Suggested (Laboratory Courses):

1. Practical Chemistry, S.Giri, D.N.Bajpai and O.P.Pandey Publ. S. Chand
2. Experimental Organic Chemistry Vol I & II, P.R. Singh, D.S. Gupta and K.S. Bajpai, Tata McGraw Hill.
3. Laboratory Manual in Organic Chemistry, R.K. Bansal, Wiley Eastern.
4. Vogel's Textbook of Practical Organic Chemistry, B.S. Furniss, A.J. Hannaford, V. Rogers, P.W.G. Smith and A.R. Tatchell, ELBS.
5. Experiments in General Chemistry, C.N.R. Rao and U.C. Agarwal, East-West Press.
6. Experiments in Physical Chemistry, R.C. Das and B. Behra, Tata McGraw Hill.
7. Advanced Practical Physical Chemistry, J.B. Yadav, Goel Publishing House.
8. Advanced Experimental Chemistry, Vol. I-Physical, J.N. Gurtu and R. Kapoor, S. Chand & Co.

Examination & Marking Scheme

Time: 5 hours

Max. Marks: 75

Min. Pass Marks: 27

| | Regular Student | Ex Student |
|-----------------------|-----------------|------------|
| Inorganic Preparation | 05 | 05 |
| Qualitative Analysis | 15 | 15 |
| Organic Synthesis | 10 | 10 |
| Chromatography | 10 | 10 |
| Physical Experiment | 15 | 15 |
| Viva- Voice | 5 | 5 |
| Sessional and Record | 15 | ... |
| | ----- | ----- |
| Total | 75 | 60* |

B.Sc. I 2019

B.Sc./B.A. Part I Examination 2020

TEACHING AND EXAMINATION SCHEME

| Subject/Paper | Period/Week | | Exam. Hours | Max Marks | Min.Pass Marks |
|--------------------|-------------|---|-------------|-----------|----------------|
| | L | P | | | |
| MATHEMATICS | | | | | |
| Paper I | 3 | - | 3 | 75 | } 81 |
| Paper II | 3 | - | 3 | 75 | |
| Paper III | 3 | - | 3 | 75 | |

B.Sc./B.A. Part I Examination 2020
Mathematics

Paper I : Algebra and Co-ordinate Geometry of Two Dimensions.
Paper II : Calculus
Paper III: Co-ordinate Geometry of three Dimensions and Vector Calculus.

Total Marks: 75

Time: 03:00 Hrs.

Paper I

Algebra and Co-ordinate Geometry of Two Dimensions

Note: Each theory paper is divided in three parts i.e. Section – A, Section – B and Section – C

Section A: Will consist of 10 compulsory questions. There will be two questions from each unit and answer of each question shall be limited up to 30 words. Each question will carry 2 marks.

Section B: Will consist of 10 questions. Each unit will be having two question; students will answer one question from each Unit. Answer of each question shall be limited up to 250 words. Each question will carry 5 marks.

Section C: Will consist of total 05 questions one from each unit. Students will answer any 03 questions and answer of each question shall be limited up to 500 words. Each question will carry 10 marks.

Unit1: The characteristic equation of a matrix, Eigen values and Eigen vectors, Cayley-Hamilton theorem and its usage in finding the inverse of a matrix. *Rank of Matrix*, Inequalities. Continued fractions.

Unit 2: Relations between the roots and coefficients of general polynomial equations in one variable, Symmetric functions of roots, Transformation of equations. Descarte's rule of signs. Solution of cubic equations (Cardon's method). Biquadratic equations (Ferrari's Method).

Unit 3: Infinite series. Convergent series, tests for convergence of a series, comparison test, D'Alembert's Ratio test, Cauchy's root test, Logarithmic Ratio Test. Raabe's test, De Morgen and Bertrand's test, Cauchy's condensation test, Gauss's test. Alternating series, Leibnitz test (Derivation of above tests not required).

Unit 4 : Polar equation of a conic, polar equations of tangent, normal, asymptotes, chord of contact, auxiliary circle, director circle of a conic and related problems.

Unit 5 : General equation of second degree. Tracing of conics (Cartesian coordinates).

SUGGESTED BOOKS

M. Ray : A Text Book of Higher Algebra, S.Chand & Co., New Delhi.

J.L. Bansal, S.L. Bhargva, & S.M. Agarwal : Algebra (Hindi Ed.), Jaipur Publishing House, Jaipur.

J.L. Bansal & S.L.Bhargava:2-D Coordinate Geometry (HindiEd)Jaipur Publishing House, Jaipur.

Sharma, C.L.Varshney : Coordinate Geometry, Pragati Prakashan, Meerut.

D.C. Gokhroo, S.R. Saini & J.P.N.Ojha : 2-D Geometry (Hindi Ed.), Navkar Publication, Ajmer.

Paper – II **Calculus**

Note: Each theory paper is divided in three parts i.e. Section – A, Section – B and Section – C

Section A: Will consist of 10 compulsory questions. There will be two questions from each unit and answer of each question shall be limited up to 30 words. Each question will carry 2 marks.

Section B: Will consist of 10 questions. Each unit will be having two question; students will answer one question from each Unit. Answer of each question shall be limited up to 250 words. Each question will carry 5 marks.

Section C: Will consist of total 05 questions one from each unit. Students will answer any 03 questions and answer of each question shall be limited up to 500 words. Each question will carry 10 marks.

Total Marks: 75

Time: 03:00 Hrs.

Unit 1: Polar Co-ordinates. Angle between radius vector and the tangent. Angle between curves in polar form. Length of polar subtangent and polar subnormal, Pedal equation of a curve, Derivatives of an arc, curvature, various formulae, Centre of curvature and chord of curvature and related problems.

Unit 2: Partial differentiation, Euler's theorem on homogeneous functions, chain rule of partial differentiation, Maxima and Minima of functions of two independent variables and of three variables connected by a relation, Lagrange's Method of undetermined multipliers.

Unit 3: Asymptotes, double points, curve tracing, Envelopes and evolutes.

Unit 4: Theory of Beta and Gamma functions. Rectification. Volume and Surfaces of solids of revolution. Differentiation and integration under the sign of integration.

Unit 5: Evaluation of double and triple integrals and their applications in finding areas and volumes. Dirichlet's integral. Change of order of integration and changing into polar co-ordinates.

SUGGESTED BOOKS

Gorakh Prasad: A Text Book of Differential Calculus; Pothishala Pvt.Ltd.Allahabad.

J.L.Bansal, S.L.Bhargava and S.M.Agarwal : A Text Book of Differential Calculus II (Hindi Ed.) and Integral Calculus, Vol. II (Hindi Ed.); Jaipur Publishing House, Jaipur.

D.C. Gokharoo & S.R. Saini : Differential Calculus (Hindi Ed.); Navkar Prakashan, Ajmer.

O.P.Tandon, and Sharma, K.C. : Integral Calculus; Jaipur Publishing House, Jaipur.

Gupta, Juneja and Tandon : Differential Calculus (English Ed.);Ramesh Book Depot, Jaipur.

Gorakh Prasad : Integral Calculus; Pothishala Pvt.Ltd.Allahabad.

Paper – III
Co-ordinate Geometry of 3-Dimensions and Vector Calculus.

Note: Each theory paper is divided in three parts i.e. Section – A, Section – B and Section – C

Section A: Will consist of 10 compulsory questions. There will be two questions from each unit and answer of each question shall be limited up to 30 words. Each question will carry 2 marks.

Section B: Will consist of 10 questions. Each unit will be having two question; students will answer one question from each Unit. Answer of each question shall be limited up to 250 words. Each question will carry 5 marks.

Section C: Will consist of total 05 questions one from each unit. Students will answer any 03 questions and answer of each question shall be limited up to 500 words. Each question will carry 10 marks.

Total Marks: 75

Time: 03:00 Hrs.

Unit 1 : Sphere, Cone and Cylinder (Rectangular Coordinates only)

Unit 2 : The Central Conicoids (referred to principal axes). Tangents and tangent planes, Polar planes and polar lines, Section with a given centre, Enveloping cone, Enveloping cylinder and related problems.

Unit 3 : Equations of the normal to an ellipsoid, number of normals from a given point to an ellipsoid, Cone through six normals, Conjugate diameter and diametral planes and their properties. Cone as a Central surface. Paraboloids.

Unit 4 : Plane Sections of Conicoids, Umbilics, Generating lines of hyperboloid of one sheet and its properties.

Unit 5 : Vector Calculus : Curl, Gradient and Divergence & Identities involving these operators. Theorems of Stoke, Green and Gauss (Statement, application and verification only).

SUGGESTED BOOKS

Gupta, Juneja : Vector Analysis; Ramesh Book Depot, Jaipur.

D.C. Gokhroo, S.R. Saini, S.S.Bhati : Vector Calculus (Hindi Ed.); Navkar Prakashan, Ajmer.

S.L.Bhargava, Banwari Lal : Vector Calculus (Hindi Ed.); Jaipur Publishing House, Jaipur.

R.J.T.Bell.; Coordinate Geometry of Three dimensions; Macmillan India Ltd., New Delhi.

Vasistha, Agarwal : Analytical Solid Geometry; Pragati Prakashn, Meerut.

Gokhroo, Saini & Rathi : Analytical 3-D Geometry (HindiEd); Jaipur Pub. House, Jaipur.

J.L.Bansal, S.L. Bhargva & S.M. Agarwal : 3-D Coordinate Geometry II; Jaipur Pub. House, Jaipur.

B.Sc./B.A. Part II Examination 2021

TEACHING AND EXAMINATION SCHEME

| Subject/Paper | Period/Week | | Exam. Hours | Max Marks | Min.Pass Marks |
|--------------------|-------------|---|-------------|-----------|----------------|
| | L | P | | | |
| MATHEMATICS | | | | | |
| Paper I | 3 | - | 3 | 75 | } 81 |
| Paper II | 3 | - | 3 | 75 | |
| Paper III | 3 | - | 3 | 75 | |

B.Sc./B.A. Part II Examination – 2021
MATHEMATICS

Paper I : **Numerical Analysis and Linear Programming.**
Paper II : **Differential Equations.**
Paper III : **Mechanics I (Statics and Dynamics of particle)**

Total Marks: 75

Time: 03:00 Hrs.

Paper I
Numerical Analysis and Linear Programming

Note: Each theory paper is divided in three parts i.e. Section – A, Section – B and Section – C

Section A: Will consist of 10 compulsory questions. There will be two questions from each unit and answer of each question shall be limited up to 30 words. Each question will carry 2 marks.

Section B: Will consist of 10 questions. Each unit will be having two question; students will answer one question from each Unit. Answer of each question shall be limited up to 250 words. Each question will carry 5 marks.

Section C: Will consist of total 05 questions one from each unit. Students will answer any 03 questions and answer of each question shall be limited up to 500 words. Each question will carry 10 marks.

Unit 1: Difference operators and factorial notation, Differences of polynomial, Newton's formulae for forward and backward interpolations. Divided differences, relation between divided differences and Simple difference. Newton's general interpolation formulae, Lagrange interpolation formula.

Unit 2: Central differences, Gauss, Stirling and Bessel interpolation formulae. Numerical Differentiation. Numerical integration, Trapezoidal, Simpson's and Weddle's rules.

Unit 3: Solution of linear difference equations with constant and variable coefficients. Solution of Algebraic and Transcendental equations, Iterative, Regula Falsi and Newton Raphson methods.

Unit 4: Convex sets and their properties. The simplex technique and its application to simple L.P. problems. The Big M-Method.

Unit 5: Two Phase Method, Revised Simplex Method. Concepts of duality in linear programming. Framing of dual programming. Elementary theorems of duality. Integer Programming Problem (IPP).

SUGGESTED BOOKS

D.C. Gokhroo & S.R. Saini : Linear Programming (Hindi Ed.), Navkar Prakashan, Ajmer.

Mittal, Sethi : Linear Programming, Pragati Prakashan, Meerut

Goyal, Mittal : Numerical Analysis, Pragati Prakashan, Meerut

J.L.Bansal, S.L. Bhargava & S.M. Agarwal : Numerical Analysis (Hindi Ed.); Jaipur Publishing House, Jaipur

H.C. Saxena : Numerical Analysis; S.Chand & Co., New Delhi

D.C. Gokhroo : Numerical Analysis (Hindi Ed.); Navkar Prakashan, Ajmer

S.L. Bhargava, K.C. Sharma & S.S. Bhati : Linear programming (Hindi Ed.); Jaipur Publishing House, Jaipur.

Total Marks: 75

Time: 03:00 Hrs.

Paper II
Differential Equations

Note: Each theory paper is divided in three parts i.e. Section – A, Section – B and Section – C

Section A: Will consist of 10 compulsory questions. There will be two questions from each unit and answer of each question shall be limited up to 30 words. Each question will carry 2 marks.

Section B: Will consist of 10 questions. Each unit will be having two question; students will answer one question from each Unit. Answer of each question shall be limited up to 250 words. Each question will carry 5 marks.

Section C: Will consist of total 05 questions one from each unit. Students will answer any 03 questions and answer of each question shall be limited up to 500 words. Each question will carry 10 marks.

Unit 1: Exact and reducible to exact differential equations of first order and first degree. First order higher degree differential equations solvable for x,y,p. Clairaut's form and singular solutions.

Unit 2: Linear differential equations with constant coefficients, Homogeneous linear differential equations with variable coefficients. Simultaneous differential equations, Total differential equations of the form $Pdx + Qdy + Rdz = 0$, by method of inspection and method for homogeneous equations.

Unit 3: Linear differential equations of second order of the form $\frac{d^2y}{dx^2} + P\frac{dy}{dx} + Qy = R$.

Exact Linear differential equations of n^{th} order. Exact Non-Linear differential equations.

Differential equations of the various forms e.g., (i) $\frac{d^2y}{dx^2} = f(y)$ (ii) Equations not containing y directly (iii) Equations not containing x directly and other forms. Method of variation of parameters to the solution of second order linear differential equations.

Unit 4: Series solutions of Second Order Linear differential equations, Power series method, Bessel and Legendre equations. Partial differential equations of the first order. Lagrange's solution. Some special types of equations which can be solved easily by methods other than the general method. Charpit (general) method of solution.

Unit 5: Partial differential equations of second and higher order. Classification of linear partial differential equations of second order. Homogeneous and non-homogeneous equations with constant coefficients. Partial differential equations reducible to equations with constant coefficients. Monge's method of integrating $Rr + Ss + Tt = V$.

SUGGESTED BOOKS

Sharma, Gupta : Differential Equations; Krishna Prakashan, Meerut

Ray, Chaturvedi : Differential equations; Kedar Nath, Ram Nath & co., Agra.

J.L.Bansal, H.S.Dhami : Differential equations (Vol. II); Jaipur Publishing House, Jaipur

D.C.Gokhroo, S.R. Saini & R.K.Kumbhat : Differential equations (Hindi Ed.);Navkar Prakashan, Ajmer

Gokhroo, Saini, Oza : Partial differential equations; Jaipur Publishing House, Jaipur.

Total Marks: 75

Time: 03:00 Hrs.

Paper III
Mechanics – I
(Statics and Dynamics of a Particle)

Note: Each theory paper is divided in three parts i.e. Section – A, Section – B and Section – C

Section A: Will consist of 10 compulsory questions. There will be two questions from each unit and answer of each question shall be limited up to 30 words. Each question will carry 2 marks.

Section B: Will consist of 10 questions. Each unit will be having two question; students will answer one question from each Unit. Answer of each question shall be limited up to 250 words. Each question will carry 5 marks.

Section C: Will consist of total 05 questions one from each unit. Students will answer any 03 questions and answer of each question shall be limited up to 500 words. Each question will carry 10 marks.

Unit 1: Resultant and equilibrium of coplanar forces acting on a rigid body. Friction.

Unit 2: Stable and Unstable equilibrium. Forces in three dimensions, Poinsot's central axis, Wrenches.

Unit 3: Virtual work and common catenary.

Unit 4: Velocities and accelerations along radial and transverse directions and along tangential and normal directions. Simple harmonic motion and motion under inverse square law.

Unit 5: Motion on smooth and rough plane curves, circular and cycloidal motions. Central forces and central orbits (excluding planetary motion).

SUGGESTED BOOKS

S.L. Loney : Statics

R.S. Verma : A Text Book on Statics; S. Chand & Co., New Delhi.

S.L. Loney : Dynamics of a particle & Rigid bodies.

M.Ray : A Text book on Dynamics; S. Chand & Co., New Delhi

D.C.Gokhroo, S.R. Saini & G.R.Yadav : Higher Dynamics II (Hindi Ed.); Navkar Prakashan, Ajmer

S.L. Bhargava & S.M.Agarwal : Dynamics (Hindi Ed.);Jaipur Publishing House, Jaipur

S.L. Bhargava, S.M.Agarwal & V.G. Gupta : Statics (Hindi Ed.); Jaipur Publishing House, Jaipur

Gokhroo : Statics (Hindi Ed.); Navkar Prakashan, Ajmer.

B.Sc./B.A. Part III Examination 2022

TEACHING AND EXAMINATION SCHEME

| Subject/Paper | Period/Week | | Exam. Hours | Max Marks | Min.Pass Marks |
|--------------------|-------------|---|-------------|-----------|----------------|
| | L | P | | | |
| MATHEMATICS | | | | | |
| Paper I | 3 | - | 3 | 75 | } 81 |
| Paper II | 3 | - | 3 | 75 | |
| Paper III | 3 | - | 3 | 75 | |

B.Sc./B.A. Part III Examination 2022
MATHEMATICS

Paper I : **Abstract Algebra**
Paper II : **Analysis and Laplace Transforms**
Paper III : **Mechanics II (Dynamics of Rigid Bodies and Hydrostatics)**

Total Marks: 75

Time: 03:00 Hrs.

Paper I
Abstract Algebra

Note: Each theory paper is divided in three parts i.e. Section – A, Section – B and Section – C

Section A: Will consist of 10 compulsory questions. There will be two questions from each unit and answer of each question shall be limited up to 30 words. Each question will carry 2 marks.

Section B: Will consist of 10 questions. Each unit will be having two question; students will answer one question from each Unit. Answer of each question shall be limited up to 250 words. Each question will carry 5 marks.

Section C: Will consist of total 05 questions one from each unit. Students will answer any 03 questions and answer of each question shall be limited up to 500 words. Each question will carry 10 marks.

Unit 1: Definition and example of groups. General properties of groups, Order of an element of a group. Permutations : Even and Odd permutations. Groups of permutations. Cyclic group, Isomorphism, Isomorphism of cyclic groups, Cayley's theorem.

Unit 2: Subgroups, Cosets, Lagrange's theorem, Product Theorem of subgroups, Conjugate elements, conjugate complexes, Centre of a group, Normaliser of an element and of a complex. Normal subgroups, quotient Groups, Commutator subgroup of a group. Homomorphism, Fundamental theorem of homomorphism.

Unit 3: Definition and kinds of rings, Integral domain, Division ring, Field, Subring of a ring, Subfield of a field. Characteristic of a ring and field.

Unit 4: Ideals of a ring, Quotient rings, Prime fields, Prime ideals, Field of quotients of an integral domain, Definition and examples of a vector space, subspace of a vector space, Linear combination and linear space, Linear dependence and independence of vectors. Direct product of vector spaces and internal direct sums of subspaces.

Unit 5: Bases and dimension of a finitely generated spaces, Quotient space, Isomorphism, Linear transformation (Homomorphism), Rank and nullity of linear transformation.

SUGGESTED BOOKS

G.C. Sharma: Modern Algebra; Ram Prasad & Sons, Agra.

J.L. Bansal & S.L. Bhargava : Abstract Algebra (Hindi Ed.); Jaipur Publishing House, Jaipur.

R.S. Agarwal. : Text Book on Modern Algebra; S. Chand & Co., New Delhi.

D.C. Gokhroo & S.R.Saini : Abstract Algebra (Hindi Ed.); Jaipur Publishing House, Jaipur.

Total Marks: 75

Time: 03:00 Hrs.

Paper – II
Analysis and Laplace Transforms

Note: Each theory paper is divided in three parts i.e. Section – A, Section – B and Section – C

Section A: Will consist of 10 compulsory questions. There will be two questions from each unit and answer of each question shall be limited up to 30 words. Each question will carry 2 marks.

Section B: Will consist of 10 questions. Each unit will be having two question; students will answer one question from each Unit. Answer of each question shall be limited up to 250 words. Each question will carry 5 marks.

Section C: Will consist of total 05 questions one from each unit. Students will answer any 03 questions and answer of each question shall be limited up to 500 words. Each question will carry 10 marks.

Unit 1 : Dedekinds theory of real numbers. Linear sets. Upper and Lower bounds, Limiting points, Weierstrass's theorem. Derived sets, Enumerable Sets, Open and Closed sets.

Unit 2 : Theory of Riemann integration, Darboux theorem. Fundamental theorem of integral calculus, Mean value theorem of integral calculus.

Unit 3 : Functions, Limits, and continuity. Differentiability, Concept of an analytic function, Cartesian and Polar form of Cauchy-Riemann equations. Harmonic function, Conjugate function, Laplace's differential equations, Orthogonal system, Construction of analytic functions. Power Series: Absolute convergence of power series, circle and radius of convergence of power series, sum function of a power series.

Unit 4: Basic definition and Properties of complex integration Complex integration as the sum of two line integrals, Inequality for complex integrals. Curves in complex plane, Cauchy-Goursat theorem, Connected regions, Indefinite integral (or Anti Derivative). Derivative of Single-valued functions $F(z)$. Cauchy's integral formula, Extension of Cauchy's integral formula to multiconnected, regions, Cauchy's integral formula for the derivative of an analytic function, Successive derivative of an analytic function, Morera's Theorem. Liouville's Theorem, Poisson's integral formula.

Unit 5: Laplace Transforms and Inverse Laplace Transforms. Laplace transforms of derivatives and integrals. Shifting theorems. Convolution theorem. Applications of Laplace Transform to the solution of differential equations.

SUGGESTED BOOKS

Shanti Narayan: Real Analysis; S.Chand & Co., New Delhi.

G.N.Purohit: Real Analysis; Jaipur Publishing House, Jaipur.

S.L. Bhargava, S.P. Goyal: Real Analysis (Hindi Ed.); Jaipur Publishing House, Jaipur.

D.C. Gokhroo, S.R. Saini, J.P.N. Ojha: Real Analysis (Hindi Ed.); Jaipur Publishing House, Jaipur.

Shanti Narayan: Theory of Functions of a Complex Variable; S.Chand & Co., New Delhi.

K.P.Gupta : Complex Analysis; Pragati Prakashan; Meerut

D.C. Gokhroo, S.R. Saini & G.R. Yadav: Complex Analysis (Hindi Ed.); Navkar Publication, Ajmer

G.N. Purohit: Complex Analysis; Jaipur Publishing House, Jaipur.

S. Ponnusamy: Foundations of Complex Analysis, Narosa Publishing House, Bombay, New Delhi.

V. Karunakaran: Complex Analysis, Narosa Publishing House. Bombay, New

Delhi (2002).

N. Levinson and R.M. Redheffer: Complex Variables, Tata McGraw-Hill Publ. Co. Ltd., New Delhi (1980).

Total Marks: 75

Time: 03:00 Hrs.

Paper III

Mechanics – II

(Dynamics of Rigid Bodies and Hydrostatics)

Note: Each theory paper is divided in three parts i.e. Section – A, Section – B and Section – C

Section A: Will consist of 10 compulsory questions. There will be two questions from each unit and answer of each question shall be limited up to 30 words. Each question will carry 2 marks.

Section B: Will consist of 10 questions. Each unit will be having two question; students will answer one question from each Unit. Answer of each question shall be limited up to 250 words. Each question will carry 5 marks.

Section C: Will consist of total 05 questions one from each unit. Students will answer any 03 questions and answer of each question shall be limited up to 500 words. Each question will carry 10 marks.

Unit 1: Moments and Products of inertia. D'Alembert's principle, the general equations of motion of a rigid body, Motion of the center of inertia and motion relative to the center of inertia. Motion about a fixed axis under finite forces.

Unit 2: The compound Pendulum. Reaction of the Axis of rotation. Motion of a rigid body in two dimension under finite forces.

Unit 3: Fluids and Fluid Pressure, homogeneous and heterogeneous fluids, Surface of equal pressure, fluid at rest under action of gravity, Fluid pressure on Plane surfaces.

Unit 4: Centre of pressure, resultant pressure on curved surfaces.

Unit 5: Equilibrium of floating bodies, Centre of buoyancy, Surface of buoyancy. Stability of equilibrium of floating bodies, Meta Centre.

SUGGESTED BOOKS

S.L. Loney : Rigid Body Dynamics; Cambridge Univ. Press.

P.P.Gupta : Rigid Body Dynamics, Vol.I; Krishna Prakashan, Mandir; Meerut

J.L.Bansal: Rigid Body Dynamics; Jaipur Publishing House, Jaipur.

B.N.Prasad: Hydrostatics; Krishna Prakashan, Mandir; Meerut

S.M. Mathur : A Text Book of Hydrostatics; Ramesh Book Depot, Jaipur.

Sharma, D.C. Gokhroo, S.R. Saini, S.M.Agarwal.: Elements of Hydrostatics; Jaipur Publishing House, Jaipur.

TEACHING & EXAMINATION SCHEME
For the Examination – 2020
PHYSICS

B.Sc. Part – I

THEORY

| | | | Pd/W (45mts.) | Exam. Hours | Max. Marks |
|------------------|-----------|------------------|------------------|----------------|---------------|
| | | | | | 150 |
| Phy.101 | Paper I | Mechanics | 2 | 3 | 50 |
| Phy.102 | Paper II | Optics | 2 | 3 | 50 |
| Phy.103 | Paper III | Electromagnetics | 2 | 3 | 50 |
| PRACTICAL | | | 6 | 5 | 75 |
| | | | Total : | | 225 |

B. Sc. Part I

Paper I: Mechanics

Note: The question paper for the examination will be divided in three parts i.e., Section – A, Section – B and Section – C.

Section – A: Will consist of 10 compulsory questions. There will be two questions from each unit and answer of each question shall be limited upto 30 words. Each question will carry 1 mark.

Section – B: Will consist of 10 questions. Two questions from each unit will be set and students will answer one question from each Unit. Answer of each question shall be limited upto 250 words. Each question carry 3.5 marks.

Section – C: Will consist of total 05 questions. The paper setter will set one question from each Unit and students will answer any 03 questions and answer of each question shall be limited upto 500 words. Each question will carry 7.5 marks.

UNIT-1

Frames of Reference: Inertial frames, Galilean transformations, Non-inertial frames, fictitious forces, Displacement, Velocity and acceleration in rotating coordinate systems and their transformations, Coriolis force, Foucault's pendulum, Motion relative to earth. Centre of Mass, collision of particles in laboratory and C.M. frame.

UNIT-2

Special Theory of Relativity: Invariance of c , Michelson-Morley Experiment, Lorentz transformations, addition of velocities, time dilation and length contraction, conservation of momentum in collision at relativistic speeds and variation of mass with velocity, relativistic energy, mass-energy equivalence, work and energy, transformation equations for momentum, energy and rate of change of momentum.

UNIT-3

Oscillations: Qualitative idea of oscillations in an arbitrary potential well, General differential equation for the harmonic motion, mass on a spring, oscillation of two masses connected by a spring, reduced mass, coupled oscillations, normal modes, normal coordinates of two linear coupled oscillators, damped harmonic motion, Forced oscillations and resonances, Resonance width and quality factor.

UNIT-4

Waves: General differential equation of one dimensional wave motion and its solution, plane progressive harmonic wave, differential calculus methods for speed of transverse waves on a uniform string and for that of longitudinal waves in a fluid, energy density and energy transmission in waves, superposition of waves, group and phase velocity.

Fourier series, Fourier analysis of square and saw-tooth waves.

Acoustics: Acoustic impedance of a medium, principle of a Sonar system

UNIT-5

Rigid Body Dynamics: Equation of motion of a rotating body, angular momentum of a rigid body, inertial coefficient and idea of principal axes, case of j not parallel to ω , kinetic energy of rotation.

Elasticity : Young modulus, Bulk modulus and modulus of rigidity, Poisson ratio, relation between elastic constants, Theory of bending of a beam and torsion of a cylinder, experimental determination of Y by loading a beam in the middle and of η by static and dynamic methods, Searle's two bar experiment.

Books suggested:

Berkeley: Physics Course, Vol. I, Mechanics, Tata McGraw Hill, New Delhi.

Berkeley: Physics Course, Vol. III, Waves and Oscillations, McGraw Hill, New Delhi.

A. P. French: Physics of Vibration and Waves.

Alonso and Finn: Fundamental University Physics, Vol. I, Mechanics.

R. S. Gambhir: Mechanics, CBS Publishers.

J.C. Upadhyaya: Mechanics, Ram Prasad & Sons, Agra.

PAPER II: OPTICS

Note: The question paper for the examination will be divided in three parts i.e., Section – A, Section – B and Section – C.

Section – A: Will consist of 10 compulsory questions. There will be two questions from each unit and answer of each question shall be limited upto 30 words. Each question will carry 1 mark.

Section – B: Will consist of 10 questions. Two questions from each unit will be set and students will answer one question from each Unit. Answer of each question shall be limited upto 250 words. Each question carry 3.5 marks.

Section – C: Will consist of total 05 questions. The paper setter will set one question from each Unit and students will answer any 03 questions and answer of each question shall be limited upto 500 words. Each question will carry 7.5 marks.

UNIT-1

Geometrical Optics: Axial, Lateral and angular magnifications and their inter-relationship, Abbe's Sine condition for spherical surfaces, Aplanatic points for a spherical refracting surface.

Focal length of two thin lenses separated by a distance, Cardinal points of a co-axial lens system, properties of cardinal points, construction of image using cardinal points, Newton's formula and other relations for a lens system using cardinal points, Ramsden's and Huygen's eye pieces, their cardinal points, and relative merits.

Spherical Aberration in lenses and methods to minimize it.

Chromatic Aberration in lenses, Achromatism for two thin lenses in contact and separated by a distance.

UNIT-2

Interference: Division of Amplitude-Interference exhibited by thin film, Production of colours in thin films, Wedge-shaped film, Newton's rings and determination of wavelength and refractive index of a liquid by Newton's rings.

Michelson Interferometer: Measurement of wavelength and difference between two close wavelengths.

Fabry-Perot interferometer: Intensity Distribution, Co-efficient of sharpness and half width, measurement of wavelength.

UNIT-3

Lasers: Population inversion, laser as source of coherent radiation, Basic principles of He-Ne Laser and Ruby Laser.

Diffraction: Fresnel's class of diffractions, Zone Plate, Phase reversal Plate, Cylindrical wave front and its effect at an external point and geometrical construction, diffraction at a straight edge; thin wire, rectangular slit and circular aperture.

UNIT-4

Fraunhofer class of diffraction: Amplitude and phase due to a number of SH Motions acting on a particle simultaneously, Diffraction at two slits and intensity distribution, Diffraction at N slits.

Plane Transmission Grating: Theory and formation of spectra, width of principal maxima, absent spectra, overlapping of spectral lines, number of spectra, measurement of wave-length of light, Rayleigh's criterion, Resolving Power of a Prism, Telescope, Microscope and plane transmission grating.

UNIT-5

Polarization: Double refraction, production of plane polarized light by double refraction, Nicol Prism, Double refraction in uniaxial crystals, Huygen's explanation of Double Refraction, Plane, circular and elliptically polarized light, Half-wave and quarter-wave plates, production and detection of plane, circularly and elliptically polarized light by Nicol Prism and Quarter-wave plate.

Rotatory Polarization, Fresnel's explanation, specific rotation, half shade and Biquartz Polarimeter, determination of specific rotation and strength of sugar solution.

Books suggested:

Jenkins and White: Optics, McGraw Hill.

Ghatak A.K.: Optics, Tata McGraw Hill.

Khandelwal D.P.: Optics and Atomic Physics, Shivrul Agarwal & Co.

Subramanyam and Brijlal: A text book of Optics, S. Chand, New Delhi.

PAPER III: ELECTROMAGNETICS

Note: The question paper for the examination will be divided in three parts i.e.,
Section – A, Section – B and Section – C.

Section – A: Will consist of 10 compulsory questions. There will be two questions from each unit and answer of each question shall be limited upto 30 words. Each question will carry 1 mark.

Section – B: Will consist of 10 questions. Two questions from each unit will be set and students will answer one question from each Unit. Answer of each question shall be limited upto 250 words. Each question carry 3.5 marks.

Section – C: Will consist of total 05 questions. The paper setter will set one question from each Unit and students will answer any 03 questions and answer of each question shall be limited upto 500 words. Each question will carry 7.5 marks.

UNIT-1

Vector Analysis: Scalar and Vector fields, partial differentiation of vector, gradient of a scalar field, line and surface integral of vector field, flux of a vector field, divergence of vector field and its physical significance, curl of vector field and its physical significance. Gauss law in integral and differential form, Gauss divergence theorem, Stokes theorem and Green's theorem, Laplace equation in Cartesian, cylindrical and spherical polar coordinates (without derivation).

Unit II:

Electrostatics: Potential and field due to a quadrupole and an arbitrary charge distribution, concept of multipoles, Electrostatic energy of a uniformly charged sphere. Classical radius of an electron. Conductors in an electric field, uniqueness theorem, method of electric images and its application for system of point charge near a grounded conducting plane, Poisson's and Laplace equation in Cartesian coordinate Solution of Laplace equation in Cartesian coordinates, potential at a point inside a rectangular box.

Unit III:

Electric field in matter : Atomic and molecular dipoles, polarizability, permanent dipole moment, Dielectrics, boundary condition for electrostatic field at dielectric surface, polarization Vector, electric displacement vector, electrostatic energy of a charge distribution in dielectrics. Lorentz local field and Clausius-Mossotti equation.

Magnetic field in matter : Magnetization Vector, uniform magnetization and surface current, non-uniform magnetization, B,M,H Vectors and their inter-relations, Bohr magneton, orbital magnetic moment and angular momentum, Gyromagnetic ratio, Magnetic Susceptibility.

Unit IV:

Electromagnetic Induction, Faraday's laws of Electromagnetic induction, integral and differential form, Relation between self and mutual inductance, measurement of self-inductance by (a) Rayleigh method (b) Anderson Bridg, Energy stored in magnetic field.

Transient response: Charge and discharge of condenser through resistance, determination of high resistance by method of leakage, growth and decay of current in LR circuit; significance of operator j and its uses in A.C. circuits. series and parallel LCR circuit, phasor diagram, Resonance and Quality factor, Sharpness of resonance.

Unit V:

Charge particle in electromagnetic field: equation of motion for charged particle, moving charge in electric field, in uniform magnetic field, charged particles in parallel electric and magnetic field, charged particles in cross electric and magnetic field.

Principle construction and working of ballistic galvanometer, determination of constant of ballistic galvanometer using steady deflection method, determination of mutual inductance using B.G., determination of magnetic field using search coil and B.G.

Books suggested:

Berkeley: Physics Course, Vol. II: Electricity and Magnetism, Tata McGraw Hill.

Laud, B.B.: Electro-magnetics, Wiley Eastern.

Ahmed and Lal: Electricity, Magnetism and Electronics.

D.C. Tayal: Electricity and Magnetism, Himalaya Publishing House

A.S. Mahajan A.A. Rangwala: Electricity and Magnetism, Tata McGraw Hill.

Griffiths: Introduction to Electrodynamics, PHI.

Experiments for Practical Work

1. Study of bending of a beam and determination of Young's modulus.
2. Modulus of rigidity by statical method using horizontal apparatus.
3. Modulus of rigidity by statical method using vertical apparatus.
4. Modulus of rigidity by dynamical method using Hollow Maxwell needle.
5. Modulus of rigidity by dynamical method using Solid Maxwell needle.
6. Elastic constants by Searle's method.
7. Determination of focal length of combination of two lenses separated by finite distance using Nodal slide assembly and also locate the cardinal points.
8. Formation of spectrum, prism spectrometer and determination of dispersive power of the material of a prism.
9. Determination of wavelength of monochromatic light (Sodium/ Laser) by Newton's rings.
10. Determination of wavelength of light by plane transmission grating.
11. Specific rotation by polarimeter.
12. Low resistance by Carey Foster Bridge.
13. Variation of magnetic field along the axis of circular Coil.
14. Study of rise and decay in CR Circuit.
15. Study of electro-magnetic induction and verification of Faraday's Laws.
16. Determine the thermodynamic constant $\gamma = C_p/C_v$ using Clement and Desormes method.
17. Verification of Rutherford and Soddy's law of radioactive disintegration using dices and statistical Board.
18. Determination of surface tension of water by Jagger's method.
19. To determine the polarizing angle for the glass prism surface and to determine the refractive index of material of prism using Brewster's law.
20. Wavelength of light by biprism.
21. Resolving power of telescope.
22. Resolving power of a plane transmission grating.
23. To determine the Poisson's ratio of a rubber tube.

Note: - New experiments may be added on availability of equipments.

TEACHING & EXAMINATION SCHEME
For the Examination – 2020
PHYSICS

B.Sc. Part – I

THEORY

| | | | Pd/W (45mts.) | Exam. Hours | Max. Marks |
|------------------|-----------|------------------|------------------|----------------|---------------|
| | | | | | 150 |
| Phy.101 | Paper I | Mechanics | 2 | 3 | 50 |
| Phy.102 | Paper II | Optics | 2 | 3 | 50 |
| Phy.103 | Paper III | Electromagnetics | 2 | 3 | 50 |
| PRACTICAL | | | 6 | 5 | 75 |
| | | | Total : | | 225 |

B. Sc. Part I

Paper I: Mechanics

Note: The question paper for the examination will be divided in three parts i.e., Section – A, Section – B and Section – C.

Section – A: Will consist of 10 compulsory questions. There will be two questions from each unit and answer of each question shall be limited upto 30 words. Each question will carry 1 mark.

Section – B: Will consist of 10 questions. Two questions from each unit will be set and students will answer one question from each Unit. Answer of each question shall be limited upto 250 words. Each question carry 3.5 marks.

Section – C: Will consist of total 05 questions. The paper setter will set one question from each Unit and students will answer any 03 questions and answer of each question shall be limited upto 500 words. Each question will carry 7.5 marks.

UNIT-1

Frames of Reference: Inertial frames, Galilean transformations, Non-inertial frames, fictitious forces, Displacement, Velocity and acceleration in rotating coordinate systems and their transformations, Coriolis force, Foucault's pendulum, Motion relative to earth. Centre of Mass, collision of particles in laboratory and C.M. frame.

TEACHING & EXAMINATION SCHEME
For the Examination – 2020
PHYSICS

B.Sc. PART-III

THEORY

| | | | Pd/W (45mts.) | Exam. Hours | Max. Marks |
|------------------|-----------|-----------------------------------|------------------|----------------|---------------|
| | | | | | 150 |
| Phy.301 | Paper I | Solid State Physics | 2 | 3 | 50 |
| Phy.302 | Paper II | Nuclear Physics | 2 | 3 | 50 |
| Phy.303 | Paper III | Relativity and Electrodynamics | 2 | 3 | 50 |
| PRACTICAL | | | 6 | 5 | 75 |
| | | | TOTAL: | | 225 |

B. SC. PART-III

PAPER I : SOLID STATE PHYSICS

Note: The question paper for the examination will be divided in three parts i.e.,
Section – A, Section – B and Section – C.

Section – A: Will consist of 10 compulsory questions. There will be two questions from each unit and answer of each question shall be limited upto 30 words. Each question will carry 1 mark.

Section – B: Will consist of 10 questions. Two questions from each unit will be set and students will answer one question from each Unit. Answer of each question shall be limited upto 250 words. Each question carry 3.5 marks.

Section – C: Will consist of total 05 questions. The paper setter will set one question from each Unit and students will answer any 03 questions and answer of each question shall be limited upto 500 words. Each question will carry 7.5 marks.

UNIT-1 :

Crystal structure : Different terms of crystal structure, Fundamental types of lattices, Two and three dimensional lattice types; Seven system of crystals, Characteristics of sc, bcc, fcc, hcp; Miller indices, orientation of planes in cubic lattices; Distribution of Atoms in atomic planes of cubic lattices. Distance between successive planes; Von-Laue's equations of diffraction of X-rays, Bragg's Law, scattering from

lattice of point-atoms. Scattering factor. Geometrical Scattering factor for sc, bcc, fcc. Reciprocal lattice and its properties.

UNIT-2 :

Crystal binding and lattice vibrations : Inter-atomic forces of solids. Crystal of inert gases, cohesive energy and bulk modulus. Ionic crystals, Madelung energy and bulk modulus. Covalent crystals. Hydrogen bonded crystals, Atomic radii. Concept of phonons. Vibration of monatomic lattices, lattice with two atoms per primitive cell. Local phonon modes. Density of states in one dimension, three dimensions, lattice heat capacity for Einstein model, Debye model.

UNIT-3 :

Free Electron theory of metals : Free electron model, Density of states of electron gas, Fermi-Dirac distribution function, effect of temperature on Fermi-Dirac distribution function, Fermi energy at absolute zero temperature and low temperature. Electron heat capacity. Thermionic emission. Boltzmann transport equation, Sommerfeld theory of electrical conductivity, Thermal conductivity, Wiedmann-Franz Law. Hall effect.

UNIT-4 :

Band theory : Formation of bands and origin of energy gap, Bloch theorem, Kronig Penney model, crystal momentum and velocity of an electron. Effective mass of electrons. Electrons and holes. Number of states in a band, insulator, semi-conductor and metal. Construction of Brillouin Zones and Fermi-surfaces. Fermi levels in intrinsic, n-type and p-type semi-conductors, Mass action Law. The static dielectric constants of solids. Local electric field at an atom.

UNIT-5 :

Magnetism : Diamagnetism and Larmor precession, classical theory of diamagnetism, Para-magnetism and its classical theory, free electron theory. Molecular theory of ferromagnetism.

Experimental Survey of Superconductivity : Zero resistance, persistent currents, effect of magnetic fields, flux exclusion, Intermediate state, Entropy effect, frequency effects, Gyromagnetic ratio, Isotope effect. Occurrence of superconductivity. Thermoelectric effects, thermal conductivity. High temperature oxide, superconductors and their properties. BCS theory (elementary idea without mathematical derivation), Magnetic levitation.

Books suggested :

Kittel : Introduction to Solid State Physics, Wiley Eastern.

A.J. Dekker : Solid State Physics, McMillian India.

L. Azaroff : Theory of Solids.

Paper II: NUCLEAR PHYSICS

Note: The question paper for the examination will be divided in three parts i.e.,
Section – A, Section – B and Section – C.

Section – A: Will consist of 10 compulsory questions. There will be two questions from each unit and answer of each question shall be limited upto 30 words. Each question will carry 1 mark.

Section – B: Will consist of 10 questions. Two questions from each unit will be set and students will answer one question from each Unit. Answer of each question shall be limited upto 250 words. Each question carry 3.5 marks.

Section – C: Will consist of total 05 questions. The paper setter will set one question from each Unit and students will answer any 03 questions and answer of each question shall be limited upto 500 words. Each question will carry 7.5 marks.

Unit I:

Rutherford alpha scattering experiment, scattering formula and experimental verification of scattering formula. nuclear charge, Chadwick's determination of nuclear charge, theories of nuclear composition, nuclear mass, Determination of size of nucleus using Mesonic X ray method, Measurement of potential radius from life time of alpha emitters and scattering of fast neutron. nuclear spin, Determination of nuclear spin from hyperfine splitting of the atomic energy, parity, method of parity investigation, nuclear magnetic moment and electrical moment, relation between quadrupole moment and nuclear spin.

Unit II:

Mass defect, binding energy and packing fraction of nucleus. Liquid drop model of Nucleus, magic number and evidence of it, WEIZSACHER's Semi Empirical Mass formula, Predication of stability against beta-decay for members of an isobaric family.

Types of nuclear reactions, The balance of Mass and energy in nuclear reactions, conservation law in nuclear reactions, Q equation. Solution of the Q equations, concept of centre of mass in nuclear reaction, proton-proton collision and neutron-nucleus collision in CM frame.

Unit III:

The law of radioactive decay, statistical nature of radioactivity. Radioactive growth and decay. Ideal equilibrium, transient equilibrium and secular equilibrium, Radioactive series, Fundamental law of radioactivity, induced radioactivity, radioactivity dating.

Alpha decay: Disintegration Energy, Range of alpha particles, Geiger Nuttal's Law, spectrum and fine structure. alpha particles paradox, Barrier penetration, Beta Decay, disintegration energy of Beta Decay, principle, working and uses of beta ray spectrometer.

Unit IV:

Nuclear Energy: Nuclear induced fission, energy released in fission of U^{235} , Fission chain reaction, stability limits against spontaneous fission, Energetic of Symmetric fission, Neutron cycle in a thermal reactor. Four factor formula. Elementary idea of nuclear reactors, types of nuclear reactor, nuclear reactor in India. Nuclear fusion, fusion in stars, carbon and pp cycle, problems of controlled fusion, fissile and fertile materials and their characteristics.

Unit V:

Gas filled ionisation detectors, Detailed description, principle working and uses of (i) proportional counter (ii) Geiger-Muller Counter, dead time, recovery time and paralysis time, principle of acceleration, classification of accelerators, electrostatic accelerators, linear accelerators, cyclotron, synchrocyclotron, betatron.

Properties of elementary particles, Classification of elementary particles, quantum number of elementary particles, conservation laws, experimental evidence of violation of parity conservation in Beta Decay, C.P.T. theorem, types of cosmic rays and properties of primary cosmic rays.

Books suggested:

Alonso & Finn: Fundamental University Physics – Vol. III, Addison Wesley.

S.N. Ghoshal: Atomic & Nuclear Physics – Vol. II, S. Chand, New Delhi.

Satyapraksh: Nuclear Physics, Pragati Prkashan Meerut

R. R. Roy and B. P. Nigam, Nuclear Physics, New Age Int.(P) Ltd

D.C. Tayal: Nuclear Physics, Himalaya Publishing House

PAPER III: RELATIVITY AND ELECTRODYNAMICS

Note: The question paper for the examination will be divided in three parts i.e., Section – A, Section – B and Section – C.

Section – A: Will consist of 10 compulsory questions. There will be two questions from each unit and answer of each question shall be limited upto 30 words. Each question will carry 1 mark.

Section – B: Will consist of 10 questions. Two questions from each unit will be set and students will answer one question from each Unit. Answer of each question shall be limited upto 250 words. Each question carry 3.5 marks.

Section – C: Will consist of total 05 questions. The paper setter will set one question from each Unit and students will answer any 03 questions and answer of each question shall be limited upto 500 words. Each question will carry 7.5 marks.

UNIT-1

Electromagnetic Waves: Displacement current, Maxwell's equations, Electromagnetic wave equation, Poynting theorem, Plane Electromagnetic waves in free space, wave impedance of free space, Propagation of plane Electromagnetic waves in non-conducting and conducting media, Skin depth, propagation of Electromagnetic waves in ionized gases, Polarization of Electromagnetic waves.

UNIT-2

Reflection and Refraction of Electromagnetic waves: Boundary conditions at the surface of discontinuity, reflection and refraction of Electromagnetic waves at the interface of non-conducting media, Fresnel's equations and their experimental verification, reflection and transmission coefficients, Brewster's Law and degree of polarization, total internal reflection, phase difference between parallel and perpendicular components and polarization of the reflected wave, reflection from a conducting plane.

UNIT-3

Interaction of Electromagnetic waves with matter: Normal and anomalous dispersion of light, empirical relations, Lorentz theory of dispersion of gases, experimental demonstration of anomalous dispersion in gases, scattering of electromagnetic waves and scattering parameters, Thomson, resonant and Rayleigh's scattering cross-section, polarization of scattered light, coherent and incoherent scattered light, dispersion in liquids and solids, Clausius Mossotti equation and Lorentz-Lorentz formula.

UNIT-4

Relativistic Mechanics: Coordinate transformation, contravariant and covariant vectors, tensors of second and higher rank, addition, subtraction, contraction, outer and inner product of tensors, covariance of tensor equations, Minkowski space, geometrical interpretation of Lorentz transformation, space like and time like intervals, four vectors, four dimensional gradient, divergence and curl operators, four-velocity, four-acceleration, four-momentum, four-force, relativistic classification of particles.

UNIT-5

Relativistic Electrodynamics : Invariance of charge, transformation of surface charge density, transformation of volume-charge density and current density, Equation of continuity in the covariant form, Scalar and vector potentials, Transformation of Electromagnetic potentials, Lorentz condition and its covariant form, Electromagnetic field tensor, Covariance of Maxwell's equations, Transformation of Electro-

Magnetic fields, Lorentz-force in a covariant form, Electromagnetic field due to a moving charge.

Books suggested:

S.P. Puri: Electrodynamics, Tata McGraw Hill

J.D. Jackson: Classical Electro-dynamics, John Wisely, New York

B.B. Laud: Electromagnetic, John Wisely, New York

E.C. Jordan: Electromagnetic waves, PHI, New Delhi

D. J. Griffiths: Introduction to Electrodynamics, PHI

Practicals of B.Sc. III Year Physics

Note: These Practical are divided into two sections, Lab. A & Lab. B.

1. Lab. A is for all students.
2. Lab. B is for all the students except those who offer Electronics as an optional subject.

Examination Scheme for Laboratory Work:

1. Students with Electronics shall be examined in any two experiments from Lab. A.
2. Students with Combinations not involving Electronics shall be examined in one experiment of Lab. A and one experiment from Lab. B

LAB. A: PHYSICS PRACTICALS

1. Determination of Planck's constant using solar cell/ LED.
2. Verification of Stefan's Law (Black Body method).
3. Study of characteristics of a GM counter and verification of inverse square law for the same strength of a radioactive source.
4. e/m measurement by Helical Method.
5. Measurement of magnetic field using Ballistic galvanometer and search coil.
6. Measurement of electric charge by Millikan's oil drop method.
7. To study hysteresis loss of transformer by B-H curve using CRO.
8. Verification of Cauchy's formula.
9. Study of Lissajous patterns.
10. Determination of separation of plates of Etalon using spectrometer.
11. Determination of Dead Time of GM counter.
12. Determination of difference in wavelength of the two line of Sodium light.
13. Determination of refractive index of ordinary and extra ordinary light using Babinet compensator.
14. Determination of Band Gap of a semi conductor using four probe method.
15. To verify Fresnel's formula for the reflection of light.
16. Determination of coefficient of rigidity as a function of temperature using torsional oscillator (resonance method).
17. Determination of dielectric constant of solids and liquids.
18. Determination of velocity of sound in air.
19. Verification of Malus law

LAB. B: ELECTRONICS

1. Study of ripple factor for shunt capacitor, series inductor, L-section and π section filters using full wave rectifier circuit.
2. Study of frequency response of single stage transistor amplifier (variation of gain with frequency).
3. Study the characteristics of field effect transistor (FET).
4. Study the negative feedback effect on voltage gain, and input and output impedances of the amplifier.
5. Study of operational amplifier (OP-AMP).
6. Study of RC circuits as integrating and differentiating systems with Square input.
7. Study of series and parallel LCR resonance circuit.
8. Design and Voltage study of AND, OR, NOT, NAND and NOR gates circuits using diodes and transistors.
9. Design and study of RC phase shift oscillator.
10. Study of Nano TiO₂ Solar Cell.
11. Study of Hybrid Solar and wind energy.
12. Transient Analysis of C-R and L-R circuit.
13. Determination of parameter of transformer.

Note: - New experiments may be added on availability of equipments.

B.Sc. Part I Examination, 2020
ZOOLOGY

THEORY

| | |
|--|---|
| | Max. Marks: 150 (Min. Pass Marks:54) |
| Paper I : Animal Diversity and Evolution | 50 |
| Paper II : Biology of Non chordates | 50 |
| Paper III : Cell Biology and Genetics | 50 |

PRACTICALS :

| | |
|-----------------------------------|--|
| | Max. Marks: 75 (Min Pass Marks: 27) |
| Duration of each theory paper | 3 hours |
| Duration of practical examination | 5 hours |

Note: Each theory paper is divided in three parts i.e. Section-A, Section –B and Section –C.

Section-A: Will consist of 10 compulsory questions. There will be two questions from each unit and answer of each question shall be limited up to 30 words. Each question will carry of 1 mark.

Section –B: Will consist of 10 questions. Each unit will be having two questions; students will answer one question from each Unit. Answer of each question shall be limited up to 250 words. Each question carries 3.5 Marks.

Section-C: will consist of total 05 questions. Students will answer any 03 questions and answer of each question shall be limited up to 500 words. Each question carries 7.5 Marks.

PAPER I
Animal Diversity and Evolution

Functional morphology of the types included with special emphasis on the adaptations to their modes of life and environment. General characters and classifications of all invertebrate phyla up to class with examples emphasizing their biodiversity, economic importance and conservation measures where required.

Unit 1: General principles of taxonomy, concept of the five-kingdom, Concept of Protozoa, Metazoa and Levels of organization. Basis of classification of non-chordata: Symmetry, coelom, segmentation and embryogeny, Characters and Classification of Protozoa and Porifera upto classes with examples.

Unit 2: Salient features and classification of Coelenterata, Ctenophora, Platyhelminthes, Aschelminthes, Annelida, Arthropoda, Mollusca and Echinodermata with their suitable examples.

Unit 3: Origin of Life, Miller's experiment, Lamarckism and Darwinism, Natural Selection, genetic basis of evolution, speciation, Evidences of organic evolution.

Unit 4: Variations, Isolation and Adaptations, Geological time scale and animal distribution in different era.

Unit 5: Principal zoogeographical regions of the world with special reference to their mammalian fauna, Factors affecting the large scale animal distribution, Origin and evolution of man.

PAPER II

Biology of Nonchordates

Unit 1: *Euglena*: Ultrastructure of flagellum and flagellar movement, osmoregulation and behaviour, reproduction.

Paramecium: Locomotion, nutrition, osmoregulation and reproduction. *Sycon*: Cellular organization, canal system, reproduction and development.

Unit 2: *Obelia*: Structure of polyp and medusa, sense organs and reproductive systems, life cycle.

Fasciola: Digestive, excretory and reproductive systems, developmental stages and life cycle.

Taenia: Structure of body wall, excretory and nervous systems, reproduction and developmental stages in life cycle.

Unit 3: *Nereis*: Parapodial locomotion, digestive, blood vascular, excretory, nervous and reproductive systems, development and metamorphosis.

Hirudinaria: Digestive, haemocoelomic, excretory, nervous and reproductive systems, sense organs.

Unit 4: *Palaemon*: Appendages, Digestive, respiratory, blood – vascular, excretory, nervous, sense organs and reproductive systems.

Pila: Digestive, respiratory, blood vascular, nervous and reproductive systems, sense organs

Unit 5: *Lamellidens*: Digestive, respiratory, blood–vascular, excretory and nervous systems, sense organs, reproduction and development.

Asterias: Water – vascular system, digestive, circulating and nervous systems, sense organs, reproduction, life history and regeneration.

PAPER III

Cell Biology and Genetics

Unit 1: Characteristics of prokaryotic and eukaryotic cells, Characteristics of cell membrane molecules, fluid-mosaic models of Singer and Nicolson, passive and active transport, Structures and functions of endoplasmic reticulum, ribosome, Golgi complex, lysosome, mitochondria, centriole, microtubules and nucleus.

Unit 2: Structure of Chromatin and Chromosomes, semiconservative mechanism of replication, elementary idea about topoisomerases, replication forks, leading and

lagging strands, RNA primers and Okazaki fragments, RNA structure and types, mechanism of transcription, Genetic Code and protein synthesis.

Unit 3: Interphase nucleus and cell-cycle including regulation.

Mitosis: Phases and process of mitosis, structure and function of spindle apparatus, Theories of cytokines.

Meiosis: Phases and process of meiosis, synaptonemal complex, formation and fate of chiasmata recombination and significance of crossing over.

Unit 4: Mendelism: Brief history of genetics and Mendel's work: Mendelian laws, their significance and current status, linked gene inheritance.

Chromosomal aberration: Structural - translocation, inversion, deletion and duplication; Numerical - haploidy, diploidy, polyploidy, aneuploidy, euploidy, polysomy and genetic implications.

Unit 5: Genetic interaction: supplementary genes, complementary genes, duplicate genes, multiple gene interaction, ABO blood groups and their genotypes, Multiple alleles.

PRACTICALS

1. Demonstration of dissection:

Palaemon: Study of appendages, general anatomy, digestive and nervous systems

Pila: General anatomy and nervous system

Lamellidens / Unio: General anatomy and nervous system

2. Permanent preparations of the following: Protozoa: *Paramecium*

Porifera: Sponge spicules, fibres and gemmules
Coelenterata: *Obelia* colony, *Obelia* medusa
Annelida: *Nereis* parapodia

Arthropoda: *Palaemon*: Statocyst and hastate plate along with comb plates,
Cyclops and *Daphnia*

Mollusca: *Pila*: Gill lamella, radula and L. S. Osphradium, *Lamellidens*: Gill-lamella

3. Identification, systematic position up to order and general study of the following animal forms, microscopic slides / museum specimens:

Protozoa: *Amoeba*, *Entamoeba*, *Euglena*, *Noctiluca*, *Trypanosoma*, *Trichomonas*,

Foraminifera (Oozes), *Opalina*, *Balantidium*, *Nyctotherus*, *Paramecium*, *Paramecium* binary fission and conjugation and, *Vorticella* [Whole mounts].

Porifera: *Leucosolenia*, *Grantia*, *Scypha*, *Hyalonema*, *Euplectella*, *Spongilla* and *Euspongia*

Coelenterata: *Obelia* (colony and medusa), *Physalia*, *Porpita*, *Aurelia*, *Rhizostoma*, *Alcyonium*, *Corallium*, *Gorgonia*, *Tubipora*, *Pennatulla* and *Madrepora*

Maximum Marks: 75

Minimum Pass Marks: 27

Ctenophora: *Beroe*

Platyhelminthes: *Dugesia*, *Fasciola* and *Taenia*

Nematoda: *Ascaris*, *Ancylostoma*, *Dracunculus*, *Wuchereria*, *Trichinella*, *Schistosoma* and *Enterobius*

Annelida: *Nereis*, Phase *Heteronereis*, *Aphrodite*, *Arenicola*, *Pheretima*, *Pontobdella*, *Branchellion* and *Hirudinaria*

Onychophora: *Peripatus*

Arthropoda : *Limulus*, *Araneus*, *Palamnaeus*, *Apus*, *Lepas*, *Balanus*, *Sacculina*, *Palaemon*, *Lobster*, *Eupagurus*, *Carcinus*, *Lepisma*, *Odontotermes*, *Pediculus*, *Schistocerca*, *Papilio*, *Bombyx*, *Xenopsylla*, *Apis*, *Julus* and *Scolopendra*

Mollusca: *Chiton*, *Dentalium*, *Patella*, *Pila*, *Turbinella*, *Aplysia*, Slug, Snail, *Mytilus*, *Ostrea* (pearl oyster), *Lamellidens*, *Teredo*, *Nautilus*, *Sepia*, *Octopus* Echinodermata: *Pentaceros*, *Asterias*, *Ophiothrix*, *Echinus*, *Holothuria* and *Antedon*

4. Study of sections, developmental stages and isolated structures from microscopic slides

Porifera: L. S. and T. S. of *Scypha* / *Grantia*

Coelenterata: *Hydra*, Sections of *Hydra*, Developmental stages of *Aurelia*

Platyhelminthes: Transverse sections of *Dugesia*, *Fasciola* and *Taenia*, mature and gravid proglottids of *Taenia*, developmental stages of *Fasciola* and *Taenia*

Annelida: Transverse sections of *Nereis* and *Hirudinaria*, Trochophore larva of *Nereis*,

Parapodium of *Nereis* and *Heteronereis*

Arthropoda: Crustacean larvae (*Nauplius*, *Zoea*, *Megalopa* and *Mysis*), mosquito larva & pupa

Mollusca: Transverse sections of *Lamellidens* and Glochidium larva Echinodermata:

Pedicellariae of Star fish

5. Experimental Zoology:

(i) Test for Protein : Biuret

(ii) Test for Lipids : Sudan IV

(iii) Test for Carbohydrates : Benedict's

(iv) Demonstration of catalase enzyme activity in animal tissue

(v) Living study of *Paramecium*

(vi) Temporary acetocarmine squash preparations and study of chromosomes

Each regular student is required to keep a record of practical work done by him/her duly checked by the teachers which will be submitted at the time of practical examinations.

Distribution of Marks:

| | <u>Regular</u> | <u>Ex.</u> |
|---|----------------|------------|
| Diagrammatic presentation of dissection | 20 | 20 |
| Permanent preparation | 08 | 10 |
| Spots (seven) | 21 | 21 |
| Experimental Zoology | 06 | 09 |
| Viva-voce | 10 | 15 |
| Practical Record | 10 | --- |
| Total | 75 | 75 |

Recommended Books (All latest editions)

1. Prasad, Beni: *Pila*, Lucknow Publishing House, Lucknow.
2. Bhatia, M. L.: *Hirudinaria*, Lucknow Publishing House, Lucknow.
3. De Robertis, E. D. P. and De Robertis, E. M. F.: *Cell and Molecular Biology*, Halt Saunder, Tokyo, Japan.
4. Gardner, E. J.: *Principles of Genetics*, John Wiley & Sons, New York.
5. Kotpal, R. L. : *Invertebrates*, Rastogi Publications, Meerut.
6. Nigam, H. C. : *A University Course in Invertebrate Zoology*, Vol. I, Mc Milan, London.
7. Prasad, S. N. : *Text Book of Invertebrate Zoology*, Kitab Mahal, Allahabad.
8. Patwardhan, S. S. : *Palaemon*, Lucknow Publishing House, Lucknow.
9. Reese, A. M. : *Outlines of Economic Zoology*, Blackiston Co., Philadelphia, U.S.A.
10. Vishwa Nath : *A Text Book of Zoology*, Vol. I, Invertebrate, S. Chand & Co., New Delhi.
11. Rastogi, Veerbala : *Invertebrate Zoology*, Kedar Nath Ram Nath, Delhi.
12. Jordan, E. L. and P. S. Verma: *Invertebrate Zoology*, S. Chand & Co. Ltd., Ram Nagar, New Delhi.
13. Alberts, B. *et.al. The Cell* (Garland).
14. Lodish, H., *et.al. Molecular Cell Biology* (Freeman).
15. Gupta, P. K., *Genetics*, Rastogi Publications, Meerut.
16. Rastogi, Veer Bala, *Cell Biology*, Kedar Nath Ram Nath, Delhi.

B.Sc. Part II Examination, 2020
ZOOLOGY

There shall be three written papers of three hours duration each.

| | | |
|-----------------------------------|--|--|
| Theory | | Max. Marks: 150 (Min. Pass Marks; 54) |
| Paper I | : Chordate Structure and function | 50 |
| Paper II | : Developmental Biology | 50 |
| Paper III | : Immunology, Microbiology and Biotechnology | 50 |
| Practical | : | 75 (Min. Pass Marks; 27) |
| Duration of Theory examination | | 3 hours |
| Duration of practical examination | | 5 hours |

Note: Each theory paper is divided in three parts i.e. Section-A, Section –B and Section –C.

Section-A: Will consist of 10 compulsory questions. There will be two questions from each unit and answer of each question shall be limited up to 30 words. Each question will carry of 1 mark.

Section –B: Will consist of 10 questions. Each unit will be having two questions; students will answer one question from each Unit. Answer of each question shall be

limited up to 250 words. Each question carries 3.5 Marks.

Section-C: will consist of total 05 questions. Students will answer any 03 questions and answer of each question shall be limited up to 500 words. Each question carries 7.5 Marks.

PAPER I

Chordate Structure and Function

- Unit 1: Classification and characters of phylum Chordata (excluding extinct forms) up to orders, Comparisons of habit, habitat, external features and anatomy of *Balanoglossus*, *Herdmania* and *Branchiostoma* (excluding development).
- Unit 2: Ascidian tadpole larva and its Metamorphosis, Affinities of Hemichordate, Urochordate and Cephalochordates, Habit, Habitat and salient features of Petromyzon, Ammocoete larva.
- Unit 3: Integument including structure and development of placoid scales, feathers and hairs, Jaw suspensorium, limbs and girdles of *Rana*, *Uromastix*, *Columba* and *Oryctolagus*.
- Unit 4: Heart and aortic arches, respiratory system and alimentary canal of *Scoliodon*, *Rana*, *Uromastix*, *Columba* and *Oryctolagus*.
- Unit 5: Brain, urinogenital system (*Scoliodon*, *Rana*, *Uromastix*, *Columba* and *Oryctolagus*), Identification of poisonous and non poisonous snakes. Biting mechanism in snakes, flight adaptations in birds. Adaptations in aquatic mammals.

PAPER II

Developmental Biology

- Unit 1: Formation of egg and sperm, vitellogenesis and fertilization. Types of eggs and sperms, parthenogenesis, regeneration.
- Unit 2: Planes and patterns of cleavage in chordates, significance of cleavage and blastulation, Morphogenetic cell movement, Fate maps and significance of gastrulation.
- Unit 3: Development of *Branchiostoma* (*Amphioxus*) up to gastrulation; chick egg and its development up to the formation of primitive streak, Extra embryonic membranes of chick, development of placenta in rabbit, types and functions of placenta in mammals.
- Unit 4: Various types of stem cells and their applications (with special reference to embryonic stem cells), Cloning of animals: nuclear embryonic transfer

technique, nuclear transfer technique; Identical, Siamese and fraternal twins and Artificial insemination.

Unit 5: Organogenesis of alimentary canal, eye, kidney, gonads and brain in mammal.

PAPER III

Immunology, Microbiology and Biotechnology

Unit 1: Types of immunity (innate and acquired, humoral and cell mediated), Antigen: Antigenicity of molecules, haptens, Antibody: Structure and functions of each class of immunoglobulins (IgG, IgM, IgD, IgA and IgE), antigen – antibody reactions.

Unit 2: Theory of spontaneous generation; Germ theory of fermentation and diseases: Works of Louis Pasteur, John Tyndal, Rober-Koch and Jenner, Bacteria: Cell membrane, patterns of arrangement; structure of capsule and cell envelops; organization of cytoplasmic membrane of Gram - negative and Gram - positive strains, Genetic material of bacteria: (i) Chromosome (ii) Plasmids.

Unit 3: Asexual and sexual reproduction in Bacteria ,Culture of Bacteria: Carbon and energy source, Nitrogen and minerals and Organic growth factors, Effect of environmental factors on bacterial culture: Temperature, hydrogen ion concentration; Medical importance of Gram-negative and Gram-positive bacteria.

Unit 4: Recombinant DNA technology: Introduction and principles, restriction endonucleases, cloning vehicles (plasmids, bacteriophages); methods of gene transfer and applications.

Unit 5: Environmental Biotechnology (outline idea only): Metal and petroleum recovery, pest control, waste-water treatment, Food, Drink and Dairy Biotechnology (outline idea only): Fermented food production: dairy products, alcoholic beverages and vinegar: microbial spoilage and food preservation.

Practical

5. Study of microbes in food material (like curd, etc.)
6. Bacteria culture
7. Demonstration of dissection:
Scoliodon : General anatomy, alimentary canal, afferent and efferent blood vessels, urinogenital system, brain and cranial nerves – V, VII, IX and X only and internal ear
Labeo / Wallago, Brain V, VII, IX and X Cranial nerves, afferent and efferent blood vessels, air sacs, and internal ear.
Rattus: General anatomy, digestive, blood vascular and urinogenital systems
8. OSTEOLGY
Articulated and disarticulated skeleton of *Rana*, *Varanus*, *Gallus* and *Oryctolagus*
9. PERMANENT PREPARATIONS
Scoliodon: Placoid scales, Ampulla of Lorenzini.
10. Identification, systematic position and comments of the following animals: Cephalochordata: *Amphioxus*, Hemichordata: *Balanoglossus*
Urochordata: *Salpa*, *Doliolum* and *Herdmania*
Cyclostomata: *Petromyzon* and *Myxine*
Pisces: *Zygaena*, *Scoliodon*, *Pristis*, *Torpedo*, *Trygon*, *Protopterus*, *Labeo*, *Heteropneustis* (*Saccobranchus*), *Belone*, *Exocoetus*, *Anabas* and *Echeneis*
Amphibia: *Necturus*, *Amphiuma*, *Amblystoma*, *Axolotal larva*, *Hyla*, *Uraeotyphlus*
Reptilia: *Trionyx*, *Chelone*, *Varanus*, *Uromastix*, *Ophiosaurus*, *Naja*, *Bungarus*, *Echis*, *Hydrophis*, *Eryx*, *Ptyas*, *Crocodilus* and *Gavialis*
Aves: *Columba*, *Pavo*, *Choriotis*, *Francolinus*, *Streptopelia*
Mammalia: *Meriones*, *Funambulus*, *Rattus*, *Hemiechinus*, *Suncus*, *Ptecopus*, *Presbytis* and *Macaca*
11. Microscopic Study
Hemichordata: Section through proboscis and branchiogenital region
Branch stoma: T.S. oral hood, pharynx, gonads, intestine and caudal region
Scoliodon: T.S. gill and scroll valve
Rana: T.S. through various organs, T.S. and L.S. of developmental stages
Reptilia: V.S. skin of lizard
Aves: V.S. skin, different types of feathers
Chick embryology: Whole mounts of embryos of 18, 24, 33, 48 and 72 hours
Mammalia: T.S. through various organs

Note: Each regular student is required to keep a record of practical work done by him/her duly checked by the teacher which will be submitted at the time of practical examination.

Distribution of Marks

Maximum Marks: 75
Minimum Pass Marks: 27

| | <u>Regular</u> | <u>Ex.</u> |
|---|----------------|------------|
| Diagrammatic presentation of a major dissection | 15 | 20 |
| Diagrammatic presentation of a minor dissection | 06 | 11 |
| Permanent preparation (one)/Study of microbes in food material (like curd, etc.)/Bacteria culture Spots (eight) | 10 | 10 |
| Viva-voce | 24 | 24 |
| Practical record | 10 | 10 |
| | 10 | --- |
| Total | 75 | 75 |

List of Recommended Books

6. Arey, L.B. : Developmental Anatomy, Asia Publishing House, Mumbai
7. Chopra, V.L. : Genetic Engineering and Biotechnology, Oxford & I.B.H., New Delhi
8. Das, S.M. : The Indian Zoological Memoirs, Herdmania, Lucknow Publishing House, Lucknow
9. Jorden, E.L. and Verma, P.S.: Chordate Zoology and Animal Physiology, S. Chand & Co., N. Delhi
10. Kotpal, R.L. : Chordate Zoology, Rastogi Publication, Meerut
11. Dalela, R.C. : A Text Book of Chordate Zoology, Jai Prakash Nath Publication, Meerut
12. Bhatia, A., Jain, N. and Kohli, N.S.: An outline of Biotechnology, Ramesh Book Depot, Jaipur
13. Balinsky : Introduction to Embryology (CBS College Publishers)
14. Kuby : Immunology (W.H. Freeman)
15. R.A. Meyers (Ed.) : Molecular Biology and Biotechnology (VCH Publishers)
16. Jain, P.C. : Text Book of Embryology, Vishal Publication, Jalandhar
17. Srivastava, M.D.L. : An Introduction to Comparative Anatomy of Vertebrates, Pothishala Ltd., Allahabad
18. Thillayampalam, E.M. : Scoliodon, Lucknow Publishing House, Lucknow
19. Weichert, G.K. : Anatomy of the Chordates, McGraw Hill, New York
20. Lewis, C.D. and Lewin, R., Biology of Gene, McGraw Hill, Toppan Co. Ltd.
21. Winchester, Genetics, Oxford IBH Publications
22. Agarwal, R.A., Srivastava, Anil Kumar and Kaushal Kumar: Animal Physiology and Biochemistry, S. Chand & Co. Ltd., New Delhi.

B.Sc. Part III Examination, 2020

ZOOLOGY

| | | |
|-----------------------------------|--------------------------------------|---------------------------------------|
| Theory | | Max Marks. 150 (Min.Pass Marks;54) |
| Paper I | : Animal Physiology and Biochemistry | 50 |
| Paper II | : Ecology and Behaviour | 50 |
| Paper III | : Applied Zoology | 50 |
| Practicals | : | 75 (Min.Pass Marks;27) |
| Duration of each theory paper | | 3 hours |
| Duration of practical examination | | 5 hours |

Note: Each theory paper is divided in three parts i.e. Section-A, Section –B and Section –C.

Section-A: Will consist of 10 compulsory questions. There will be two questions from each unit and answer of each question shall be limited up to 30 words. Each question will carry of 1 mark.

Section –B: Will consist of 10 questions. Each unit will be having two questions; students will answer one question from each Unit. Answer of each question shall be limited up to 250 words. Each question carries 3.5 Marks.

Section-C: will consist of total 05 questions. Students will answer any 03 questions and answer of each question shall be limited up to 500 words. Each question carries 7.5 Marks.

PAPER I

Animal Physiology and Biochemistry

Unit 1 : Digestion; digestive enzymes, process of digestion, digestion of protein, carbohydrate and lipid

Blood : Composition and functions, Blood groups, Rh factor and their significance, blood clotting mechanism, blood pressure and cardiac cycle, respiratory pigments, cardiac muscle activity.

- Unit 2 : Muscle : Structure of various types of muscles and mechanism of muscle contraction
Excretion : Structure of kidney, types of nephron, mechanism of urine formation and its elimination and arginine, ornithin cycle.
- Unit 3 : Respiration : Structure of lung, mechanism of respiration, respiratory pigment, exchange and transport of oxygen and carbon dioxide.
Nervous System : Structure of neuron and its classification, Nerve impulse, impulse conduction and reflex action.
- Unit 4 : Endocrine glands : Structure and functions of various endocrine glands, diseases caused by hormonal deficiency ; Mechanism of hormone action.
- Unit 5 : Structure of Protein and Carbohydrates; oxidation of glucose through glycolysis, Krebs cycle and oxidative phosphorylation, deamination, transamination and decarboxylation.

PAPER II

Ecology and Behaviour

- Unit 1 : Introduction of ecology, definition, history, sub division and scope of ecology.
Environmental factors; physical factors- soil, water, air and temperature. Biotic factors- interspecific and intraspecific relations, neutralism, mutualism, commensalism, antibiosis, parasitism, predation, competition. Concept of limiting factors, Liebig's law of minimum, Shelford's law of tolerance, combined concept of limiting factors.
- Unit 2 : Population and community ecology, measurement of population density. Factors affecting population growth, growth factors, dispersal, characteristic of community, concept of ecosystem and niches.
Food chain, food web, Ecological pyramid. Energy flow in an ecosystem, biogeochemical cycles of CO₂, N₂, O₂, S and P. Prospects and strategies of sustainable development.
- Unit 3 : Brief introduction to the major ecosystem of the world and ecological succession, conservation of natural resources; Ecology in relation to Thar desert.
Brief account of environmental pollution, global warming and its impact upon Human race.

Unit 4 : General survey of various types of animal behaviour; Methods of studying animal behaviour, Role of hormones and pheromones in behaviour, Biological rhythms.

Unit 5 : Learning and Memory – Conditioning, Habituation, Insight learning, Association learning, Reasoning and Communication; Wildlife of Rajasthan and its conservation.

PAPER III
Applied Zoology

Unit 1 : Poultry keeping – Types of poultry breeds, poultry housing, farm and farm management, system of poultry farming; Grading, handling and marketing of eggs. Poultry diseases and Vermiculture; Methodology and products.

Unit 2 : Sericulture : Different kinds of silk producing insects in India and its potentialities. Host plants of silk insects. Grainage, rearing and life cycle. Breeding and various diseases of silkworm. Reeling and fibre technology. Economics of sericulture.

Unit 3 : Apiculture : Different kinds of honey bees found in India and, their identification. Identification of Queen, worker and drone. Importance of keeping bees in artificial hives and different kinds of hives. Care and management of bee colonies. Bee enemies and their control. Extraction and processing of honey from the comb. Utility and economics of production of honey. Honey bees and pollination strategy in agricultural crops.

Unit 4 : Pest Management : Insect pests of important crops (cotton, Rice, sugar cane & pulses), insect pest of veterinary and medical importance, pest outbreaks and assessment of losses caused by the insect pests on crops; population dynamics of insect pests; Principles of Biological, mechanical and cultural methods of pest control. Integrated Pest Management (IPM). Principles of pest control by pesticides.

Important vertebrate pests; birds and mammals with special reference to rodents and their management.

Unit 5 : General principles of aquaculture; transportation of fish seed and brooders. Induced Breeding, Composite fish culture, Lay out of fish farm and its management, By-products of fishing industry; Prawn culture; Management of water bodies for aquaculture.

Practicals

12. Haemoglobin estimation of mammalian blood
13. Preparation of heamin crystals
14. Osmotic effect of R.B.C.
15. Preparation of mammalian blood film and identification of different types of blood cells
16. Determination of blood groups and Rh-factor
17. To determine the rate of oxygen consumption of rat
18. Analysis of urine for sugar, protein and pH
19. Estimation of E.S.R.
20. Demonstration of amylase activity
21. Estimation of packed cell volume [PCV]
22. Demonstration of working of pH meter
23. Demonstration of working of colorimeter
24. Measurement of blood pressure
25. Study of different spraying and dusting equipment
26. Use of pesticides and precautionary measures
27. Measurement of temperature and relative humidity
28. Estimation of soil moisture
29. Estimation of water holding capacity of different soils
30. Ecosystem study : Aquarium
31. Pond water study to identify zoo-planktons and their permanent preparations
32. Permanent preparation of any two stored grain pests. Two parasitic insects and termites
33. Honey bee : Permanent preparation of pollen basket and mouth parts
34. Permanent preparation of mouth parts of butterfly, moth, mosquito and cockroach
35. Project report based upon study of local fauna
36. Demonstration of dissection of nervous system of cockroach

Distribution of Marks

Maximum Marks : 75
Minimum Pass Marks : 27

| | <u>Regular</u> | <u>Ex.</u> |
|---|----------------|------------|
| Physiology Experiment | 12 | 15 |
| Ecology Experiment | 12 | 15 |
| Spots (six) | 12 | 18 |
| Diagrammatic presentation of dissection | 07 | 10 |
| Project report on local fauna | 07 | -- |
| Permanent preparation | 05 | 07 |
| Viva-voce | 10 | 10 |
| Record | 10 | -- |
| Total | 75 | 75 |

List of Recommended Books:

1. Srivastava, H.S. : Elements of Biochemistry, Rastogi Publications, Meerut
2. Goel, K.A. and Shastry, K.B. : Animal Physiology, Rastogi Publication, Meerut
3. Dalela, R.C. : Animal Physiology, S. Chand & Co. Ltd., New Delhi
4. Agarwal, R.A., Srivastava, Anil Kumar and Kaushal Kumar : Animal Physiology and Biochemistry, S. Chand & Co. Ltd., New Delhi
5. Kulshrestha, V.V. : Experimental Physiology, Vikas Publishing House, New Delhi
6. Samasiviah, I. et.al. : Text Book of Animal Physiology and Ecology, S. Chand & Co. Ltd., New Delhi
7. Verma, P.S., Tyagi, B.S. and Agarwal, V.K. : Animal Physiology, S. Chand & Co. Ltd., New Delhi
8. Hoar, S. : General and Comparative Physiology, Prentice Hall of India Pvt. Ltd.
9. Wood, D.W. : Principles of Animal Physiology
10. Prosser, C.B. : Comparative Animal Physiology, Satish Book Enterprise
11. Eckert, Animal Physiology. (W.H. Freeman)
12. Parihar, R.P. : Fish Biology and Indian Fisheries, Central Publication House, Allahabad
13. Kovaleve, P.A., Silkworm Breeding Stocks, Central Silk Board, Marine Drive, Mumbai
14. Roger, A. Morse, The ABC and XYZ of Bee Culture, A.I. Root & Co., Medina, Ohio 44256.
15. Metcalf C.L. and W.P. Flint, Destructive and Useful Insects, Tata McGraw Hill Publishing Co. Ltd., New Delhi – 110 051
16. Bomford, Mason and Swash, Hutchinson's Clinical Methods, Beilliers Tindal, ELBS edition
17. Gorbman, A., Dickhoff, W.W., Vigna, S.R., Clark, N.B. and Ralph, C.L. Comparative Endocrinology, John Wiley & Sons Inc., New York
18. Beauchamp, T.L. and J.F. Chidress. Principles of Biomedical ethics. Oxford University Press.
19. Nayar, B.V., Pest Management and Pesticides Indian Scenario, Namratha Publications, Madras
20. Odum : Ecology (Amerind)
21. Odum : Fundamentals of Ecology (W.B. Saunders)
22. Ricklefy : Ecology (W.H. Freeman)
23. Turk and Turk : Environmental Science (W.B. Saunders)
24. Dobzhansky, Ayala & Valentine : Evolution (W.H. Freeman)
25. Dobzhansky : Genetics and Origin of species (Columbia University Press)
26. Major : Population, Species & Evolution
27. White : Animal Cytology & Evolution.

B.A. / B. Sc. / B.Com Part – I - 2020 – 21

ENVIRONMENTAL STUDIES AND KHEL DARSHAN

Teaching : 3 periods / week in Annual System Maximum

Marks : 100

Examination duration : 2 hours

Objective type multiple choice question papers, 1 mark for each right answer, 20 questions from each Unit.

Unit I : Multidisciplinary Nature of Environmental Studies : Definition, scope and importance; Human Population and Environment; Environment and Human Health; Legal Issues and Environment : Environment Protection Act; Environmental Ethics : Issues and possible solutions.

Unit II : Natural Resources : Renewable and Non-Renewable : Forest Resources - Use and over exploitation, deforestation, introduction to afforestation activities in India.

Water Resources - Use and over utilization of surface and ground water; floods and droughts

Mineral Resources - Use and exploitation, environmental effects of extracting and using mineral resources, case studies.

Food Resources - World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems.

Energy Resources - Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources, case studies.

Land Resources - Land as a resource, degradation, man induced landslides, soil erosion and desertification.

Unit III : Ecosystems : Concept of an ecosystem, Structure and function of ecosystem, Producers, consumers and decomposers; abiotic factors; food chain and web; ecological pyramids; energy flow.

Pollution – Definition, causes, effects and management strategies for (i) Air Pollution, (ii) Water Pollution, (iii) Soil Pollution, (iv) Noise Pollution, (v) Thermal Pollution, (vi) Nuclear hazards.

Solid waste management – Causes, effects and management strategies for urban and industrial wastes.

Unit IV : Biodiversity and its conservation : Introduction, definition, levels (genetic, species and ecological), Importance of biodiversity; Status – Global, National and Local; Threats to biodiversity – habitat loss, poaching of wildlife, man-wildlife conflicts. Endangered and endemic species of India.

Unit V : Sports for human welfare : Sports in relation to Philosophy; Sports and health fitness; Social values for sports and sportspersons, Role of sports in personality development; Sports as recreation.

India's policies for Sports : Central and State Governments; introduction to sports support facilities in India.

History and Traditional Sports of India – Kabaddi, Kho-Kho, Mallakhamb, Jallikattu.

Recommended readings :

1. Environmental Studies, R. B. Singh, D. K. Tharur and J. P. S. Chouhan, Publishers Ramesh Book depot, Jaipur/New Delhi.
2. A Text Book of Environmental Sciences. Vidya Thakur, Scientific Publisher, Jodhpur/New Delhi.
3. 'Paryavaran Adhadyan'. Manoj Kumar Yadav and Aupama Yadav, Astha Publications, Jaipur.
4. Environmental Awareness and Protection. DBN Murthy. Deep n Deep Publ. N. Delhi.
5. Khel Manovigyan (Sports Psychology), Dr. Hosiyar Singh.
6. Saririk Shiksha Tatha Khel Krira Me Prabandhan Sidhant by, Dr. M. L. Kamlesh.

FACULTY OF ARTS, EDUCATION AND SOCIAL SCIENCES
MASTER OF ARTS (Regular & Private) ANNUAL SCHEME
GENERAL INFORMATION FOR STUDENTS

The examination for the degree of Master of Arts, Education and Social Sciences shall consist of two parts : (i) The previous Examination and (ii) The Final Examination.

The examination will be through theory papers/practicals. Pass marks for the previous and final examinations are 36% of the aggregate marks in all the theory papers and practicals and not less than 25% marks in the individual theory paper/ practicals. A candidate is required to pass in the written and the practical examinations separately.

Successful candidates will be placed in the following divisions on the basis of the total marks obtained in previous and final examination taken together :

First division 60%, Second division 48%, and Third division 36%

No student will be permitted to register himself simultaneously for more than one postgraduate course.

MEDIUM

Candidates are not allowed to use any medium except Hindi or English for answering question papers.

For answering papers in the subjects of English/Hindi the medium will be corresponding language only.

For answering question papers in the subject of Sanskrit the candidates are allowed to use Sanskrit, Hindi or English unless specified otherwise.

DEPARTMENT OF HISTORY

General Information For (Regular & Private Students) ANNUAL SCHEME

Examination Scheme

1. M.A. (PREVIOUS) :

There will be four papers, each of three hours duration carrying 100 marks each. First three papers are compulsory. A candidate will have an option in Paper IV to offer one out of two papers. The Department will decide optional paper to be taught.

2. M.A. (Final) :

1. There will be **FIVE** papers in all for M.A. Final Examination. Paper V (Research Methodology) is compulsory for all candidates, remaining four papers will be from **ANYONE** following group of specialization - (A) Ancient India (B) Medieval India (C) Modern India. All the FIVE papers are of 100 marks each.

2. The group of specialization mentioned above will be allotted to the regular students of the University History Department on merit-cum-preference basis.

3. The grand total of the maximum marks thus – will be 900 marks (400 Marks for M.A. Previous & 500 Marks for M.A. Final).

Pattern of Question Paper in M.A. Previous (2019) & M.A. Final (2020)

Section A: Will consist of 10 compulsory questions. There will be two questions from each unit and answer of each question shall be limited upto 30 words. Each question will carry 2 or 1 marks.

Section B: Will consist of 10 questions. Two questions from each unit will be set and students will answer one question from each unit. Answer of each question shall be limited upto 250 words. Each question will carry 7 or 3.5 marks.

Section C: Will consist of total 5 questions. The paper setter will set one question from each Unit and students will answer any 3 questions and answer of each question shall be limited upto 500 words. Each question will carry 15 or 7.5 marks.

IMPORTANT NOTIFICATION:

In Compliance of decision of the Hon'ble high court all regular students are required to fulfill 75% attendance rule in each subject and there must be 75% attendance of the student before he / she could be permitted to appear in the examination .

REGISTRAR

(Academic)

DEPARTMENT OF HISTORY

LIST OF EXISTING TEACHING STAFF

1. Dr. Arvind Parihar, Professor and Head
2. Dr. (Mrs.) Vinita Parihar Professor
3. Dr. M.R. Gadhveer, Associate Professor
4. Dr. Sushila Shaktawat, Associate Professor
5. Dr. Rashmi Meena, Assistant Professor
6. Mr. Bhagwan Singh Shekhawat, Assistant Professor
7. Mr. Bhawani Singh Rajpurohit, Assistant Professor
8. Dr. Dinesh Rathi, Assistant Professor
9. Dr. Suresh Kumar, Assistant Professor
10. Dr. Pratibha Sankhla, Assistant Professor
11. Dr. Mahendra Purohit, Assistant Professor
12. Dr. Bharat Deora, Assistant Professor
13. Mr. Lalit Kumar Panwar, Assistant Professor

SYLLABI ONLY FOR (Regular & Private) ANNUAL SCHEME, AFFILIATED COLLAGES
FROM JAI NARAIN VYAS UNIVERSITY , JODHPUR

M.A. (PREV) HISTORY EXAMINATION, 2020

Paper I 100 Marks

Paper II 100 Marks

Paper III 100 Marks

Paper IV 100 Marks

Duration of each paper 3 Hours

PAPER – I

HISTORIOGRAPHY, HISTORICAL CONCEPTS, METHODS AND TOOLS.

- Unit 1 Collection and selection of data, evidence and its transmission. Nature and Scope of History. Use and Misuse of History. Historical objectivity and subject matter of History. Bias in History, Moral Judgement in History. History's relationship with Art and Science.
- Unit 2 Traditions of Historical Writings: A brief survey of Arab, Graeco-Roman and Chinese traditions. Recent trends in ancient, medieval and modern historiography of India, Integral Approach to Indian History. Ancient Indian tradition; Medieval Historiography and Modern Historiography. The Influence of Christianity on Historical writing.
- Unit 3 Concept of History : Approaches to History: Theological; Orientalist; Imperialist; Nationalist; Marxist; Classical Marxist, Recent Marxist; Subaltern and Post-Modernist. Concept of Progress in History. Philosophy of History and Historicism.
- Unit 4 Historical Materialism. Theory of World System, Sociological, Comparative, Cyclical, Ecological Historical Method. Oxford and Cambridge Schools of History and other Modern Historians.
- Unit 5 Major Themes in Indian History. Ancient, Medieval and Modern Period. Historiography of Economic; labour and peasant; environment; science and technology. Varna, Jati, Janajati and gender. Religion; Culture and Civilization. Representative study of major debates on the social and economic history of India.

Suggested Readings:

- Philips, C.H.(ed.) : Historians of India, Pakistan and Ceylon.
- Ghoshal, U.N. : The Beginning of Indian Historiography and Other Essays.
- Devahuti, D.(ed.) : Problems of Indian Historiography.
- Warder, A.K. : An Introduction to Indian Historiography, 1972.
- Gardner, Patrick(ed) : Theories of History, New York, 1959.
- Carr, E.H. : What is History, Penguin, 1965.
- Stern, Fritz (ed.) : The Varieties of History, London, 1970.
- Collingwood R.G. : The Idea of History, New York, 1957.
- Sen, S.P. (ed.) : Historians and Historiography in Modern India.
- Pathak, V.S. : Ancient Historians of India, 1966, Asia Publishing House.
- Walsh : An Introduction to Philosophy of History, London, 1967.
- Renier, G.I. : History, its Purpose and Methods, Boston, 1950.
- Gooch, G.P. : History and Historians in the Nineteenth Century, Longmans, Green & Co.
- Shotwell, J.T. : History of History.
- Thomson, J.W. : History of Historical Writing, 1954.
- Hardy, Peter : Historians of Medieval India, London, 1960.
- Hasan, Mohibul : Historians of Medieval India, Meerut, 1978.
- पाण्डे, जी०सी० : इतिहास : स्वरूप एवं सिद्धान्त, ग्रंथ एकेडमी, जयपुर, 1973 ।
- चौबे, झारखण्ड : इतिहास दर्शन, वि०वि० प्रकाशन वाराणसी, 1999 ।

बुद्ध प्रकाश : इतिहास दर्शन, 1968 ।

पाण्डे, लालताप्रसाद : भारतीय इतिहास—दर्शन, अक्षयवट प्रकाशन वाराणसी, इलाहाबाद ।

सिंह, परमानन्द : इतिहास दर्शन, मोतीलाल बनारसीदास, दिल्ली ।

खुराना—बंसल : इतिहास लेखन धारणाएँ एवं सिद्धान्त ।

एम.ए. पूर्वाद्ध इतिहास परीक्षा, 2020

प्रथम प्रश्न—पत्र 100 अंक

द्वितीय प्रश्न—पत्र 100 अंक

तृतीय प्रश्न—पत्र 100 अंक

चतुर्थ प्रश्न—पत्र 100 अंक

अवधि 3 घण्टे

प्रथम प्रश्न पत्र

इतिहास लेखन, ऐतिहासिक धारणाएँ, पद्धतियाँ तथा उपकरण

- इकाई 1 : तथ्यों का एकत्रण तथा चयन, साक्ष्य और उसके संप्रेषण, इतिहास की प्रकृति और क्षेत्र इतिहास का उपयोग और दुरुपयोग ऐतिहासिक वस्तुनिष्ठता तथा इतिहास की विषय वस्तु इतिहास में पूर्वाग्रह, इतिहास में नैतिक निर्णय कला और विज्ञान के साथ इतिहास का सम्बन्ध ।
- इकाई 2 : इतिहास लेखन की परम्पराएँ : अरब, ग्रीको—रोमन तथा चीनी परम्पराओं का संक्षिप्त सर्वेक्षण । भारत के प्राचीन, मध्य और आधुनिक इतिहास लेखन की नवीन प्रवृत्तियाँ, भारतीय इतिहास के प्रति समग्र दृष्टिकोण, प्राचीन भारतीय इतिहास लेखन, मध्यकालीन इतिहास लेखन तथा आधुनिक इतिहास लेखन । इतिहास लेखन में ईसाई धर्म का प्रभाव ।
- इकाई 3 : इतिहास की धारणाएँ : इतिहास के दृष्टिकोण : धर्मशास्त्रीय, प्राच्य, साम्राज्यवादी, राष्ट्रवादी, मार्क्सवादी, क्लासीकल मार्क्सवादी (पारम्परिक), अधुनातन मार्क्सवादी, जनवादी तथा उत्तर आधुनिक । इतिहास में प्रगति की अवधारणा । इतिहास दर्शन तथा ऐतिहासिकता ।
- इकाई 4 : ऐतिहासिक भौतिकवाद : विश्व व्यवस्था का सिद्धान्त, समाजशास्त्रीय, तुलनात्मक, चक्रीय तथा पर्यावरणीय ऐतिहासिक पद्धति । इतिहास की ऑक्सफोर्ड और कैम्ब्रिज विचारधाराएँ तथा अन्य आधुनिक इतिहासकार ।
- इकाई 5 : भारतीय इतिहास की प्रमुख विषयवस्तु: प्राचीन, मध्य और आधुनिक काल आर्थिक, श्रमिक तथा कृषक, पर्यावरण, विज्ञान और तकनीक का इतिहास लेखन वर्ण, जाति, जनजाति तथा लिंग धर्म, संस्कृति और सभ्यता भारत के सामाजिक और आर्थिक इतिहास के प्रतिनिधि अध्ययन के प्रमुख वाद विवाद ।

संदर्भ —ग्रंथ :

Philips, C.H.(ed.) : Historians of India, Pakistan and Ceylon.

Ghoshal, U.N. : The Beginning of Indian Historiography and Other Essays.

Devahuti, D.(ed.) : Problems of Indian Historiography.

Warder, A.K. : An Introduction to Indian Historiography, 1972.

Gardner, Patrick(ed) : Theories of History, New York, 1959.

Carr, E.H. : What is History, Penguin, 1965.

Stern, Fritz (ed.) : The Varieties of History, London, 1970.

Collingwood R.G. : The Idea of History, New York, 1957.

Sen, S.P. (ed.) : Historians and Historiography in Modern India.

Pathak, V.S. : Ancient Historians of India, 1966, Asia Publishing House.

Walsh : An Introduction to Philosophy of History, London, 1967.

Renier, G.I. : History, its Purpose and Methods, Boston, 1950.

Gooch, G.P. : History and Historians in the Nineteenth Century, Longmans, Green & Co.

Shotwell, J.T. : History of History.

Thomson, J.W. : History of Historical Writing, 1954.

Hardy, Peter : Historians of Medieval India, London, 1960.

Hasan, Mohibul : Historians of Medieval India, Meerut, 1978.

पाण्डे, जी०सी० : इतिहास : स्वरूप एवं सिद्धान्त, ग्रंथ एकेडमी, जयपुर, 1973 ।

चौबे, झारखण्ड : इतिहास दर्शन, वि०वि० प्रकाशन वाराणसी, 1999 ।
बुद्ध प्रकाश : इतिहास दर्शन, 1968 ।
पाण्डे, लालताप्रसाद : भारतीय इतिहास—दर्शन, अक्षयवट प्रकाशन वाराणसी, इलाहाबाद ।
सिंह, परमानन्द : इतिहास दर्शन, मोतीलाल बनारसीदास, दिल्ली ।
खुराना—बंसल : इतिहास लेखन धारणाएँ एवं सिद्धान्त ।

PAPER – II **TWENTIETH CENTURY WORLD**

- Unit 1 First World War : Causes and Consequences.
Paris Peace Settlement and its impact.
Bolshevik Revolution : Causes and results.
Lenin – New Economic Policy.
- Unit 2 League of Nations: Aim, Achievements and Causes of its failure.
Great Depression : Causes and impact.
Reparation. Rise of Fascism and Nazism : Causes.
Second World War – Causes and results.
- Unit 3 UNO and World Peace.
Cold War – Causes and results. NATO-Warsaw Pact.
National Movements : Egypt, Turkey. Non-Aligned Movement.
- Unit 4 Foreign Policy of India. Relations of India-China Problem of Kashmir and
Palestine Civil Rights Movement. Apartheid.
- Unit 5 Disintegration of Socialist block and its impact on politics.
Establishment of American Supremacy. International Terrorism.
Globalization and its economic and political impact.

Suggested Readings:

Koebner Richard and
Schmidt Helmut Dan : Imperialism : The Story and Significance of Political World (1840-1960)
(1963).
Muir, R. : The Expansion of Europe (1939).
Lenin, V.I. : Imperialism, The Highest Stage of Capitalism (1918).
Moon, P.T. : Imperialism and World Politics (1926).
Schumpeter, A. : Capitalism, Socialism and Democracy (1950).
Taylor, A.J.P. : Struggle for Mastery in Europe (1848-1918).
Grant and Temperley
(ed. by Agutha) : Europe in 19th Century (1789-1905).
Ramm : Europe in 19th Century (1905-1970), 1984.
Hearnshaw, F.J.C. : Main Currents of European History.
Albrecht-Canie, R. : A Diplomatic History of Europe Since the Congress of Vienna (1958).
Sen, S.N. : Europe and the World (1789-1945), 1998 Delhi, S. Chand & Co. Ltd.
Fay, S.B. : Origins of World War, 2 Vols. 1930.
Stewart C, Easton : The Western Heritage (from 1500 to the present), 1966.
Kenneth Boulding : Meaning of the Twentieth Century, 1965.
A. Pryce-Jones (ed.) : The New Outline of Modern Knowledge, 1956.
Gupta M.G. : International Relations, 2 Vols. (English and Hindi)
चौहान, देवेन्द्र सिंह : यूरोप का इतिहास ।
वर्मा, दीनानाथ : आधुनिक विश्व का इतिहास ।
: अन्तर्राष्ट्रीय सम्बन्ध ।
शर्मा, मथुरालाल : यूरोप का इतिहास (1870–1917)
महाजन, वी०डी० : यूरोप का इतिहास ।

द्वितीय प्रश्न पत्र
बीसवीं शताब्दी का विश्व

- इकाई 1 : प्रथम विश्वयुद्ध : कारण तथा परिणाम
पेरिस शांति समझौता तथा उसके प्रभाव
वॉल्शेविक क्रांति : कारण और परिणाम
लेनिन – नई आर्थिक नीति
- इकाई 2 : राष्ट्रसंघ : उद्देश्य, उपलब्धियाँ तथा असफलता के कारण
आर्थिक मंदी – कारण तथा प्रभाव
क्षतिपूर्ति
फासीवाद और नाजीवाद का उदय – कारण
द्वितीय विश्व युद्ध – कारण तथा परिणाम
- इकाई 3 : संयुक्त राष्ट्रसंघ और विश्व शांति
शीत युद्ध – कारण तथा परिणाम
नाटो – वारसा समझौता
राष्ट्रीय आन्दोलन – मिस्र और तुर्की
गुट-निरपेक्ष आन्दोलन
- इकाई 4 : भारत की विदेश नीति
भारत-चीन सम्बन्ध
कश्मीर तथा फिलिस्तीन की समस्या
नागरिक अधिकार आन्दोलन
रंग-भेद नीति
- इकाई 5 : समाजवादी गुट का विघटन तथा राजनीति पर उसका प्रभाव
अमरीकी सर्वोच्चता की स्थापना
अंतर्राष्ट्रीय आतंकवाद
भूमण्डलीकरण और उसके आर्थिक तथा राजनीतिक प्रभाव

संदर्भ –ग्रंथ :

Koebner Richard and

Schmidt Helmut Dan : Imperialism : The Story and Significance of Political World (1840-1960) (1963).

Muir, R. : The Expansion of Europe (1939).

Lenin, V.I. : Imperialism, The Highest Stage of Capitalism (1918).

Moon, P.T. : Imperialism and World Politics (1926).

Schumpeter, A. : Capitalism, Socialism and Democracy (1950).

Taylor, A.J.P. : Struggle for Mastery in Europe (1848-1918).

Grant and Temperley

(ed. by Agutha) : Europe in 19th Century (1789-1905).

Ramm : Europe in 19th Century (1905-1970), 1984.

Hearnshaw, F.J.C. : Main Currents of European History.

Albrecht-Canie, R. : A Diplomatic History of Europe Since the Congress of Vienna (1958).

Sen, S.N. : Europe and the World (1789-1945), 1998 Delhi, S. Chand & Co. Ltd.

Fay, S.B. : Origins of World War, 2 Vols. 1930.

Stewart C, Easton : The Western Heritage (from 1500 to the present), 1966.

Kenneth Boulding : Meaning of the Twentieth Century, 1965.

A. Pryce-Jones (ed.) : The New Outline of Modern Knowledge, 1956.

Gupta M.G. : International Relations, 2 Vols. (English and Hindi)

चौहान, देवेन्द्र सिंह : यूरोप का इतिहास ।
वर्मा, दीनानाथ : आधुनिक विश्व का इतिहास ।
: अन्तर्राष्ट्रीय सम्बन्ध ।
शर्मा, मथुरालाल : यूरोप का इतिहास (1870–1917)
महाजन, वी०डी० : यूरोप का इतिहास ।

PAPER – III CULTURAL PROFILE OF INDIA

| | |
|--------|---|
| Unit 1 | Meaning and Scope of Culture, Indus civilization –religion; Vedic age – religion and society; evolution of Vaishnavism, Saivism and Saktism. |
| Unit 2 | Buddhism: Life and Teachings; Contribution of Buddhism to Indian Culture; Jainism: Life and Teachings; Contribution of Jainism to Indian culture, Main currents of Medieval Bhakti Movement; Contribution of Islam to Indian Culture. |
| Unit 3 | Literary Scenario: Vedic literature, Ramayana, Mahabharata and Puranas; Representative literary figures of India – Kalidas, Banabhatta, Tulsi, Tagore. |
| Unit 4 | Evolution of Cave architecture, Stupas, Main features of Gandhara and Mathura sculpture, Temple art and architecture of Gupta age, Evolution of Nagara and Dravida temple styles, Ajanta paintings. |
| Unit 5 | Main centres of learning in India : Taxila, Nalanda, Ujjain, Kanchi; Contribution of Sangam age; contribution of Raja Ram Mohan Rai, Dayanand and Vivekanand to the Indian Society; Contribution of Arya Bhatt and Varaha Mihir. |

Suggested Readings:

Majumdar, R.C. and
Pusalkar, A.D. : The History and Culture of the Indian People, Vol. I, II, III, IV, IX, parts I & II (Chapters on Art, Religion and Literature only).
Lunia, B.N. : Evolution of Indian Culture.
Coomaraswamy, A.K. : History of Indian and Indonesian Art.
: Indian Architecture Vol. I & II.
Brown Percy : Indian Paintings.
Kramrisch, S. : Hindu Temple 2 Vols.
: Indian Sculpture.
Saraswati, S.K. : Survey of Indian Sculpture.
Altekar, A.S. : Education in Ancient India.
Aurobindo : Foundation of Indian Culture.
Mookerjee, R.K. : Hindu View of Life.
: Cultural Heritage of India Vol. IV.
Keith, A.B. : History of Sankrit Literature (in Hindi also).
Das Gupta, S.N.(ed.) : A History of Sanskrit Literature.
Gopal, L. &
Yadav, B.N.S. : Bhartiya Sanskriti.
Basham, A.L. : The Wonder That was India.
Jaiswal, S. : History of Vaishnavism.
Farquhar : Religious Movements in India.
गुप्ता, परमेश्वरीलाल : भारतीय वास्तुकला ।
भण्डारकर, आर०जी० : वैष्णव, शैव और अन्य धार्मिक मत ।
कीथ, ए०बी० : वैदिक धर्म के विकास का इतिहास ।
पाण्डे, जी०सी० : बौद्ध धर्म के विकास का इतिहास ।
जैन, एच०एल० : भारतीय संस्कृति को जैन धर्म का योगदान ।
भारद्वाज, कमलेश : भारतीय संस्कृति ।
गुप्त, शिवकुमार : भारतीय संस्कृति के मूल आधार ।

तृतीय प्रश्न पत्र भारतीय संस्कृति की रूपरेखा

- इकाई 1 : संस्कृति का अर्थ और विस्तार, सिन्धु घाटी सभ्यता-धर्म; वैदिक युग – धर्म और समाज; वैष्णव धर्म, शैव धर्म तथा शाक्त धर्म का क्रमिक विकास।
- इकाई 2 : बौद्ध धर्म : जीवन और शिक्षाएँ, भारतीय संस्कृति को बौद्ध धर्म का योगदान, जैन धर्म : जीवन और शिक्षाएँ; भारतीय संस्कृति को जैन धर्म का योगदान, मध्यकालीन भक्ति आन्दोलन के प्रमुख घटक, भारतीय संस्कृति को इस्लाम का योगदान।
- इकाई 3 : साहित्यिक परिदृश्य : वैदिक साहित्य, रामायण, महाभारत तथा पुराण, भारत के प्रतिनिधि साहित्यकार – कालीदास, बाणभट्ट, तुलसीदास और टैगोर।
- इकाई 4 : गुहा स्थापत्य का विकास, स्तूप, गान्धार और मथुरा मूर्ति कला की प्रमुख विशेषताएँ, गुप्तकाल का मन्दिर स्थापत्य और स्थापत्य कला, नागर और द्रविड शैली के मन्दिरों का विकास, अजन्ता चित्रकला।
- इकाई 5 : भारत में शिक्षा के प्रमुख केन्द्र : तक्षशिला, नालन्दा, उज्जैन, काँची; संगम युग का योगदान, भारतीय समाज को राजा राममोहन राय, दयानन्द और विवेकानन्द का योगदान, आर्य भट्ट और वराहमिहिर का योगदान।

संदर्भ-ग्रंथ :

Majumdar, R.C. and

Pusalkar, A.D. : The History and Culture of the Indian People, Vol. I, II, III, IV, IX, parts I & II (Chapters on Art, Religion and Literature only).

Lunia, B.N. : Evolution of Indian Culture.

Coomaraswamy, A.K. : History of Indian and Indonesian Art.
: Indian Architecture Vol. I & II.

Brown Percy : Indian Paintings.

Kramrisch, S. : Hindu Temple 2 Vols.
: Indian Sculpture.

Saraswati, S.K. : Survey of Indian Sculpture.

Altekar, A.S. : Education in Ancient India.

Aurobindo : Foundation of Indian Culture.

Mookerjee, R.K. : Hindu View of Life.

: Cultural Heritage of India Vol. IV.

Keith, A.B. : History of Sankrit Literature (in Hindi also).

Das Gupta, S.N.(ed.) : A History of Sanskrit Literature.

Gopal, L. &

Yadav, B.N.S. : Bhartiya Sanskriti.

Basham, A.L. : The Wonder That was India.

Jaiswal, S. : History of Vaishnavism.

Farquhar : Religious Movements in India.

गुप्ता, परमेश्वरीलाल : भारतीय वास्तुकला ।

भण्डारकर, आर०जी० : वैष्णव, शैव और अन्य धार्मिक मत ।

कीथ, ए०बी० : वैदिक धर्म के विकास का इतिहास ।

पाण्डे, जी०सी० : बौद्ध धर्म के विकास का इतिहास ।

जैन, एच०एल० : भारतीय संस्कृति को जैन धर्म का योगदान ।

भारद्वाज, कमलेश : भारतीय संस्कृति ।

PAPER – IV (B)
WOMEN IN INDIAN HISTORY

- Unit 1 Sources of Study – Archival and non-archival: Govt. files, Census reports, private papers, autobiographies. Various approaches about women – Liberal, Marxist, Socialist, and Radical.
- Unit 2 Religion and Women – Brahmanical, Jainism, Buddhism, Christianity, Islam and Sikhism. Reform movement and Women – Bhakti movement, Brahma Samaj, Arya Samaj, Aligarh movement.
- Unit 3 Customary and legal Status of Women – Ancient India, Medieval India, Colonial India, Post independence and Tribal Societies.
- Unit 4 Role of Women in household, Agriculture, Industry and rights of property. Education and Women – Ancient India, Medieval India, Colonial India, Post Independence India. Women’s organisations – Colonial, local, national, post-independence political participation of women, various movements of women in India.
- Unit 5 Women and Culture – Women representation and Participation in Literature, Art, Sculpture, Music, Dance, Historical writings and media.

Suggested Readings:

- Altekar, A.S. : The Position of Women in Hindu Civilization, Delhi, 1978.
- Basu, A. & Ray, B. : Women’s Struggle : A History of the All India Women Conference 1927,1990, Delhi.
- Upadhyaya, B.S. : Women in Rigveda.
- Desai, Neera : Women in Modern India, Mumbai, 1957.
- Krishna Murty, J.(ed.) : Women in Colonial India, OUP, Delhi, 1989.
- : Essays on Survival Work and State.
- Parekh, M.C. : The Brahma Samaj.
- Majumdar, Vina : Symbols of Power : Studies on the Political Status of Women in India, Delhi, 1979.
- Mishra, Rekha : Women in Mughal India 1526-1748, Munsiram Manoharlal, Delhi, 1967.
- Nanda B.R. : Indian Women from Purdah to Modernity, Vikas, Delhi, 1976.
- Gail, Minault : The Extended Family Women and Political Participation in India and Pakistan, South Asiabooks, Columbia, 1981.
- Towards Equality : Report of Committee on the Status of Women in India, Govt. of India, Delhi, 1975.
- Ashraf, K.M. : Social and Economic Life in Medieval India.

**या
चतुर्थ प्रश्न पत्र (ब)
भारतीय इतिहास में महिलाएं**

- इकाई 1 : अध्ययन के स्रोत – अभिलेखीय और अभिलेखीय : सरकारी फाइलें, जनगणना प्रतिवेदन, व्यक्तिगत दस्तावेज, आत्मकथाएं, महिलाओं के विषय में विभिन्न दृष्टिकोण – उदारवादी, मार्क्सवादी, समाजवादी तथा अतिवादी।
- इकाई 2 : धर्म और महिलाएं – ब्राह्मण धर्म, जैन धर्म, बौद्ध धर्म, ईसाई धर्म, इस्लाम धर्म तथा सिक्ख धर्म सुधार आन्दोलन और महिलाएं – भक्ति आन्दोलन, ब्रह्म समाज, आर्य समाज तथा अलीगढ़ आन्दोलन।
- इकाई 3 : महिलाओं की पारंपरिक तथा वैधानिक अवस्था – प्राचीन भारत, मध्यकालीन भारत, औपनिवेशिक भारत, स्वातंत्र्योत्तर काल तथा जनजातीय समाज गृहकार्यों में महिलाओं का अवदान – कृषि, उद्योग; सम्पत्ति का अधिकार।
- इकाई 4 : शिक्षा और महिलाएं – प्राचीन भारत, मध्यकालीन भारत, औपनिवेशिक भारत और स्वातंत्र्योत्तर भारत में महिलाओं की राजनीतिक भागीदारी, भारत में महिलाओं के विभिन्न आन्दोलन।
- इकाई 5 : महिलाएं और संस्कृति – महिलाओं की साहित्य, कला, मूर्तिकला, संगीत, नृत्य, ऐतिहासिक लेखन तथा मीडिया में प्रतिनिधित्व और भागीदारी।

संदर्भ—ग्रंथ :

- Altekar, A.S. : The Position of Women in Hindu Civilization, Delhi, 1978.
- Basu, A. & Ray, B. : Women's Struggle : A History of the All India Women Conference 1927,1990, Delhi.
- Upadhyaya, B.S. : Women in Rigveda.
- Desai, Neera : Women in Modern India, Mumbai, 1957.
- Krishna Murty, J.(ed.) : Women in Colonial India, OUP, Delhi, 1989.
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- Parekh, M.C. : The Brahma Samaj.
- Majumdar, Vina : Symbols of Power : Studies on the Political Status of Women in India, Delhi, 1979.
- Mishra, Rekha : Women in Mughal India 1526-1748, Munsiram Manoharlal, Delhi, 1967.
- Nanda B.R. : Indian Women from Purdah to Modernity, Vikas, Delhi, 1976.
- Gail, Minault : The Extended Family Women and Political Participation in India and Pakistan, South Asiabooks, Columbia, 1981.
- Towards Equality : Report of Committee on the Status of Women in India, Govt. of India, Delhi, 1975.
- Ashraf, K.M. : Social and Economic Life in Medieval India.
- शास्त्री, के०ए०एन० : नन्द मौर्य युगीन भारत ।
- मुखर्जी, आर०के० : चन्द्रगुप्त मौर्य और उनका काल ।
- थापर, रोमिला : अशोक और मौर्य साम्राज्य का पतन ।
- मजूमदार तथा अल्तेकर: वाकाटक गुप्त युग ।
- मिराशी, वी०वी० : वाकाटक राजवंश और उनके अभिलेख ।
- वेदालंकर, ह० : प्राचीन भारत का राजनीतिक और सांस्कृतिक इतिहास ।
- पाण्डे, जी०सी० : वैदिक संस्कृति ।
- मजूमदार, आर०सी०: श्रेय युग ।
- गोयल, श्रीराम : प्राचीन भारत का इतिहास खण्ड 1-2 ।

M.A. (FINAL) HISTORY GR. 'B' EXAMINATION, 2017

Paper I 100 Marks

Paper II 100 Marks

Paper III 100 Marks

Paper IV 100 Marks

Paper V 100 Marks

Duration of each paper 3 Hours

PAPER – I

POLITY AND ECONOMY OF INDIA (c. A.D. 1200-1750)

Unit 1 Primary Sources –

Inscription, Monuments and Sculpture, Tarikh-i-Firozshahi, Babarnama, Akbarnama, Muntakhabut-Tawarikh, Bernier, Manuchi.

Unit 2 State, Institutional Structure and System of Government –

Nature, theory of Kingship: Pressure groups, Iqta, Mansab and Jagir, State and rural society and village administration.

Unit 3 Ruling Classes –

Evolving composition, local alliances and conflict; patterns of resistance, collapse of empire; Emergence of regional states with special reference to Vijayanagar and Bahamni.

Unit 4 Agrarian Economy, Trade and Commerce –

Control over land, relations of production resource base and the pattern of resource use in agrarian production; Nature and magnitude of taxation, agrarian relations; inland and maritime trade, structure of trade, role of Arab and European traders.

Unit 5 Growth of cities and towns, Industries and production technology –Nature and

Classification, demographic changes, administration, urban communities and morphology of cities; Textiles, Agro-industries, metal technology and artisans.

Suggested Readings:

Ali, M.Athar : The Mughal Nobility under Aurangzeb (Mumbai, Asia, 1970)

Ashraf, K.M. : Life and Conditions of the People of Hindustan 1200-1550 A.D., Delhi, 1970.

Habib, A.B.M. : The Foundation of Muslim Rule in India.

Habib, Irfan : Agrarian System of Mughal India (1526-1707) Mumbai, Asia, 1963.

Habib, Mohammad : Politics and Society in Early Medieval Period, Vol. I & II, Delhi, 1974.

Elliot and Dowson : History of India as told by its own Historians (also Hindi ed.) Relevant portion.

Dey, U.N. : Government of Delhi Sultanate.

Habib, Mohammad and K.A. Nizami : Comprehensive History of India Vol. V, Delhi, 1987

Hasan, S.Nurul : Thoughts on Agrarian Relations in Mughal India, Delhi, 1973.

Moreland, W.H. : Agrarian System of Muslim India, Delhi, 1968.

Mukhia, Harbans : Historian and Historiography during the Reign of Akbar, Delhi, 1976.

Naqvi, H.K. : Urbanisation and Urban Centres under the great Mughals, Simla, 1971.

Satish Chandra : Historiography, Religion and State in Medieval India, Delhi, 1996.

Tripathi R.P. : Some Aspects of Muslim Administration, Allahabad, 1964.

Lal, K.S. : Studies in Medieval Indian History.

हबीब, इरफान : मध्यकालीन भारत का आर्थिक इतिहास – एक सर्वेक्षण ।

वर्मा, हरिश्चन्द्र : मध्यकालीन भारत, भाग 1 एवं 2 ।

एम.ए. उत्तरार्द्ध इतिहास – ग्रुप 'बी' परीक्षा, 2017

प्रथम प्रश्न—पत्र 100 अंक
द्वितीय प्रश्न—पत्र 100 अंक
तृतीय प्रश्न—पत्र 100 अंक
चतुर्थ प्रश्न—पत्र 100 अंक
पंचम प्रश्न—पत्र 100 अंक
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इकाई 1 : प्राथमिक स्रोत :

अभिलेख, स्मारक और मूर्तिकला, तारीख—ए—फीरोजशाही, बाबरनामा, अकबरनामा, मुन्तखाब—उत—तवारीख, बर्नियर, मनूची ।

इकाई 2 : राज्य, संस्थागत संरचना और प्रशासनिक व्यवस्था —

प्रकृति, राजत्व का सिद्धान्त, प्रभावशाली वर्ग, इक्ता, मनसब और जागीर, राज्य और ग्रामीण समाज और ग्रामीण प्रशासन ।

इकाई 3 : शासक वर्ग

उभरती संरचना, स्थानीय समझौते और विवाद, प्रतिरोध के तरीके, साम्राज्य का विघटन; विजयनगर और बहमनी राज्यों के विशेष सन्दर्भ में प्रान्तीय राज्यों का उदय ।

इकाई 4 : कृषि अर्थव्यवस्था, व्यापार और वाणिज्य :

भूमि पर नियंत्रण, कृषि उत्पादन के स्रोत तथा उस पर उत्पादक स्रोतों के उपयोग के प्रतिमान के मध्य सम्बन्ध,

कर व्यवस्था की प्रकृति और दबाव, कृषक सम्बन्ध, अन्तर्देशीय एवं सामुद्रिक व्यापार, व्यापार की संरचना, अरब तथा यूरोपीय व्यापारियों की भूमिका ।

इकाई 5 : शहरों और कस्बों का विकास, उद्योगों और उत्पादन तकनीक प्रकृति और वर्गीकरण,

जनांककीय परिवर्तन, प्रशासन, नगरीय समुदाय और नगरों की संरचना, वस्त्र एवं कृषिजनित उद्योग, धातु तकनीक और शिल्पकार ।

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Ali, M.Athar : The Mughal Nobility under Aurangzeb (Mumbai, Asia, 1970)

Ashraf, K.M. : Life and Conditions of the People of Hindustan 1200-1550 A.D., Delhi, 1970.

Habib, A.B.M. : The Foundation of Muslim Rule in India.

Habib, Irfan : Agrarian System of Mughal India (1526-1707) Mumbai, Asia, 1963.

Habib, Mohammad : Politics and Society in Early Medieval Period, Vol. I & II, Delhi, 1974.

Elliot and Dowson : History of India as told by its own Historians (also Hindi ed.) Relevant portion.

Dey, U.N. : Government of Delhi Sultanate.

Habib, Mohammad and K.A. Nizami : Comprehensive History of India Vol. V, Delhi, 1987

Hasan, S.Nurul : Thoughts on Agrarian Relations in Mughal India, Delhi, 1973.

Moreland, W.H. : Agrarian System of Muslim India, Delhi, 1968.

Mukhia, Harbans : Historian and Historiography during the Reign of Akbar, Delhi, 1976.

Naqvi, H.K. : Urbanisation and Urban Centres under the great Mughals, Simla, 1971.

Satish Chandra : Historiography, Religion and State in Medieval India, Delhi, 1996.

Tripathi R.P. : Some Aspects of Muslim Administration, Allahabad, 1964.

Lal, K.S. : Studies in Medieval Indian History.

हबीब, इरफान : मध्यकालीन भारत का आर्थिक इतिहास — एक सर्वेक्षण ।

वर्मा, हरिश्चन्द्र : मध्यकालीन भारत, भाग 1 एवं 2 ।

PAPER – II

SOCIETY AND CULTURE OF INDIA (c. A.D. 1200-1750)

Unit 1 Structure of Rural and Urban Society :

Composition and Stratification of Rural Society, Village Community, Forms of dominance, resistance and conflicts; Composition of Urban Society: Classes and communities; Rural – Urban relationships and urban life.

Unit 2 Formation of regional identities:

Movements and cults – Jagannath cult in Orrisa, Vaishnavite movement in Eastern India, Ascendancy of Namboodries in Kerala.

Unit 3 Islam, Sufism and Sikhism –

Islam – Origin and its main teachings; Sufism, its origin, concepts and main centres; Sikhism and its main teachings.

Unit 4 Bhakti Movement :

Origin and Evolution of Bhakti Cult in India, main tenets of the Bhakti movement, Life and teachings of the main Saints – Kabir, Nanak, Tulsidas, Meerabai, Chaitanya and Namdev.

Unit 5 Literature and cultural synthesis:

Persian literature, Sanskrit literature, Urdu, Rajasthani; State and Orthodoxy, religions and sectarian communities and evolution of composite culture.

Suggested Readings:

Rizvi Syed Athar Abbas : History of Sufism. Vol. I.

Yousuf Hussain : Glimpses of Medieval Indian Culture.

Mohd. Yasin : Social History of Islamic India.

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राधेशरण : मध्यकालीन भारत की सांस्कृतिक संरचना ।

घनश्यामदत्त शर्मा : मध्यकालीन भारतीय सामाजिक, आर्थिक एवं सामाजिक संस्थाएं ।

श्रीराम शर्मा : मुगल शासकों की धार्मिक नीति ।

के०एम० अशरफ : हिन्दुस्तान के लोगों का जीवन व परिस्थितियाँ ।

सतीश चन्द्र : उत्तर मुगल कालीन भारत ।

द्वितीय प्रश्न पत्र

भारत का समाज और संस्कृति (1200–1750 ई०)

इकाई 1 : ग्रामीण और नगरीय समाज की संरचना :

ग्रामीण समाज की संरचना और वर्गीकरण, ग्राम समुदाय, प्रभुत्व के प्रकार, प्रतिरोध और विवाद, नगरीय समाज की संरचना:

वर्ग और समुदाय, ग्रामीण और नगरीय सम्बन्ध एवं नगरीय जीवन ।

इकाई 2 : क्षेत्रीय समपृत: का निर्माण :

आन्दोलन और सम्प्रदाय, उड़ीसा का जगन्नाथ सम्प्रदाय, पूर्वी भारत में वैष्णव आन्दोलन, केरल में नम्बूदरियों के प्रभाव का प्रसार ।

इकाई 3 : इस्लाम, सूफीवाद और सिक्ख धर्म :

इस्लाम – उदभव और उसकी प्रमुख शिक्षाएं; सूफीवाद—उदभव, अवधारणा और प्रमुख केन्द्र; सिक्ख धर्म और उसकी प्रमुख शिक्षाएं ।

इकाई 4 : भक्ति आन्दोलन : भारत में भक्ति सम्प्रदाय का उदभव और विकास, भक्ति आन्दोलन की प्रमुख शिक्षाएं, प्रमुख सन्तों का जीवन और शिक्षाएं – कबीर, नानक, तुलसीदास,

मीराबाई, चैतन्य और नामदेव ।

इकाई 5 : साहित्य और सांस्कृतिक समन्वय :

फारसी साहित्य, संस्कृत साहित्य, उर्दू, राजस्थानी;

राज्य और परंपरागत विश्वास – विभिन्न धर्म और धार्मिक समुदाय और मिश्रित संस्कृति का क्रमिक विकास ।

संदर्भ-ग्रंथ :

Rizvi Syed Athar Abbas : History of Sufism. Vol. I.

Yousuf Hussain : Glimpses of Medieval Indian Culture.

Mohd. Yasin : Social History of Islamic India.

राधेशरण : मध्यकालीन भारत की सांस्कृतिक संरचना ।

घनश्यामदत्त शर्मा : मध्यकालीन भारतीय सामाजिक, आर्थिक एवं सामाजिक संस्थाएं ।

श्रीराम शर्मा : मुगल शासकों की धार्मिक नीति ।

के०एम० अशरफ : हिन्दुस्तान के लोगों का जीवन व परिस्थितियाँ ।

सतीश चन्द्र : उत्तर मुगल कालीन भारत ।

PAPER – III

MEDIEVAL RAJASTHAN (c. 1400-1708 A.D.)

Unit 1 Primary Sources :

Inscriptions, Persian Histories, arsatthas and Khyats, Bat and Vigat, Nainsi's Khyat and Vigat, Jain Literature.

Unit 2 Rise of Mewar and Marwar:

Rajasthan in the 15th Century : Mewar and the Sultans, Political History of Mewar from Kumbha to Sangram Singh, Marwar till the death of Maldeo .

Unit 3 Rajputs and Mughals:

Akbar's early contact with Rajputs, Occupation of Mewar : Rana Pratap; Rajputs as mansabdars: Bhagwan Das and Man Singh, Composition of Rajput segment of Mughal nobility; Jahangir's policy towards Rajputs; Shahjahan and the Rathores.

Unit 4 Rajput Polity, Administration and Economy:

Position of ruler, concept of tan and rekh, Tankhwah and Watan Jagirs, Rajput administration, Trade and commerce, Mahajans, the rise of the business community.

Unit 5 Rajputs and Later Mughals:

The Rajputs and the war of succession 1658-59, Aurangzeb's Rajput policy in the early years; share of the Rajputs in mansabs; Mirza Raja Jai Singh, Sawai Jai Singh; the Rajputs and the war of succession (1707-08) and the settlement with Bahadur Shah.

Suggested Readings:

B.L. Bhadani : Peasants, Artisans and Entrepreneurs- Economy of Marwar in the Seventeenth Century.

Dasaratha Sharma : Lectures in Rajput History.

: Rajasthan through the Ages, Vol. I.

Dilbagh Singh : State, Landlords and Peasants.

G.D. Sharma : Rajput Polity.

G.H. Ojha : Rajputana ka Itihas (relevant volumes)

G.N. Sharma : Mewar and the Mughal Emperors.

: Social Life in Medieval Rajasthan.

James Tod : Annals and Antiquities of Rajasthan.

S.P. Gupta : Agrarian System of Eastern Rajasthan (1650-1750).

V.S. Bhargava : Marwar and the Mughal Emperors. (Hindi edi. also).

V.S. Bhatnagar : Life and Times of Sawai Jai Singh.

Shyamal Das : Vir Vinod.

A.C. Banerjee : Rajput Studies.

K.S. Gupta : Mewar and Marathas.

G.C. Tikkiwal : Jaipur and the Later Mughals.

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गोपीनाथ शर्मा : राजस्थान के इतिहास के स्रोत ।

वी०एन० रेऊ : मारवाड़ का इतिहास भाग 1-2 ।

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इकाई 1 : प्राथमिक स्रोत :

अभिलेख, फारसी इतिहास, अडसट्टा, ख्यात, बात और विगत,
नैणसी की ख्यात और विगत, जैन साहित्य ।

इकाई 2 : मेवाड़ और मारवाड़ का उदय :

15वीं शताब्दी में राजस्थान, मेवाड़ और सुल्तान, कुम्भा से संग्रामसिंह तक मेवाड़ का
राजनीतिक इतिहास, मालदेव की मृत्यु तक मारवाड़ ।

इकाई 3 : राजपूत और मुगल :

राजपूतों के साथ अकबर के प्रारम्भिक संपर्क, मेवाड़ पर अधिग्रहण, राणा प्रताप,
मनसबदारों के रूप में राजपूत; भगवानदास और मानसिंह, मुगल अमीर-वर्ग में
राजपूतों की भागीदारी, राजपूतों के प्रति जहाँगीर की नीति; शाहजहाँ और राठौड़ ।

इकाई 4 : राजपूत राजनय, प्रशासन और अर्थव्यवस्था: शासक की स्थिति, तन और रेख की
अवधारणा, तनख्वाह और वतन जागीर, राजपूत प्रशासन, व्यापार और वाणिज्य,
महाजन, व्यापारिक समुदाय का उद्भव ।

इकाई 5 : राजपूत और परवर्ती मुगल :

राजपूत और उत्तराधिकार संघर्ष 1658-59, आरंभिक वर्षों में औरंगजेब की राजपूत
नीति, मनसबों में राजपूतों की भागीदारी, मिर्जा राजा जयसिंह, सवाईजयसिंह, राजपूत
और उत्तराधिकार संघर्ष (1707-08) एवं बहादुर शाह के साथ समझौता ।

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B.L. Bhadani : Peasants, Artisans and Entrepreneurs- Economy of Marwar in the
Seventeenth Century.

Dasaratha Sharma : Lectures in Rajput History.

: Rajasthan through the Ages, Vol. I.

Dilbagh Singh : State, Landlords and Peasants.

G.D. Sharma : Rajput Polity.

G.H. Ojha : Rajputana ka Itihas (relevant volumes)

G.N. Sharma : Merwar and the Mughal Emperors.

: Social Life in Medieval Rajasthan.

James Tod : Annals and Antiquities of Rajasthan.

S.P. Gupta : Agrarian System of Eastern Rajasthan (1650-1750).

V.S. Bhargava : Marwar and the Mughal Emperors. (Hindi edi. also).

V.S. Bhatnagar : Life and times of Sawai Jai Singh.

Shyamal Das : Vir Vinod.

A.C. Banerjee : Rajput Studies.
K.S. Gupta : Mewar and Marathas.
G.C. Tikkiwal : Jaipur and the Later Mughals.

गोपीनाथ शर्मा :

राजस्थान के इतिहास के स्रोत ।

वी०एन० रेऊ : मारवाड़ का इतिहास भाग 1-2 ।

PAPER – IV

THE ART AND ARCHITECTURE OF MEDIEVAL INDIA (c. 1200-1700 A.D.)

Unit 1 Architecture during the Sultanate period:

Main characteristics of the Islamic architecture; architecture under the various dynasties of the Delhi Sultanate.

Regional styles – Deccan, Gujarat, Bahamani, Kashmir.

Unit 2 Main Characteristics of the Mughal architecture :

Development of architecture during the reign of Babar, Humayun, Shershah, Akbar, Jahagir, Shahjahan, Aurangzeb. Impact of Muslim architecture on Hindu architecture.

Unit 3 Rajput and Mughal painting :

Salient features of Rajput painting – Jodhpur, Bikaner, Kota, Bundi, Mewar, Nathdwara, Kishangarh and Jaipur.

Mughal painting; Western Indian Manuscript painting; Provincial Schools of Painting.

Unit 4 Temple art and architecture in Medieval India:

Salient Features of main temples – Khajuraho, Konark, Mt. Abu, Ranakpur.

Unit 5 Fort Architecture of Medieval India : Salient features of medieval forts with special reference to Chittor, Kumbhalgarh, Ranthambor, Jalore, Mehrangarh, Daultabad, and Agra.

Suggested Readings:

Madhukar Sripat Mate: Early Historic Fortification in the Ganga Valley, Puratatva, Pt. III, 1969-70.

Percy Brown : Indian Architecture, Vol. I and II.

Percy Brown : Indian Painting.

Rowland, B. : Indian Art.

Coomaraswamy, AK: History of Indian and Indonesian Art.

Majumdar, R.C. and Pusalkar A.D.: The History and Culture of Indian People, Vol. I, II, IV & IX (Chapters on Art).

दीनानाथ दुबे : भारत के दुर्ग ।

रतन लाल मिश्र : राजस्थान के दुर्ग ।

गोपीनाथ शर्मा : राजस्थान का इतिहास ।

हंस नोटियाल : देहली का किला ।

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इकाई 1 : सल्तनत काल में स्थापत्य कला, इस्लामिक स्थापत्य कला की प्रमुख विशेषताएं – दिल्ली सल्तनत के विभिन्न राजवंशों के अधीन स्थापत्य ।

प्रादेशिक शैलियां – दक्खन, गुजरात, बहमनी, कश्मीर ।

इकाई 2 : मुगल स्थापत्य कला की प्रमुख विशेषताएं :

बाबर, हुमायूँ, शेरशाह, अकबर, जहांगीर, शाहजहाँ एवं औरंगजेब के शासनकाल में स्थापत्य कला का विकास, हिन्दू स्थापत्य कला पर मुस्लिम स्थापत्य कला का प्रभाव ।

इकाई 3 : राजपूत और मुगल चित्रकला :

राजपूत चित्रकला की प्रमुख विशेषताएं – जोधपुर, बीकानेर, कोटा, बून्दी, मेवाड़, नाथद्वारा, किशनगढ़ और जयपुर।

मुगल चित्रकला, पश्चिम भारत में पाण्डुलिपि चित्रकला; प्रादेशिक चित्र शैलियां।

इकाई 4 : मध्यकालीन भारत में मंदिर स्थापत्य और स्थापत्य कला : प्रमुख मन्दिरों की विशेषताएं – खजुराहो, कोणार्क, मॉउन्ट आबू और रणकपुर।

इकाई 5 : मध्यकालीन भारत में दुर्ग स्थापत्य –

चत्तौड़, कुम्भलगढ़, रणथम्भौर, जालौर, मेहरानगढ़, दौलताबाद और आगरा के विशेष संदर्भ में मध्यकालीन दुर्ग स्थापत्य की विशेषताएं।

संदर्भ—ग्रंथ :

Madhukar Sripat Mate: Early Historic Fortification in the Ganga Valley, Puratatva, Pt. III, 1969-70.

Percy Brown : Indian Architecture, Vol. I and II.

Percy Brown : Indian Painting.

Rowland, B. : Indian Art.

Coomaraswamy, AK: History of Indian and Indonesian Art.

Majumdar, R.C. and Pusalkar A.D.: The History and Culture of Indian People, Vol. I, II, IV & IX (Chapters on Art).

दीनानाथ दुबे :

दीनानाथ दुबे : भारत के दुर्ग ।

रतन लाल मिश्र : राजस्थान के दुर्ग ।

गोपीनाथ शर्मा : राजस्थान का इतिहास ।

हंस नोटियाल : देहली का किला ।

PAPER-V

RESEARCH METHODOLOGY

Unit 1: History - Meaning & Definition, Scope of History, Uses of history, Essentials of historical method- Interpretations & Explanations in history writing.

Unit 2: Choosing of the research subject and the problem, collection & arrangement of material, preparation of designs and models.

Unit 3: Nature of historical sources - Primary Sources - archival & non-archival, archaeological, epigraphic, numismatic. Literature - ballads and folklore, contemporary records - newspapers, confidential reports, public reports, government documents, autobiographies, official history. Secondary Sources.

Unit 4: External criticism or Authenticity; Internal criticism or credibility of historical evidences, Bias in history, Forgery of documents, Historical fallacies.

Unit 5: Writing of history – Techniques, organizing the chapters, objectivity & subjectivity in history; significance of evidences in history writing, Research tools – footnotes, bibliography, index & abbreviations, norms for quotations.

SUGGESTED READINGS:

Kadhirval, S. : Historical Methods.

Hookett, Home C. : The Critical Methods in Historical Research and Writings.

Srivastava, S.S. : Survey of Research Techniques.

Nilakanta Shastri and Rammanna, A.S. : Historical Methods in Relation to Indian History.

Philips, C.H.(ed.) : Historians of India, Pakistan and Ceylon.

Ghoshal, U.N. : The Beginning of Indian Historiography and Other Essays.

Devahuti, D.(ed.) : Problems of Indian Historiography.
Warder, A.K. : An Introduction to Indian Historiography, 1972.
Gardner, Patrick(ed) : Theories of History, New York, 1959.
Carr, E.H. : What is History, Penguin, 1965.
Collingwood R.G. : The Idea of History, New York, 1957.
Sen, S.P. (ed.) : Historians and Historiography in Modern India.
Pathak, V.S. : Ancient Historians of India, 1966, Asia Publishing House.
Walsh : An Introduction to Philosophy of History, London, 1967.
Renier, G.I. : History, Its Purpose and Methods, Boston, 1950.
Gooch, G.P. : History and Historians in the Nineteenth Century, Longmans,
Green & Co.
Shotwell, J.T. : History of History.
Thomson, J.W. : History of Historical Writing, 1954.
Hardy, Peter : Historians of Medieval India, London, 1960.
Hasan, Mohibul : Historians of Medieval India, Meerut, 1978.

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पाण्डे, जी०सी० : इतिहास : स्वरूप एवं सिद्धान्त, ग्रंथ एकेडमी, जयपुर, 1973 ।
चौबे, झारखण्ड : इतिहास दर्शन, वि०वि० प्रकाशन वाराणसी, 1999 ।
बुद्ध प्रकाश : इतिहास दर्शन, 1968 ।
पाण्डे, लालताप्रसाद : भारतीय इतिहास—दर्शन, अक्षयवट प्रकाशन वाराणसी, इलाहाबाद ।
सिंह, परमानन्द : इतिहास दर्शन, मोतीलाल बनारसीदास, दिल्ली ।
खुराना—बंसल : इतिहास लेखन धारणाएँ एवं सिद्धान्त ।
पांचाल—एच.,सी. : इतिहास के सिद्धान्त एवं पद्धतियाँ, जयपुर ।

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- इकाई 1 : इतिहास – अर्थ एवं परिभाषा, इतिहास का क्षेत्र एवं उपयोग, ऐतिहासिक पद्धति के मूल तत्त्व – इतिहास लेखन में व्याख्या एवं स्पष्टीकरण ।
- इकाई 2 : शोध – विषय एवं समस्या का चयन, सामग्री का संग्रहण एवं व्यवस्थीकरण, प्रतिरूप एवं डिजाइन का निर्माण ।
- इकाई 3: ऐतिहासिक स्रोतों की प्रकृति – प्राथमिक – पुरालेखीय एवं अपुरालेखीय, पुरातात्विक, अभिलेखीय, मुद्रा शास्त्र । साहित्यिक – गेय एवं लोक वार्ता, समसामयिक अभिलेख –समाचार पत्र, गोपनीय प्रतिवेदन, सार्वजनिक प्रतिवेदन, सरकारी दस्तावेज, आत्मकथाएँ, शासकीय इतिहास, द्वितीयक स्रोत ।
- इकाई 4 : बाह्य-आलोचना या प्रामाणिकता, आन्तरिक आलोचना या ऐतिहासिक साक्ष्यों की विश्वसनीयता, इतिहास में पूर्वाग्रह, दस्तावेजों की जालसाजी, ऐतिहासिक भ्रम ।
- इकाई 5: इतिहास लेखन – तकनीक, अध्याय व्यवस्था, इतिहास में वस्तुनिष्ठता एवं विषयनिष्ठता, साक्ष्यों की महत्ता, शोध उपकरण – पाद टिप्पणियाँ, संदर्भिका, इन्डेक्स एवं संक्षेपण, उद्धरण के मापदंड ।

Suggested Readings :

- Kadhirval, S. : Historical Methods.
- Hookett, Home C. : The Critical Methods in Historical Research and Writings.
- Srivastava, S.S. : Survey of Research Techniques.
- Nilakanta Shastri and Rammanna, A.S. : Historical Methods in Relation to Indian History.
- Philips, C.H.(ed.) : Historians of India, Pakistan and Ceylon.
- Ghoshal, U.N. : The Beginning of Indian Historiography and Other Essays.
- Devahuti, D.(ed.) : Problems of Indian Historiography.
- Warder, A.K. : An Introduction to Indian Historiography, 1972.
- Gardner, Patrick(ed) : Theories of History, New York, 1959.
- Carr, E.H. : What is History, Penguin, 1965.
- Collingwood R.G. : The Idea of History, New York, 1957.
- Sen, S.P. (ed.) : Historians and Historiography in Modern India.
- Pathak, V.S. : Ancient Historians of India, 1966, Asia Publishing House.
- Walsh : An Introduction to Philosophy of History, London, 1967.
- Renier, G.I. : History, Its Purpose and Methods, Boston, 1950.
- Gooch, G.P. : History and Historians in the Nineteenth Century, Longmans, Green & Co.
- Shotwell, J.T. : History of History.
- Thomson, J.W. : History of Historical Writing, 1954.
- Hardy, Peter : Historians of Medieval India, London, 1960.
- Hasan, Mohibul : Historians of Medieval India, Meerut, 1978.

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- पाण्डे, जी०सी० : इतिहास : स्वरूप एवं सिद्धान्त, ग्रंथ एकेडमी, जयपुर, 1973 ।
- चौबे, झारखण्ड : इतिहास दर्शन, वि०वि० प्रकाशन वाराणसी, 1999 ।
- बुद्ध प्रकाश : इतिहास दर्शन, 1968 ।
- पाण्डे, लालताप्रसाद : भारतीय इतिहास-दर्शन, अक्षयवट प्रकाशन वाराणसी, इलाहाबाद ।
- सिंह, परमानन्द : इतिहास दर्शन, मोतीलाल बनारसीदास, दिल्ली ।
- खुराना-बंसल : इतिहास लेखन धारणाएँ एवं सिद्धान्त ।
- पांचाल-एच.सी. : इतिहास के सिद्धान्त एवं पद्धतियाँ, जयपुर ।

SYLLABUS

MASTER OF ARTS

POLITICAL SCIENCE

M.A. Previous Examination (2020-2021)



This syllabus is for Govt College Students, Private College Students (Affiliated by Jai Narain Vyas University, Jodhpur and Private Students)

JAI NARAIN VYAS UNIVERSITY
JODHPUR

IMPORTANT

With a view to bring about greater reliability, validity and objectivity in the examination system and also for closer integration of teaching, learning and evaluation.

- (i) The syllabus has been divided into units. Questions will be set from each unit with provision for internal choice.
- (ii) In order to ensure that the students do not leave out the important portion of the syllabus, examiners shall be free to repeat the questions set in the previous examinations.

(Ref. Resolution No. 21 (c) of Academic Council dated 9.2.84)

The examinees be permitted to use their personal transistorized pocket battery operated calculators in the examinations. The calculator to be used by the candidates in the examinations should not have more than 12 digits, 6 functions and 2 memories and should be noiseless and cordless. A Calculator belonging to one candidate shall not be allowed to be used by another candidate. The Superintendent of the centre will have complete discretion to disallow the use of a calculator which does not conform to the above specification.

(Ref. Resolution No. 6/90 of Academic Council dated 20th July, 1990)

In Engineering and any other examinations where the use of calculators is already permitted, it shall remain undisturbed.

NOTIFICATION

In compliance of decision of the Hon'ble High Court all students are required to fulfil 75% attendance rule in each subject and there must be 75 % attendance of the student before he/she could be permitted to appear in the examination.

**REGISTRAR
(Academic)**

POLITICAL SCIENCE
NEW EXAMINATION SCHEME
(Pattern of Question Paper)

PART-A (भाग-अ)

भाग अ के सभी प्रश्न अनिवार्य हैं। इन प्रश्नों के उत्तर प्रत्येक 30 शब्दों तक सीमित हैं। प्रत्येक प्रश्न 2 अंक का है।

The questions of Part-A are compulsory. The answer of these questions are limited upto 30 words each. Each question carries 2 marks.

PART-B (भाग-ब)

प्रत्येक इकाई में से एक प्रश्न का चयन करते हुए कुल पाँच प्रश्नों के उत्तर दीजिये। प्रत्येक प्रश्न का उत्तर लगभग 250 शब्दों तक सीमित है। प्रत्येक प्रश्न 7 अंक का है।

Attempt FIVE questions in all, selecting ONE question from each unit. The answer of each question shall be limited upto 250 words. Each question carries 7 marks.

PART-C (भाग-स)

इस भाग से कुल तीन प्रश्नों के उत्तर दीजिये। प्रत्येक प्रश्न का उत्तर लगभग 500 शब्दों तक सीमित है। प्रत्येक प्रश्न 15 अंक का है।

Attempt Any THREE questions. The Answer of each question shall be limited upto 500 words. Each question carries 15 marks

POLITICAL SCIENCE
M.A. (Previous) Examination

There will be four papers each of three hours duration and carrying 100 marks each.

- | | |
|-----------|--|
| Paper I | Political Thought from Plato to Marx. |
| Paper II | Indian Government and Politics and State Politics in India |
| Paper III | Comparative Politics and Politics of Developing Countries |
| Paper IV | Major Ideas and Issues in Public Administration. |

M.A. PREVIOUS EXAMINATION (2021)

PAPER I

Political Thought from Plato to Marx

- Unit 1 Plato – Theory of Justice, Education, Communism, and the concept of Ideal State; Aristotle – As the first scientific Political Thinker – views on Classification of States, Revolution, Citizenship and Slavery.
- Unit 2 Church and State Controversy – Main Political Ideas of St. Augustine and St. Thomas Aquinas. Machiavelli : His main Political Ideas, Machiavelli as the first modern Political Thinker; Bodin : Theory of Sovereignty , Pioneer of Modernity
- Unit 3 Hobbes, Locke and Rousseau as the contractulist Political Thinkers – Their views about Human Nature, State of Nature, Natural Rights, Social contract and Sovereignty; Rousseau’s General Will.
- Unit 4 Bentham as Utilitarian Political Thinker, His views on Law and Representative Government ; J.S.Mill’s views on Liberty & Representative government; Mill’s modification in Bentham’s Utilitarianism.
Hegel – Dialectical Method, Theory of State,
T.H.Green – Conception of Liberty , Rights and Sovereignty.
- Unit 5 Karl Marx – His Main Political ideas with reference to Dialectical Materialism, Economic interpretation of History, Theory of Class Struggle & Theory of Surplus Value. Marxian Theory of State
Lenin – Theory of Imperialism, Restatement of Revolutionary Marxism, His ideas on Party Dictatorship of the Proletariat.

Recommended Readings

1. Sabine : A History of Political Theory
2. Barker : Plato and His Predecessors
3. Dunning : History of Political Theory (3 vols.)
4. Hearnshaw : Some Medieval Thinkers
5. Maxey : Political Philosophy
6. Allen : A History of Political Thought in 16th Century
7. Vaughan : Studies in Political Philosophy (vols. I and II)
8. Harman : Political Thought from Plato to the Present
9. Davidson : Political Thought in England – The Utilitarians
10. Michael Oakshott : Political and Social Doctrines of Contemporary Europe
11. Subrata Mukherjee & Sushila Ramaswamy : A History of Political Thought – Plato to Marx (Prentice Hall of India, New Delhi.)
12. के.एन.वर्मा 'पाश्चात्य राजनीतिक विचारक भाग 1 व 2
13. डॉ.बी.एल.फड़िया 'पाश्चात्य राजनीतिक विचारक'
14. डॉ.पी.डी.शर्मा 'पाश्चात्य राजनीतिक विचारक'

PAPER II
Indian Government and Politics and State Politics in India

- Unit 1 Approaches to the Study of Indian Politics, Background of the Constituent Assembly : Composition and working, Nature of the Indian Political System, Ideological Contents: Preamble, Fundamental Rights, Directive Principles, Fundamental Duties and Secularism; Federalism and Its working with reference to Centre--State relations and demands for State autonomy.
- Unit 2 The Union Government – President, Prime Minister and the Council of Ministers. The Parliament – Powers and Functions of Lok Sabha and Rajya Sabha; Functioning of the Parliamentary System in India. The Supreme Court – Judicial Activism, Public Interest Litigation and Judicial Reforms.
- Unit 3 State Government : Governor, Chief Minister and State Legislative Assemblies; Patterns of State Politics; Socio-Economic determinants of State politics, Impact of national politics on State politics, Emerging Trends in State Politics.
- Unit 4 Party System in India – Major National Parties – ideology and social base of parties –Regional Political Parties and Its Linkages with National Parties; Pressure Groups in Indian Politics; Patterns of Coalition Politics; Trends in Electoral Behaviour – Need for Electoral Reforms.
- Unit 5 Challenges to Indian Democracy – Impact of Caste, Religion, Regionalism and Language; Criminalisation; Terrorism; Impact of Liberalisation on Indian Politics, Recommendations of National Commission on Constitutional Review.

Recommended Readings

1. Atul Kohli : The Success of India's Democracy (ed.) Cambridge University Press – 2001
2. Bhabani Sen Gupta : India – Problems of Governance, Konark Publishers, Delhi – 1996
3. Bipan Chandra : India After Independence, Penguin Books – 2000
4. C.P.Bhambri, The Indian States : fifty years, New Delhi, Shipra, 1999.
5. Granville Austin : Working a Democratic Constitution, Oxford University Press – 1999
6. Granville Austin : The Indian Constitution : Cornerstone of a Nation
7. Gupta, D.C. : Indian Government and Politics
8. J.R.Siwach : Dynamics of Indian Government and Politics, Streling, New Delhi – 1990
9. Morris Jones : Government and Politics in India
10. Myron Weiner : Party Building in a New Nation : The Congress Party of India
11. Norman D. Palmer : The Indian Political System
12. P.R.Brass, Politics of India Since Independence, 2nd edn., Cambridge, Cambridge University Press, 1994.
13. P.R.Brass, Caste, Faction and Party in Indian Politics, Vols. 2, Delhi, Chanakya Publications, 1984-1985.
14. P.R.Brass, Ethnic Groups and the State, London, Croom Helm, 1985
15. M.V. Pylee : Constitutional Government in India.
16. Rasheeduddin Khan : Federal India – A design for change, Vikas – 1992
17. Subhash C.Kashyap : Our Parliament, National Book Trust, New Delhi – 1992
18. Zoya Hasan : Politics and The State in India(ed.) Sage Publication, New Delhi – 2000
19. डॉ.बी.एल.फड़िया 'भारतीय राजनीति एवं शासन' साहित्य भवन आगरा, 2012
20. डॉ.एम.पी.रॉय 'भारतीय राजनीति एवं शासन'

PAPER III

Comparative Politics and Politics of Developing Countries

- Unit 1 Nature and Scope of Comparative Politics : Traditional and Modern Perspectives; Comparative Method; Constitutionalism.
- Unit 2 Major approaches in comparative politics; Political System Approach : Political Sociology, Political Economy & Structural Functionalism, Political Development, Political Culture and Political Socialisation Approach.
- Unit 3 Forms of Governments : Leading Classification of Government (both traditional and modern) and their evolution; Democracy; and Dictatorship; Parliamentary and Presidential, Federal and Unitary Types of government and their theory and practice, Party System and Pressure Groups.
- Unit 4 Legislature : Organisation, Functions, Powers, Legislative Process, Decline of Legislatures
Executive : Organisation, Functions, Concentration of Powers in the Executive, Chief Executive in Developing Countries, Executive and Bureaucracy
Judiciary : Organisation, Functions, Independence of Judiciary, Rule Adjudication and Judicial Review
- Unit 5 Genesis of Colonialism– Types of Colonialism, Nature of anti-colonial struggle, Post-colonial state, Waves of democratic expansion–Recent trends.

Recommended Readings

1. Allen Ball : Modern government and Politics
2. A.Pourgerami, Development and Democracy in the Third World, Boulder Colorado, Westview, Press, 1991.
3. C.F.Strong : Modern Constitutions.
4. C.J.Friederich : Constitutional Government and Democracy
5. D.E., Apter, The Politics of Modernization, Chicago, University of Chicago Press, 1965.
6. D.Engels and S. Marks (eds.), Contesting Colonial Hegemony, State and Society in Africa and India, London, I.B. Tauris, 1994
7. G.A.Almond, and J.S.Coleman, The Politics of the Developing Areas, Princeton NJ, Princeton University Press, 1960.
8. G.A.Almond, and S.Verba, The Civic Culture: Political Attitudes and Democracy in Five Nations, Princeton, NJ, Princeton University Press, 1963.
9. G.A.Almond(eds.), The Civic Culture Revisited, Boston, Little Brown, 1989.
10. G.A.Almond, and G.B. Powell Jr., Comparative Politics : A Development Approach, Boston, Little Brown, 1966.
11. G.A.Almond, Comparative Politics Today : A World View, 7th edn., New York, London, Harper/Collins, 2000.
12. H.Eekstein & David Apter : Comparative Politics :: A Reader
13. Herman Finer : Theory and Practice of Modern Governments
14. Jean Blondel : An introduction to Comparative Government
15. J.E. Goldthrope, The Sociology of Post-Colonial Societies : Economic Disparity, Cultural Diversity and Development, Cambridge, Cambridge University Press, 1966.
16. L.Diamond (ed.), Political Culture and Democracy in Developing Countries, Boulder Colorado, Lynne Rienner, 1993.
17. M.Kamrava, Politics and Society in the Third World, London, Routledge, 1993.
18. Palombara : Politics within Nations.
19. S.E.Finer : Comparative Government.
20. Wheare : Modern Constitutions
21. Vile : Constitutionalism and the separation of powers
22. प्रभुदत्त शर्मा : तुलनात्मक राजनीतिक संस्थाएं
23. सी.बी.गैना : तुलनात्मक राजनीति एवं राजनीतिक संस्थाएं
24. जे.सी.जौहरी : तुलनात्मक राजनीति

PAPER IV
Major Ideas and Issues in Public Administration

- Unit 1 Basic Premises : Meaning, Scope & Nature of Public Administration, Impact of Information Technology on Public Administration, Politics & Administration; New Public Administration; New Public Management perspective.
- Unit 2 Ecological Approach (Riggs), Development Administration Approach, Political–Economy Approach : Liberal democratic and Marxist Approach; Process of Public Policy.
- Unit 3 Theories of Organisation : Scientific Management; The Bureaucratic Theory, The Classical Theory, The Human Relations Theory, Behavioural Approach, Systems Approach,
- Unit 4 Administrative Behaviour : Rational Decision Making Approach (Simon), Theories of Leadership, Theories of Motivation and Communication .
- Unit 5 Personnel Administration–Role of Civil Service in developing societies, Position Classification, Recruitment, Training, Promotion, Neutrality of Civil Services, Downsizing of Bureaucracy, Modernization of Bureaucracy and Administrative Culture.

Recommended Readings

1. Avasthi & Maheshwari, Public Administration (Hindi & English)
2. Bhattachary ,Mohit, New Horizons of Public Administration
3. Gladden, Essentials of Public Administration
4. Gorwala, Report on the Public Administration of India
5. Government of India, Fifth Central pay Commission Report Vol. I, II & III.
6. Henry , Nicholos, Public Administration and Public Affairs.
7. Paul Appleby, Report on the Public Administration of India: Re-examination of India's Administrative System.
8. Sharma , M.P., Public Administration : Theory and Practice (English and Hindi)
9. White, L.D., Introduction to the study of Public Administration
10. Willoughby, Principles of Public Administration
11. T.N.Chaturvedi, (ed.), Contemporary Administrative Culture of India, New Delhi, Mittal, 1997.
12. M.Crozier, The Bureaucratic Phenomenon, Chicago, University of Chicago Press, 1969.
13. P.R.Dubashi, Recent Trends in Public Administration, Delhi, Kaveri Books, 1995.
14. D.Waldo (ed.), Ideas and Issues in Public Administration, Durham, Duke University Press, 1970.
15. डॉ.बी.एल.फड़िया 'लोकप्रशासन'
16. डॉ.पी.डी.शर्मा 'लोकप्रशासन'
17. बी.एम.सिन्हा 'लोकप्रशासन के सिद्धान्त एवं व्यवहार'
18. परमात्मा शरण 'लोकप्रशासन'
19. चन्द प्रकाश भाम्भरी 'लोकप्रशासन प्रशासन'
20. आर.एल.सिंह 'लोकप्रशासन'
21. एच.सी.शर्मा 'प्रशासनिक संस्थाएं'
22. अन्तर सिंह एवं जियाउद्दीन खॉ 'प्रशासनिक संस्थाएं'

एम.ए. पूर्वाद्ध राजनीति विज्ञान

प्रथम प्रश्न पत्र राजनीतिक चिन्तन प्लेटो से मार्क्स तक

- इकाई 1 प्लेटो : प्लेटो का न्याय सिद्धान्त, शिक्षा और साम्यवाद, आदर्श राज्य की अवधारणा, अरस्तू – प्रथम वैज्ञानिक राजनीतिक विचारक, राज्यों के वर्गीकरण का विचार, क्रान्ति, नागरिकता और दासता संबंधी विचार।
- इकाई 2 राज्य और चर्च के बीच विवाद, सन्त ऑगस्टाइन, टामस एक्वीनास के मुख्य राजनीतिक विचार, मैकियावली : प्रमुख राजनीतिक विचार, मैकियावली प्रथम आधुनिक राजनीतिक चिन्तक के रूप में, जीन बोदॉ का सम्प्रभुता का सिद्धान्त और बोदॉ आधुनिकता के अग्रदूत के रूप में
- इकाई 3 टॉमस हाब्स, जॉन लॉक और जीन जैक्स रूसो—तीनों संविदावादी चिन्तकों के रूप में, उनके मानवीय प्रकृति संबंधी विचार, प्राकृतिक अवस्था, प्राकृतिक अधिकार, सामाजिक अनुबन्ध और सम्प्रभुता संबंधी विचार, रूसो की सामान्य इच्छा
- इकाई 4 बेन्थम एक उपयोगितावादी चिन्तक के रूप में, उसके प्रतिनिध्यात्मक सरकार और कानून सम्बन्धी विचार, जे.एस.मिल के स्वतंत्रता एवं प्रतिनिध्यात्मक सरकार पर विचार, बेन्थम के उपयोगितावादी विचारों में मिल द्वारा किये गये संशोधन, हीगल – द्वन्द्ववादी पद्धति, राज्य संबंधी विचार और, टी. एच. ग्रीन की स्वतंत्रता संबंधी अवधारणा, अधिकार व सम्प्रभुता संबंधी विचार।
- इकाई 5 कार्ल मार्क्स के प्रमुख राजनीतिक विचार—द्वन्द्ववादी भौतिकवाद के संदर्भ में, इतिहास की आर्थिक व्याख्या, वर्ग संघर्ष और अतिरिक्त मूल्य का सिद्धान्त, राज्य का मार्क्सवादी सिद्धान्त, लेनिन—साम्राज्यवाद का सिद्धान्त : क्रान्तिकारी मार्क्सवाद की पुनर्व्याख्या, सर्वहारा वर्ग के अधिनायकवाद संबंधी विचार।

अनुशंसित पाठ्य पुस्तकें

1. Sabine : A History of Political Theory
2. Barker : Plato and His Predecessors
3. Dunning : History of Political Theory (3 vols.)
4. Hearnshaw : Some Medieval Thinkers
5. Maxey : Political Philosophy
6. Allen : A History of Political Thought in 16th Century
7. Vaughan : Studies in Political Philosophy (vols. I and II)
8. Harman : Political Thought from Plato to the Present
9. Davidson : Political Thought in England – The Utilitarians
10. Michael Oakeshott : Political and Social Doctrines of Contemporary Europe
11. Subrata Mukherjee & Sushila Ramaswamy : A History of Political Thought – Plato to Marx (Prentice Hall of India, New Delhi.)
12. के.एन.वर्मा 'पाश्चात्य राजनीतिक विचारक भाग 1 व 2
13. डॉ.बी.एल.फड़िया 'पाश्चात्य राजनीतिक विचारक'
14. डॉ.पी.डी.शर्मा 'पाश्चात्य राजनीतिक विचारक'

द्वितीय प्रश्न पत्र
भारतीय शासन और राजनीति तथा भारत में राज्य स्तरीय राजनीति

- इकाई 1 भारतीय राजनीति के अध्ययन के अभिगम, संविधान सभा की पृष्ठभूमि, संरचना और कार्यशैली, भारतीय राजनीति व्यवस्था की प्रकृति, संविधान की प्रस्तावना, मौलिक अधिकार, नीति निर्देशक तत्व; मौलिक कर्तव्य और पंथ निरपेक्षता के वैचारिक आधार, संघात्मक व्यवस्था व केन्द्र-राज्य सम्बन्ध व राज्य स्वायत्तता की मांग के विशेष सन्दर्भ में इसका कार्यकरण
- इकाई 2 संघ सरकार-राष्ट्रपति, प्रधानमंत्री और मंत्रिपरिषद्, संसद-लोकसभा और राज्यसभा, इसकी शक्तियाँ और कार्य, भारत में संसदीय व्यवस्था की कार्यशैली, सर्वोच्च न्यायालय-न्यायिक सक्रियता, लोकहित अभियोजन एवं न्यायिक सुधार
- इकाई 3 राज्य सरकार-राज्यपाल, मुख्यमंत्री और राज्य विधानमंडल; (विधायिका), राज्यों की राजनीति के प्रारूप; राज्यों की राजनीति के सामाजिक व आर्थिक निर्धारक तत्व राष्ट्रीय राजनीति का राज्यों की राजनीति पर प्रभाव। राज्यों की राजनीति में उभरती हुई प्रवृत्तियाँ
- इकाई 4 भारत में दलीय व्यवस्था, प्रमुख राष्ट्रीय दल उनकी विचारधारा एवं दलों का सामाजिक आधार। क्षेत्रीय राजनीतिक दल एवं राष्ट्रीय दलों से उनका संबंध, भारतीय राजनीति में दबाव समूह, साझा राजनीति के प्रतिमान, चुनावी व्यवहार की प्रवृत्तियाँ, चुनाव सुधारों की आवश्यकता।
- इकाई 5 भारतीय लोकतंत्र के समक्ष चुनौतियाँ – जाति, धर्म, प्रादेशिकता और भाषा का प्रभाव। राजनीति में अपराधीकरण, आतंकवाद और उदारीकरण का भारतीय राजनीति पर प्रभाव। संविधान के पुनरावलोकन हेतु गठित राष्ट्रीय आयोग के सुझाव।

अनुशंसित पाठ्य पुस्तकें

1. Atul Kohli : The Success of India's Democracy (ed.) Cambridge University Press – 2001
2. Bhabani Sen Gupta : India – Problems of Governance, Konark Publishers, Delhi – 1996
3. Bipan Chandra : India After Independence, Penguin Books – 2000
4. C.P.Bhambri, The Indian States : fifty years, New Delhi, Shipra, 1999.
5. Granville Austin : Working a Democratic Constitution, Oxford University Press – 1999
6. Granville Austin : The Indian Constitution : Cornerstone of a Nation
7. Gupta, D.C. : Indian Government and Politics
8. J.R.Siwach : Dynamics of Indian Government and Politics, Streling, New Delhi – 1990
9. Morris Jones : Government and Politics in India
10. Myron Weiner : Party Building in a New Nation : The Congress Party of India
11. Norman D. Palmer : The Indian Political System
12. P.R.Brass, Politics of India Since Independence, 2nd edn., Cambridge, Cambridge University Press, 1994.
13. P.R.Brass, Caste, Faction and Party in Indian Politics, Vols. 2, Delhi, Chanakya Publications, 1984-1985.
14. P.R.Brass, Ethnic Groups and the State, London, Croom Helm, 1985
15. M.V. Pylee : Constitutional Government in India.
16. Rasheeduddin Khan : Federal India – A design for change, Vikas – 1992
17. Subhash C.Kashyap : Our Parliament, National Book Trust, New Delhi – 1992
18. Zoya Hasan : Politics and The State in India(ed.) Sage Publication, New Delhi – 2000
19. डॉ.बी.एल.फड़िया 'भारतीय राजनीति एवं शासन' साहित्य भवन आगरा, 2012
20. डॉ.एम.पी.रॉय 'भारतीय राजनीति एवं शासन'

तृतीय प्रश्न पत्र

तुलनात्मक राजनीति और विकासशील देशों की राजनीति

- इकाई 1 तुलनात्मक राजनीति की प्रकृति एवं क्षेत्र : पारंपरिक एवं आधुनिक परिप्रेक्ष्य में, तुलनात्मक पद्धति—संविधानवाद
- इकाई 2 तुलनात्मक राजनीति में मुख्य अभिगम : राजनीतिक व्यवस्था अभिगम : राजनीतिक समाजशास्त्र, राजनीतिक अर्थव्यवस्था एवं संरचनात्मक कार्यपद्धति राजनीतिक विकास, राजनीतिक संस्कृति, राजनीतिक समाजीकरण अभिगम।
- इकाई 3 सरकार के प्रकार : सरकार के प्रमुख वर्गीकरण (पारंपरिक एवं आधुनिक) और उनका विकास। लोकतंत्र एवं अधिनायकतंत्र, अध्यक्षीय एवं संसदीय, संघात्मक एवं एकात्मक सरकारें, उनका सैद्धान्तिक एवं व्यवहारिक स्वरूप, दल प्रथा एवं दबाव समूह।
- इकाई 4 व्यवस्थापिका – संगठन कार्य और शक्तियाँ, विधायी प्रक्रिया, विधायी प्रक्रिया का क्षरण। कार्यपालिका – संगठन, कार्यपद्धति और शक्तियाँ, कार्यपालिका में केन्द्रित शक्तियाँ, विकासशील देशों में मुख्य कार्यपालिका एवं नौकरशाही, न्यायपालिका – संगठन, कार्य, न्यायपालिका की स्वतंत्रता; नियम अधिनिर्णय एवं न्यायिक पुनरावलोकन
- इकाई 5 उपनिवेशवाद का उद्भव ; उपनिवेशवाद के प्रकार; उपनिवेशवाद विरोधी संघर्ष की प्रकृति; उत्तर औपनिवेशिक राज्य; लोकतांत्रिक विस्तार की रुर्मियाँ—अधुनातन प्रवृत्तियाँ

अनुशंसित पाठ्य पुस्तकें

1. Allen Ball : Modern government and Politics
2. A.Pourgerami, Development and Democracy in the Third World, Boulder Colorado, Westview, Press, 1991.
3. C.F.Strong : Modern Constitutions.
4. C.J.Friederich : Constitutional Government and Democracy
5. D.E., Apter, The Politics of Modernization, Chicago, University of Chicago Press, 1965.
6. D.Engels and S. Marks (eds.), Contesting Colonial Hegemony, State and Society in Africa and India, London, I.B. Tauris, 1994
7. G.A.Almond, and J.S.Coleman, The Politics of the Developing Areas, Princeton NJ, Princeton University Press, 1960.
8. G.A.Almond, and S.Verba, The Civic Culture: Political Attitudes and Democracy in Five Nations, Princeton, NJ, Princeton University Press, 1963.
9. G.A.Almond(eds.), The Civic Culture Revisited, Boston, Little Brown, 1989.
10. G.A.Almond, and G.B. Powell Jr., Comparative Politics : A Development Approach, Boston, Little Brown, 1966.
11. G.A.Almond, Comparative Politics Today : A World View, 7th edn., New York, London, Harper/Collins, 2000.
12. H.Eekstein & David Apter : Comparative Politics :: A Reader
13. Herman Finer : Theory and Practice of Modern Governments
14. Jean Blondel : An introduction to Comparative Government
15. J.E. Goldthrope, The Sociology of Post-Colonial Societies : Economic Disparity, Cultural Diversity and Development, Cambridge, Cambridge University Press, 1966.
16. L.Diamond (ed.), Political Culture and Democracy in Developing Countries, Boulder Colorado, Lynne Rienner, 1993.
17. M.Kamrava, Politics and Society in the Third World, London, Routledge, 1993.
18. Palombara : Politics within Nations.
19. S.E.Finer : Comparative Government.
20. Wheare : Modern Constitutions
21. Vile : Constitutionalism and the separation of powers
22. प्रभुदत्त शर्मा : तुलनात्मक राजनीतिक संस्थाएं
23. सी.बी.गैना : तुलनात्मक राजनीति एवं राजनीतिक संस्थाएं
24. जे.सी.जौहरी : तुलनात्मक राजनीति

चतुर्थ प्रश्न पत्र
लोकप्रशासन में प्रमुख विचार एवं मुद्दे

- इकाई 1 बुनियादी आधार : लोक प्रशासन का अर्थ, क्षेत्र और प्रकृति, सूचना प्रौद्योगिकी का लोक प्रशासन पर प्रभाव। राजनीति एवं प्रशासन, अभिनव लोकप्रशासन, अभिनव लोक प्रबन्ध के परिप्रेक्ष्य में।
- इकाई 2 पर्यावरणीय अभिगम (रिग्स)। विकास प्रशासन अभिगम, राजनीतिक अर्थशास्त्र अभिगम, उदार लोकतांत्रिक एवं मार्क्सवादी अभिगम, लोकनीति की प्रक्रिया।
- इकाई 3 संगठन के विभिन्न सिद्धान्त, वैज्ञानिक प्रबन्धन, नौकरशाही सिद्धान्त, शास्त्रीय सिद्धान्त, मानवीय संबंध सिद्धान्त, व्यवहारवादी अभिगम और व्यवस्था अभिगम।
- इकाई 4 प्रशासनिक व्यवहार : तार्किक निर्णय अभिगम (साइमन) नेतृत्व का सिद्धान्त, अभिप्रेरणा एवं संप्रेषण सिद्धान्त।
- इकाई 5 कार्मिक प्रशासन, विकासशील समाजों में लोक सेवाओं की भूमिका, पद वर्गीकरण, भर्ती, प्रशिक्षण, पदोन्नति, लोक सेवा में तटस्थता, नौकरशाही का लघुकरण, नौकरशाही का आधुनिकीकरण तथा प्रशासनिक संस्कृति।

अनुशासित पाठ्य पुस्तकें

1. Avasthi & Maheshwari, Public Administration (Hindi & English)
2. Bhattachary ,Mohit, New Horizons of Public Administration
3. Gladden, Essentials of Public Administration
4. Gorwala, Report on the Public Administration of India
5. Government of India, Fifth Central pay Commission Report Vol. I, II & III.
6. Henry , Nicholos, Public Administration and Public Affairs.
7. Paul Appleby, Report on the Public Administration of India: Re-examination of India's Administrative System.
8. Sharma , M.P., Public Administration : Theory and Practice (English and Hindi)
9. White, L.D., Introduction to the study of Public Administration
10. Willoughby, Principles of Public Administration
11. T.N.Chaturvedi, (ed.), Contemporary Administrative Culture of India, New Delhi, Mittal, 1997.
12. M.Crozier, The Bureaucratic Phenomenon, Chicago, University of Chicago Press, 1969.
13. P.R.Dubashi, Recent Trends in Public Administration, Delhi, Kaveri Books, 1995.
14. D.Waldo (ed.), Ideas and Issues in Public Administration, Durham, Duke University Press, 1970.
15. डॉ.बी.एल.फड़िया 'लोकप्रशासन'
16. डॉ.पी.डी.शर्मा 'लोकप्रशासन'
17. बी.एम.सिन्हा 'लोकप्रशासन के सिद्धान्त एवं व्यवहार'
18. परमात्मा शरण 'लोकप्रशासन'
19. चन्द प्रकाश भाम्भरी 'लोकप्रशासन प्रशासन'
20. आर.एल.सिंह 'लोकप्रशासन'
21. एच.सी.शर्मा 'प्रशासनिक संस्थाएं'
22. अन्तर सिंह एवं जियाउद्दीन खॉ 'प्रशासनिक संस्थाएं'

SYLLABUS

BACHELOR OF ARTS

POLITICAL SCIENCE

M.A. Final Examination (2021-2022)

This syllabus is for Govt College Students, Private College Students (Affiliated by Jai Narain Vyas University, Jodhpur and Private Students)



JAI NARAIN VYAS UNIVERSITY
JODHPUR

IMPORTANT

With a view to bring about greater reliability, validity and objectivity in the examination system and also for closer integration of teaching, learning and evaluation.

- (i) The syllabus has been divided into units. Questions will be set from each unit with provision for internal choice.
- (ii) In order to ensure that the students do not leave out the important portion of the syllabus, examiners shall be free to repeat the questions set in the previous examinations.

(Ref. Resolution No. 21 (c) of Academic Council dated 9.2.84)

The examinees be permitted to use their personal transistorized pocket battery operated calculators in the examinations. The calculator to be used by the candidates in the examinations should not have more than 12 digits, 6 functions and 2 memories and should be noiseless and cordless. A Calculator belonging to one candidate shall not be allowed to be used by another candidate. The Superintendent of the centre will have complete discretion to disallow the use of a calculator which does not conform to the above specification.

(Ref. Resolution No. 6/90 of Academic Council dated 20th July, 1990)

In Engineering and any other examinations where the use of calculators is already permitted, it shall remain undisturbed.

NOTIFICATION

In compliance of decision of the Hon'ble High Court all students are required to fulfil 75% attendance rule in each subject and there must be 75 % attendance of the student before he/she could be permitted to appear in the examination.

**REGISTRAR
(Academic)**

POLITICAL SCIENCE
NEW EXAMINATION SCHEME
(Pattern of Question Paper)

PART-A (भाग-अ)

भाग अ के सभी प्रश्न अनिवार्य हैं। इन प्रश्नों के उत्तर प्रत्येक 30 शब्दों तक सीमित हैं। प्रत्येक प्रश्न 2 अंक का है।

The questions of Part-A are compulsory. The answer of these questions are limited upto 30 words each. Each question carries 2 marks.

PART-B (भाग-ब)

प्रत्येक इकाई में से एक प्रश्न का चयन करते हुए कुल पाँच प्रश्नों के उत्तर दीजिये। प्रत्येक प्रश्न का उत्तर लगभग 250 शब्दों तक सीमित है। प्रत्येक प्रश्न 7 अंक का है।

Attempt FIVE questions in all, selecting ONE question from each unit. The answer of each question shall be limited upto 250 words. Each question carries 7 marks.

PART-C (भाग-स)

इस भाग से कुल तीन प्रश्नों के उत्तर दीजिये। प्रत्येक प्रश्न का उत्तर लगभग 500 शब्दों तक सीमित है। प्रत्येक प्रश्न 15 अंक का है।

Attempt Any THREE questions. The Answer of each question shall be limited upto 500 words. Each question carries 15 marks

M.A.(Final) Examination

There will be five papers each of three hours duration carrying 100 marks each.

- Paper V Contemporary Indian and Western Political Theory
- Paper VI Theories of International Relations and Contemporary Political Issues
- Paper VII Any two papers from one of the following Groups will form papers VII & VIII.
- Group A Political Theory**
(i) Contemporary Western Political Theory
(ii) Contemporary Indian Political Theory
- Group B INTERNATIONAL RELATIONS**
(i) International Law & International Organizations
(ii) Theory and Practice of Diplomacy and International Financial Institutions
- Group C PUBLIC ADMINISTRATION**
(i) Indian Administration
(ii) Local Self Government & Development Administration in India
- Group D INDIAN POLITICS**
(i) Federalism and State Politics in India
(ii) Political Parties and Electoral Politics in India
- Paper IX Research Methodology**

DISSERTATION

Dissertation may be offered in lieu of one paper from any optional group at the final examination by the candidates who have secured atleast 55% marks at the M.A.Previous examination. The subjects of dissertation shall relate to the optional group offered by the candidate. Candidates offering dissertation shall be required to submit the dissertation atleast three weeks before the beginning of M.A.Final examination. The dissertation shall carry 100 marks (75 marks for written report and 25 marks for viva-voce). The private candidates shall not be allowed to offer dissertation.

**M.A.(Final) Examination
Paper V**

Contemporary Indian and Western Political Theory

- Unit 1 Indian Renaissance – Salient features, Apostle of Indian Renaissance – Raja Ram Mohan Roy : Liberal and Humanist streak – views about Freedom, Law and Morality – evaluation. Active Vedantic Swami Vivekananda : - Vedantic Secularism – concept of Spiritual Nationalism legacy. Challenge of Extremism : Political ideas of Bal Gangadhar Tilak. Revolutionary Nationalism : Netaji Subhas Chandra Bose – Philosophy of Nation, the nature of Indian struggle for freedom.
- Unit 2 Mahatma Gandhi – Philosophical bases of Political Thought : views on Imperialism and Democracy , Reconstruction of Indian Polity. Dr.B.R.Ambedkar : The voice of rebellion – Hindu Social order – its unique features – The Curse of Caste; its annihilation why and how ? Budh and Karl Marx. Dr. Ram Manohar Lohiya –Philosophy of History – Basic features of Lohiya's Socialism – Hindu Muslim problem – Critical evaluation.
- Unit 3 Nature and Significance of Political Theory; Importance of the Classical Tradition, Value-fact Dichotomy, The Behavioural and Post Behavioural Movement in Political Theory.
- Unit 4 Different interpretation in Political Theory, Limitations of the Classical Tradition, Debate about the Decline of Political theory, Nature of Revival of Political Theory,
- Unit 5 Debate about end of the Ideology and its impact on Political Theory, Debate about the end of History, Recent Trends in Political Theory.

Recommended Readings –

1. Robert Dahl : Modern Political Analysis
2. S.P.Verma : Modern Political Theory (H. and E.)
3. V.R.Mehta, Foundations of Indian Political Thought, New Delhi, Manohar, 1992.
4. Charlesworth : Contemporary Political Analysis
5. Easton : The Political System – An Inquiry into the State of Political Science
6. Johari J.C. : Contemporary Political Theory (E & H)
7. Rathore, L.S. : In Defence of Political Theory
8. Bhati, P.S. : The Normative Tradition in Political Theory
9. Brecht : Political Theory
10. Sartori : Democratic Theory
11. William Bluhm : Theory of Political System.
12. लक्ष्मण सिंह राठौड़ : राजनीतिक सिद्धान्त-बौद्धिक शैलियाँ
13. एस.पी.वर्मा-आधुनिक राजनीतिक सिद्धान्त
14. जे.सी.जौहरी – समकालिक राजनीतिक सिद्धान्त
15. गाबा, ओमप्रकाश, समकालीन राजनीति सिद्धान्त
16. गाबा, ओमप्रकाश, राजनीति सिद्धान्त की रूपरेखा
17. वर्मा, ए.पी., आधुनिक राजनीतिक सिद्धान्त
18. वर्मा, एस.एल., आधुनिक राजनीतिक सिद्धान्त
19. शर्मा, प्रभुदत्त, अर्वाचीन राजनीतिक चिंतन
20. वर्मा, एस.एल. एवं शर्मा, बी.एम., प्रमुख भारतीय राजनीतिक विचारक

Paper VI

Theories of International Relations and Contemporary Political Issues

- Unit 1 Introduction : Meaning and basic characteristics of International Relations, Contending Theories and Approaches to the study of International Relations : Idealist, Realist, System, Game, Communication and Decision – Making.
- Unit 2 National Power : Meaning and elements ; The Struggle for Power : as status quo, as Imperialism and as Prestige; Limitations of National Power–The Balance of power and Collective security, National Interests : Formulation and Promotion.
- Unit 3 The Concept of Non – Alignment : Bases, Role and Relevance ; Disarmament and Arms Control : CTBT and NPT; Regional Organizations : SAARC and ASEAN; Factors leading to the end of Cold War; Contemporary Issues in Post – Cold War period.
- Unit- 4. Key Issues in North – South Relationship ; Liberalization, Privatization and Globalization ; Environmental Issues, Human Rights and Terrorism.
- Unit 5 India's Role in International Affairs : Basic Features & Emerging trends in India's Foreign Policy ; India's relations with the U.S.A., China and Pakistan. Foreign Policies of the U.S.A. and China – Main Issues and Current Developments

Recommended Readings –

1. Chalres, P.Schlechar : International Relations
2. Hans J. Morgenthau : Politics Among Nations
3. Holsti : International Politics
4. James, E.Dougherty and Robert, L.Pfatzgaff : Contending theories of International Relations
5. Jemes N.Rosenau : International Politics and Foreign Policy
6. Mahendra Kumar : Theoretical Aspect of International Politics
7. N. Palmer and H. Perkins : International Relations – The World Community in Transition
8. Quincy Wright : The Study of International Relations
9. Treyor Taylor : Approaches and Theory of International Relations
10. Rajan Kumar Mishra : International Relations and Political Alliances ; Kanishka Publication
11. James N.Rosenau : The Scientific study of foreign Policy.
12. J.Frankel, International Politics : Conflict and Harmony, London, Penguin, 1969.
13. J.Frankel, Contemporary International Theory and the Behaviour of States
14. M.Albrow and E.King (eds.), The Global Age, Cambridge, Polity, 1996.
15. शर्मा प्रभुदत्त, अन्तराष्ट्रीय राजनीति की पृष्ठभूमि
16. महेन्द्र कुमार, अन्तराष्ट्रीय राजनीति के सैद्धान्तिक पक्ष
17. जैन, पुखराज, अन्तराष्ट्रीय सम्बन्ध
18. फड़िया, बी.एल., अन्तराष्ट्रीय सम्बन्ध
19. चड्डा, पी.के., अन्तराष्ट्रीय सम्बन्ध
20. पंत, एच.जी., अन्तराष्ट्रीय सम्बन्ध

Group A : Political Theory
(i) Contemporary Western Political Theory

- Unit 1 Meaning, Nature, Characteristics and Varieties of Political Theory ; Issues of values and Facts–Normative, Empirical and Trans–Empirical Theory; Decline of Political theory–Arguments of Easton and Cobban; Resurgence of Political Theory–Arguments of Berlin, Blondel and Strauss.
- Unit 2 Critical Theory – Marcuse and Habermass; Value Pluralism – Berlin; open society – Popper;
- Unit 3 Contemporary Liberalism – Rawls ; Inadequacy of Liberalism – Macpherson ; Libertarianism– Hayek and Nozick; Recent Critics of Liberalism–Communitarians, post–modernists, Feminists and Marxists.
- Unit 4 Marx and the theory of the state ; concept of freedom, Justice and democracy in classical Marxism; Revisionism and its importance – Lassalle and Bernstein.
- Unit-5 Debate about the advanced Capitalist State : Gramsci, Miliband, Althusser and Poulantaz; Theory of Revolutionary change – Marx and Gramsci.

Recommended Readings –

1. B.Parekh, Contemporary Political Thinkers, Oxford, Martin Robertson, 1982.
2. H.Draper, Karl Marx's Theory of Revolution : State and Bureaucracy
3. J.A.Corlett (ed.), Equality and Liberty : Analyzing Rawls and Nozick, Basingstoke, Macmillian,1991.
4. M.Freeden, The New Liberalism, Oxford and New York, Oxford University Press, 1978.
5. N.Poulantaz, Political power and Social Classes, London, New Left Books, 1973.
6. R.Corvi, An Introduction to the Thought of Karl Popper, London, and New York, Routledge, 1997.
7. R.Miliband, The State in the Capitalist Society, London, Weidenfeld & Nicholson, 1969.
8. S.Chang, Marxian Theory of the State, New York, Holt. 1965.
9. J.P.Sood : Western Political Thinkers
10. गाबा, ओमप्रकाश, राजनीति चिन्तन की रूपरेखा
11. मुखर्जी, सुब्रत एवं रामास्वमी सुशीला, पाश्चात्य राजनीतिक चिंतन
12. कमल, के.एल., प्रमुख पाश्चात्य राजनीतिक विचारक
13. जैन, पुखराज, कतिपय प्रमुख राजनीतिक विचारक

Group A : Political Theory
(ii) Contemporary Indian Political Theory

| | |
|--------|--|
| Unit 1 | Modern Indian political thought- Sources and Salient features – Rising voice of Indian Renaissance : Raja Ram Mohan Roy – Bankimchandra and Swami Vivekananda, R.M. Roy : Main aspects of Liberal and humanist thinking : visionary of Mother hymn Bankim Chandra – Vande Matram and Indian Nationalism – Swami Vivekananda – Spiritual Nationalism; concept of Vedantic secularism – Modern India & Swami Vivekananda |
| Unit 2 | Rise of Economic Nationalism – Dada Bhai Naoroji – concept of Swaraj and Drain theory – Extremists Challenge – Lokmanya Tilak and Sri Aurbindo – People oriented politics – sociology of Shivaji and Ganesh Utsavas , Views on Swarajya and Nationalism; Sri Aurbindo – concept of spiritual nationalism |
| Unit 3 | Legacy of Mahatma Gandhi to Indian political thought and relevance of Gandhism J. L.Nehru : approach to the concept of Indian Nation – World view – Gandhi & Nehru. |
| Unit 4 | Unit-4. Indian version of socialism – Dr. Ram Manohar Lohiya ; Philosophy of History ; Basic features of Lohiya's socialist thinking – Tragedy of Partition – evaluation. Dr.Bhim Rao Ambedkar – Sources of untouchability – untouchables and slaves; verdict on Hinduism – curse of Casteism and its annihilation. |
| Unit-5 | Challenge of Muslim separatism : Political ideas of Mohammad Iqbal – Two nation theory propounded by M.A.Jinnah – Absurdity of philosophy of Partition ; Views of Dr.Ambedkar and Dr.Lohiya |

Recommended Readings

1. A.Appadorai, Indian Political Thinking Through the Ages, Delhi, Khanna Publishers, 1992.
2. Arora, V.K. : The Social and Political Philosophy of Vivekananda
3. Buch, M.M. : Rise and Growth of Indian Liberalism ; Rise and Growth of Militant Nationalism
4. Das, M.A. : The Political Philosophy of Jawahar Lal Nehru
5. Dhawan : Political Philosophy of Mahatma Gandhi
6. K.Damodaran, Indian Thought : A Critical Survey, London, Asia Publishing House, 1967.
7. K.P.Kaunakaran, Modern Indian Political Tradition, New Delhi, Allied Publishers, 1962.
8. Karan Singh : Aurobindo : The Prophet of Indian Nationalism
9. Lal Bahadur : Muslim League
10. Mathur, D.B. : Gokhale : Political Biography
11. Raman Murti : Non – Violence in Politics
12. Sharma, B.S. : The Political Philosophy of M.N.Roy
13. Shay : The Legacy of Lokmanya
14. V.R.Mehta, Foundations of Indian Political Thought, New Delhi, Manohar, 1992.
15. Verma, V.P. : Modern Indian Political Thought
16. राजपुरोहित कन्हैयालाल : आध्यात्मिक राष्ट्रवाद
17. गाबा, ओमप्रकाश, समकालीन राजनीति सिद्धान्त
18. राजपुरोहित, बी.आर., भारतीय राजनीतिक चिंतन
19. कमल, के.एल., भारतीय राजनीतिक चिंतन
20. शर्मा, बी.एम., शर्मा, आर.डी., एवं शर्मा, सविता, गांधी दर्शन के विविध आयाम

Group B : INTERNATIONAL RELATIONS
(i) International Law & International Organizations

- Unit 1 Nature, scope and sources of International law, its definitions and basis, Relation between Municipal Law and International Law; Codification and historical evolution of International Law. International Law & Economic Development : Third World concerns Subjects of International Law: Sovereign states as International Persons. Place of Individual in International Law & Human Rights.
- Unit 2 Recognition : Constitutive and Declaratory Theories, Consequences of Recognition, Practice of states; Recognition of Governments, Considerations for Recognition State Succession : Rights and Duties of Successor State; State Jurisdiction : Territorial jurisdictions of State over Land, Sea and Air, Limitations and Immunities of State jurisdiction, Modes of Acquiring and Losing State territory
- Unit 3 Nationality : Acquisition and Loss of Nationality, Double Nationality and Statelessness Extradition : Meaning and Essentials of Extradition, Principle of Non – extradition of Political Criminals
- Unit 4 Treaties : Character and Functions of Treaties, Ratification, enforcement and termination of Treaties, effect of war on Treaties and Interpretation of Treaties Settlement of Disputes : Amicable Settlement of State Disputes, Compulsive Methods–U.N. and Compulsive Methods, United Nations – Structure, Functions and Role in the Post – Cold War Era.
- Unit 5 Place of War in International Law, Renunciation of War, Termination of War, Laws of Land, Sea and Air Warfare; Meaning of Neutrality, Rights and Duties of Neutrals, Blockade and contraband, Right of Angary, Unneutral services and Right of Visit and Search Environment and International Law : Terrorism and International Law; Human Rights

Recommended Readings

1. Brierley : Law of Nations
2. Fenwick : International Law
3. Green : International Law Through Cases
4. Oppenheim : International Law
5. Schwargen Berger : A Manual of International Law
6. Starke : Public International Law
7. Tandon : International Law
8. W.H.Lewis (ed.), The Security Role of the United Nations, New York, Praegar, 1991.
9. I.Rikhey, Strengthening UN Peacekeeping, London, Hurst and Co., 1993.
10. टडन, अन्तराष्ट्रीय विधि
11. वेदालंकार, हरिदत्त, अन्तराष्ट्रीय कानून
12. हरिमोहन जैन, अन्तराष्ट्रीय विधि
13. भाटिया, पी.आर., अन्तराष्ट्रीय कानून
14. आसोपा, एस.के., अन्तराष्ट्रीय विधि
15. कपूर, एस.के., अन्तराष्ट्रीय विधि
16. चतुर्वेदी अरुण, तायल, विमलेन्दु, नये राष्ट्र व अन्तराष्ट्रीय विधि
17. Bannel Roy: International Organisation-Principles & Issues 1977.

Group B : INTERNATIONAL RELATIONS

(ii) Theory and Practice of Diplomacy and International Financial Institutions

- Unit 1 Introduction : Meaning, nature, scope and objects of Diplomacy. Diplomacy as an instrument for the promotion of national interest; Evolution and Development of Diplomatic theory, methods and techniques from its origin to the present times—Greek, Indian, Roman, Byzantine, Italian and modern, Their Contribution to Diplomacy
- Unit 2 Characteristics of Old Diplomacy, Factors responsible for the change from Old to the New Diplomacy, salient features of New Diplomacy, Distinction between Old and the New Diplomacy. Recent Trends in Diplomatic Practice and Procedure. Democratic Diplomacy : Meaning, merits and demerits; Totalitarian Diplomacy : Meaning, nature, methods, objects, merits and demerits
- Unit 3 Diplomacy by Conference : Meaning, merits and demerits : its increasing importance : Summit Diplomacy : Meaning, merits and demerits Diplomatic Envoys : Classification, appointment, establishment and termination, Privileges, immunities and limitations of diplomatic envoy, Functions of diplomat. Vienna Convention on Diplomatic Relations; Consular Services—classification, appointment. Privileges and functions, Difference between Diplomatic relations and consular relations, ideal diplomat and its qualities
- Unit 4 Various forms of Diplomacy : Parliamentary Diplomacy, Oil Diplomacy, and Cultural Diplomacy Methods of Diplomacy : Salient features of British, American, and Indian Diplomacy
- Unit 5 The Evolution of International Financial Institutions : the Post War Bretton Woods System – the World Bank Structure and Development Activities – The International Monetary Fund Structure and Operational Review; GATT and World Trade Organisation.

Recommended Books

1. Girija Mukerjee, French School of Diplomacy
2. Hankey : Diplomacy by Conference
3. Kennedy, A.L. : Diplomacy Old and New
4. Krishnamurthy : Dynamics of Diplomacy
5. Nicolson : Diplomacy
6. Pannikar, K.M. : Principles and Practice of Diplomacy
7. Parson, Diplomacy in the Nuclear Age
8. Rathore, L.S. : The Foundations of Diplomacy
9. Regall, Trends in Diplomatic Practice
10. Satow, Guide to a Diplomatic Practice
11. Strong, The Diplomatic Career
12. Webster, The Art and Practice of Diplomacy
13. Arun Chaturvedi : Con. Diplomatic law in contemporary Int. relations.
14. H.Kissinger, Diplomacy, New York, Simon and Schuster, 1994.
15. L.B.Pearson, Diplomacy in a Nuclear Age
16. G.Young, Diplomacy Old and New, London, Swarthomore Press, 1921.
17. गांधीजी, रॉय, राजनय के सिद्धान्त
18. शर्मा एच.सी., राजनय के सिद्धान्त
19. रॉय, एम.पी., राजनय के सिद्धान्त एवं व्यवहार

'C' "PUBLIC ADMINISTRATION"

(i) Indian Administration

- Unit 1 Evolution of Indian Administration – Kautilya, Mughal period & British legacy. Constitutional framework : Political Structure and Administration –President, Prime Minister and Council of Ministers.
- Unit 2 Structure of Central Administration : Cabinet Secretariat , Prime Minister's Office, Central Secretariat, Major Ministries & Departments.
- Unit 3 Public Services : All India Services, Central Services; Union Public Service Commission, Training in the changing context of governance. Relationship between Political and Permanent Executive, Generalist and Specialist in Administration
- Unit 4 Economic Administration : Centre-State Financial Relations; Finance Commission, Composition and Working of Planning Commission and National Development Council – Impact of Planning on Federalism; Economic Liberalization and Globalization and their Impact on Administration.
- Unit 5 Administrative Reforms : Reforms since Independence – Reports of the Administrative Reforms Commission, Recommendations of the Sarkaria Commission – Machinery for the Removal of Citizen's Grievances in India.

Recommended Readings

1. Maheshwari, S.R. : Indian Administration
2. Jain, R.B. : Contemporary Issues in Indian Administration
3. Jain, R.B. : Public Administration in India : 21st Century Challenges for Good Government (Deep & Deep, 2002)
4. Hoshiar Singh & Mohendra Singh : Public Administration in India
5. Parmatma Sharan : Public Administration in India.
6. Mishra, B.B. : Government and Bureaucracy in India
7. J.S. Meena : Sookhana ka Adhikar ; Lok Sewa Gurantee kanoon
8. Ashok Chanda : Indian Administration
9. Kaushik, S.L. & Others (eds.) : Public Administration in India
10. Arora & Others (eds.) : Indian Administrative System
11. R.K.Arora (ed.) Administrative Change in India, Jaipur, Alekh Publishers, 1974
12. C.P.Bhambri, Bureaucracy and Politics in India, Delhi, Vikas Publications, 1971.
13. Mohit Bhattacharya, Bureaucracy and Development Administration, New Delhi, Uppal, 1978.
14. Administrative Reform Commission (Chairman : K.Hanumanthaiya), Report on Economic Administration, Delhi, the Manager of Publication, 1968.
15. Ramesh Arora & Rajni Goyal: Indian Public Administration
16. . P.D. Sharma & B.M. Sharma : Indian Administration.(H&E)
17. होशियार सिंह : भारतीय प्रशासन (किताब महल , नई दिल्ली
18. फड़िया, बी.एल., भारत में लोकप्रशासन
19. अवस्थी एवं अवस्थी, भारतीय प्रशासन
20. माहेश्वरी, एस.आर., भारतीय प्रशासन

GROUP 'C' "PUBLIC ADMINISTRATION"
(ii) Local Self Government & Development Administration in India

- Unit 1 Meaning and Importance of Local Self Government; Evolution of Local Self Government in India; Characteristics of 73rd and 74th Constitution Amendment Acts.
- Unit 2 Rural Local Self Government with special reference to Rajasthan—Composition, functions and role of Gram Sabha, Panchayats, Panchayat Samities and Zila Parishad – Role and functions of Vikas Adhikari and Chief Executive Officer.
- Unit 3 Urban Local Self Government with special reference to Rajasthan – Composition, functions and role of municipalities and Municipal Corporations; State Finance Commission; State Control over Local Bodies.
- Unit 4 Development Administration : Machinery of Development at Local Level – District Collector, District Plans and Role of Voluntary Agencies.
- Unit 5 Trends and Problems of Local Self Government : New Trends in People's Self Development and Empowerment ; Electoral Politics at Local Level and Role of State Election Commission; Rural Development Programmes and Problems of Implementation; Impact of Panchayati Raj on Developmental Process.

Recommended Readings

1. Iqbal Narain And P.C. Mathur : Panchayati Raj-Old Controls And New Challenges
2. R.K.Sapru : Development Administration,1994
3. A.Bajpai, Panchayati Raj and Rural Development, Delhi, Sahitya Prakashan, 1997.
4. T.N.Chaturvedi (ed.), Local Government, New Delhi, Indian Institute of Public Administration, 1984.
5. S.N.Jha, and P.C.Mathur, Decentralization and Local Politics, New Delhi, Sage, 1999.
6. S.Maheshwari, Local Government in India, Agra, Lakshmi Narain Agarwal, 1996.
7. S.N.Mishra, Rural Development and Panchayati Raj, New Delhi, Concept, 1981.
8. G.Ram Reddy, Pattern of Panchayati Raj in India, Delhi, Macmillian, 1977.
9. D.Thakur and S.N.Singh (eds.), District Planning and Panchayati Raj, New Delhi, Deep and Deep, 1991.
10. C.P.Bhambri, Administration in Changing Society, Delhi, National, 1978.
11. O.P.Dwivedi, Development Administration : From Underdeveloped to Sustainable Development, Houndmills, Macmillian, 1994.
12. G.F.Grant, Development Administration : Concepts, Goals, Methods, Madison, University of Wisconsin, 1979.
13. श्री राम माहेश्वरी : भारत में स्थानीय शासन
14. मीणा, जनकसिंह, भारत में ग्रामीण विकास प्रशासन, 2012
15. शर्मा, अशोक, भारत में स्थानीय प्रशासन, 2012
16. शर्मा, रविन्द्र, भारत में स्थानीय प्रशासन, 2012
17. जोशी, प्रीता, विकास प्रशासन, 2012
18. अवस्थी, विकास प्रशासन, 2010
19. सचदेवा, प्रदीप, भारत में स्थानीय सरकार 2012
20. मीणा, जनकसिंह, ग्रामीण विकास के विविधि आयाम, 2010
21. बर्थवाल, सी.पी., स्थानीय स्वशासन

Group D – INDIAN POLITICS
Paper – I Federalism and State Politics in India

- Unit 1 Theoretical framework for the study of State politics within the framework of the Indian Constitution; Evolution of States in India; Linguistic States and the States Reorganization ;Socio – Economic determinants of State Politics; Practice and Patterns of State politics; Emerging trends in State Politics in India.
- Unit 2 The Indian Federal System : Background, Evolution and Nature of Federalism in India; Developments in Indian Federalism since 1947; Centre–State Relations–Legislative, Administrative and Financial Relations ; Economic Planning and Federalism; The Party System and Political Dynamics of federalism ; Demands for Greater autonomy f or States; Trends and Problems in the working of Centre – State relations; An overview of the recommendations of the commission on Centre-State Relations.
- Unit 3 State Government : The office of the Governor – Mode of Appointment, Powers and functions; Role of Governor in State Politics and Constitutional position. The office of the Chief Minister; Powers and functions and emerging role in State Politics; The Council of Ministers in State Politics; The State Legislature – Its organisation, functions and emerging role in State Politics.
- Unit 4 Defections and State Politics in India with reference to the study of the Politics of defections in Haryana, Rajasthan and Bihar. Coalition Politics in the Indian States with reference to the study of the working of coalition government in Kerala, West Bengal and Uttar Pradesh. Role of Regional Political Parties in India with reference to the study of the Akali Dal, the Telugu Desham and AIADMK.
- Unit 5 State Politics in Rajasthan – Integration of Princely States and Emergence of modern Rajasthan; Princes in Rajasthan Politics; Electoral Politics and Political developments in Rajasthan; Political Parties in Rajasthan; Role of opposition in Rajasthan Vidhan Sabha; Caste and Politics in Rajasthan; Main features of State Politics in Rajasthan

Recommended Readings

1. Ashok Chanda : Federalism in India : A Study of Union – State Relations
3. B.L.Panagariya : State Politics in India
4. Bombwall, K.R. : The Foundations of Indian Federalism
6. Iqbal Narain (ed.) : State Politics in India
7. I.N.Tewari : State Politics in India
8. Kamal, K.L. : Spotlight on Rajasthan Politics
9. Kashyap, Subhash : The Politics of Defection : A Study of State Politics in India
10. Menon, V.P. : The Story of Integration of Indian States
11. Myron Weiner and John Osgood Field (eds.) : Electoral Politics in the Indian States (4 vols.)
12. Paul Brass : Functional Politics in an Indian State
13. Paul Wallace and Surendra Chopra (eds.) : Political Dynamics of Punjab (4 vols.)
14. Richard Sission : The Congress Party in Rajasthan : Political Integration and Institution Building in an Indian State
15. Santhanam : Union-State Relations in India
16. Sudha Pai : State Politics – New Dimensions
17. Weiner, Myron (ed.) : State Politics in India
18. Rajni Kothari : Politics in India, 2012

Group D – INDIAN POLITICS
Paper II – Political Parties and Electoral Politics in India

- Unit 1 Party System in India, Origins of Political Parties : From the Establishment of the Indian National Congress in 1885 to the Congress System – Nature of Party System in the Post Independent India, Classification of Political Parties–National Political Parties : Their origin, programme, organization and support base, Salient Features of the Party System in India, Emerging bipolar party system.
- Unit 2 Regional Political Parties : their origin, programme, organization and support base, Patterns of Interaction between National and Regional Political Parties.
- Unit 3 Pressure Groups in Indian Politics, Historical background, Types of Pressure Groups in India, Major Pressure Groups with special reference to trade unions, chambers of commerce, Agrarian interest groups, Human Rights and Environmental movements/groups, Salient features of the Indian Model of Pressure Groups.
- Unit 4 Electoral System in India since 1950, Election Commission of India : Powers, Functions and Emerging Role, Electoral Politics and Lok Sabha Elections, Electoral Politics and Vidhan Sabha Elections, Elections and the Process of politicization, Anti-Defection Law : A Critical Study, Problems of Election Commission in conducting Free and Fair Elections.
- Unit 5 Electoral Reforms in India : Tarkunde, Goswami and Indrajit Gupta Reports, Code of Conduct for Free and Fair Elections, Determinants of Voting Behaviour, Majoritarian Parliamentary System vs Representational Parliamentary System.

Recommended Readings

1. B.Arora, Political Parties and Party System : The Emergence of New Coalitions, memo, Dec., 1979.
2. C.Baxter, The Jana Sangh : A Biography of an Indian Party, Philadelphia, University of Pennsylvania Press, 1969.
3. P.Brass, Caste, Faction and Party in Indian Politics, vols. 2, Delhi, Chanakya Publications, 1984- 1985.
4. P.Brass, Factional Politics in a Indian State : The Congress Party in Uttar Pradesh, Berkeley, University of California Press, 1966.
5. A.Burger, Opposition in a Dominant Party System, Berkeley, University of California Press, 1969
6. ML.Franda and P.Brass (eds.), Radical Politics in South Asia, Cambridge Massachusetts, MIT,1973.
7. C.Fuller and C.Jafferlot (eds.), The BJP and the Comulsions of Politics in India, Delhi, Oxford University Press, 1998.
8. H.Hartman, Political Parties in India, Merrut, Meenakshi Prakashan, 1980.
9. R.Kothari, "The Congress System Revisited : A Decennial Review", Asian Survey,1974.,
10. R.Kothari, Party System and Election Studies, Bombay, Asia Publishing House, 1967.
11. S.Kochanek, The Congress Party of India : The Dynamics of One Party Democracy, Princeton : Princeton University Press, 1968.
12. B.Sengupta, Communism in Indian Politics, New York, Columbia University Press, 1972.
13. B.Sengupta, CPI-M: Promises, Prospects and Problems, New Delhi, Young Asia, 1979.
14. M.Weiner, Party Politics in India, Princeton NJ, Princeton University Press, 1957.
15. M.Weiner, Party Building in a New Nation : The Indian National Congress, Chicago, University of Chicago Press, 1967.
16. A.Bajpyee, Indian Electoral System : An Analytical Study, New Delhi, Nardeen Book Centre, 1992.
17. A.K.Bhagat, Elections and Electoral Reforms in India, Delhi, Vikas, 1996.
18. V.Grover (ed.), Election and Politics in India, New Delhi, Deep and Deep, 1989.
19. S.Kaushik, Election in India : its Social Bases, New Delhi, K.P.Bagchi and Co., 1982.
20. M.D.Palmer, Elections and Political Development : The South Asian Experience
21. S.L.Shakdher, The Law and Practice of Elections in India, New Delhi, national, 1992.
22. S.L.Shakdher, Electoral Reforms in India, New Delhi, National 1992.
24. माथुर, पी.सी. एवं शर्मा, रविन्द्र, (संपादित), भारती में पंचायतीराज निर्वाचन, 2013

**M.A.(Final) Examination
Paper IX
Research Methodology**

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|--------|---|
| Unit 1 | Meaning and Nature of Research, Role of Research in Social Science with special reference to Political Science; Forms of Research-Normative, Empirical and Behavioural, Concepts and Variable, Scientific Research : Characteristics and types. |
| Unit 2 | Models and Paradigms; Theory Building in Political Science, Scientific Method: Meaning, Nature, Aims and Steps of Scientific Method. |
| Unit 3 | Formulation of Research Problem: Research Design, Concept of Hypothesis, Sources of Data-Primary and Secondary, Sampling, Selection of Universe. |
| Unit 4 | Techniques of Data Collection-Observation, Questionnaire and Schedules, Interviews, Content Analysis, Various Forms of Studies-Panel, Case, Area. |
| Unit 5 | Levels of Measurement and Problems of Measurement in Social Research, Techniques of Scaling and Index Construction, Coding and Tabulation, Data Analysis, Report Writing, Analysis of the problem, Research Ethics. |

Recommended Readings –

1. Goode, W.J. and Hatt, P.K., 'Methods in Social Science Research'. New Delhi, McGraw Hill, 1986
2. Halperin, Sandra and Heath, Oliver, 'Political Research : Methods and Practical Skills', New York, Oxford University Press, 2012.
3. Kothari, C.R., 'Research Methodology', Delhi, New Age International, Wishwa Publications, 2008.
4. Jaspal Singh, Instruement of Social Research, Rawat Publications, Jaipur.
5. Wilkinson & Bhandarkar, Methodology and Techniques of Social Research, Himalaya Publishing House, Delhi.
6. Young, P.V., 'Scientific Social Survey & Research', Prentice – Hall Inc., New York, NY, U.S.A. 1946.
7. Trivedi, R.N. and Shukla, D.P., 'Research Methodology' (Hindi & Eng.) College Book Depot Jaipur, 2007.
8. Ahuja, Ram, 'Research Methodology' (Hindi & English), Rawat Publication, Jaipur.
9. वर्मा, एस.एल., 'राजनीति विज्ञान में अनुसंधान प्रविधि', राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर।
10. वेद प्रकाश शर्मा, 'अनुसंधान प्रविधि', पंचशील प्रकाशन, जयपुर।
11. सिंहल, एस.सी., 'राजनीति विज्ञान में अनुसन्धान पद्धतियाँ', लक्ष्मीनारायण अग्रवाल, आगरा।
12. पाण्डेय, गणेश एवं पांडेय अरुणा, 'शोध प्रविधि', राधा पब्लिकेशन्स, दिल्ली।
13. रावत, हरिकृष्ण, 'सामाजिक शोध की विधियाँ', रावत पब्लिकेशन्स, जयपुर।

एम.ए. उत्तरार्द्ध राजनीति विज्ञान

पंचम प्रश्न पत्र

समकालीन भारतीय एवं पाश्चात्य राजनीतिक चिन्तन

- इकाई 1 भारतीय नवोत्थान – प्रमुख विशेषताएँ, भारतीय नवोत्थान के अग्रदूत – राजा राम मोहन रॉय; उदारवादी एवं मानवतावादी झुकाव— स्वतंत्रता, कानून और नैतिकता संबंधी विचार मूल्यांकन। कर्मठ वेदान्ती स्वामी विवेकानन्द; वेदान्ती पंथ निरपेक्षतावाद, आध्यात्मिक राष्ट्रवाद की अवधारणा एवं स्वामी विवेकानन्द की देन। भारतीय

राजनीति में उग्रवाद की चुनौती : लोकमान्य तिलक (बाल गंगाधर तिलक) के राजनीतिक विचार, क्रान्तिकारी राष्ट्रवाद – नेताजी सुभाषचन्द्र बोस राष्ट्र दर्शन, भारतीय स्वाधीनता संग्राम का स्वरूप।

- इकाई 2 महात्मा गाँधी— राजनीतिक चिन्तन के दार्शनिक आधार, साम्राज्यवाद एवं लोकतंत्र संबंधी विचार, भारतीय राजतंत्र का पुनर्निर्माण। डॉ.भीमराव अम्बेडकर; विद्रोह का स्वर – हिन्दू सामाजिक संगठन और उसके विशिष्ट लक्षण। जाति प्रथा का अभिशाप, समूलोच्छेद क्यों और कैसे ? बुद्ध और कार्ल मार्क्स का तुलनात्मक अध्ययन। डॉ.राम मनोहर लोहिया—इतिहास दर्शन, लोहिया के समाजवादी दर्शन की मुख्य विशेषताएँ— हिन्दू मुस्लिम समस्याएँ, आलोचनात्मक मूल्यांकन।
- इकाई 3 राजनीतिक सिद्धान्त की प्रकृति और महत्व। क्लासिकल (शास्त्रीय) परम्परा का महत्व। अधिमूल्य तथ्य द्वन्द्व, राजनीतिक सिद्धान्त में व्यवहारवादी और उत्तर व्यवहारवादी आन्दोलन।
- इकाई 4 राजनीतिक सिद्धान्त की विभिन्न व्याख्याएँ। परम्परागत परम्पराओं की सीमाएँ। राजनीतिक चिन्तन की अवनति (ह्रास)के विषय पर बहस। राजनीतिक सिद्धान्त के पुनरुत्थान का स्वरूप।
- इकाई 5 विचारधारा के अन्त संबंधी बहस तथा उसका राजनीतिक सिद्धान्त पर प्रभाव। इतिहास के अंत सम्बन्धी बहस, राजनीतिक सिद्धान्त में अधुनातन प्रवृत्तियाँ।

अनुशंसित पाठ्य पुस्तकें

1. Robert Dahl : Modern Political Analysis
2. S.P.Verma : Modern Political Theory (H. and E.)
3. V.R.Mehta, Foundations of Indian Political Thought, New Delhi, Manohar, 1992.
4. Charlesworth : Contemporary Political Analysis
5. Easton : The Political System – An Inquiry into the State of Political Science
6. Johari J.C. : Contemporary Political Theory (E & H)
7. Rathore, L.S. : In Defence of Political Theory
8. Bhati, P.S. : The Normative Tradition in Political Theory
9. Brecht : Political Theory
10. Sartori : Democratic Theory
11. William Bluhm : Theory of Political System.
12. लक्ष्मण सिंह राठौड़ : राजनीतिक सिद्धान्त—बौद्धिक शैलियाँ
13. एस.पी.वर्मा—आधुनिक राजनीतिक सिद्धान्त
14. जे.सी.जौहरी – समकालिक राजनीतिक सिद्धान्त
15. गाबा, ओमप्रकाश, समकालीन राजनीति सिद्धान्त
16. गाबा, ओमप्रकाश, राजनीति सिद्धान्त की रूपरेखा
17. वर्मा, ए.पी., आधुनिक राजनीतिक सिद्धान्त
18. वर्मा, एस.एल., आधुनिक राजनीतिक सिद्धान्त
19. शर्मा, प्रभुदत्त, अर्वाचीन राजनीतिक चिंतन
20. वर्मा, एस.एल. एवं शर्मा, बी.एम., प्रमुख भारतीय राजनीतिक विचारक

षष्ठम् प्रश्न पत्र

अन्तरराष्ट्रीय सम्बन्ध के सिद्धान्त एवं समकालीन राजनीतिक मुद्दे

- इकाई 1 परिचय – अन्तरराष्ट्रीय संबंध का अर्थ एवं बुनियादी विशेषताएँ। अन्तरराष्ट्रीय संबंधों के अध्ययन संबंधी प्रतिस्पर्द्धी सिद्धान्त एवं अभिगम – प्रत्ययवादी (आदर्शवादी), यर्थाथवादी, व्यवस्था अभिगम, क्रीड़ा सिद्धान्त, संप्रेषण एवं निर्णय लेने संबंधी अभिगम

- इकाई 2 राष्ट्रीय शक्ति; अर्थ एवं तत्व, शक्ति हेतु यथास्थिति साम्राज्यवाद और प्रतिष्ठा के रूप में संघर्ष। राष्ट्रीय शक्ति की सीमाएँ, शक्ति संतुलन एवं सामूहिक सुरक्षा। राष्ट्रीय हित-सूत्रीकरण एवं संवर्धन।
- इकाई 3 असंलग्नता की अवधारणा – आधार, भूमिका एवं प्रासंगिकता, निःशस्त्रीकरण एवं शस्त्र नियंत्रण सी.टी.बी.टी. एवं एन.पी.टी., क्षेत्रीय संगठन; सार्क और आसियान, शीतयुद्ध की समाप्ति में सहायक तत्व, शीत युद्धोत्तर युग में समकालीन मुद्दे।
- इकाई 4 उत्तर-दक्षिणी संबंधों के मुख्य मुद्दे। उदारीकरण, निजीकरण एवं भूमंडलीकरण, पर्यावरणीय मुद्दे, मानवाधिकार एवं आतंकवाद।
- इकाई 5 अन्तरराष्ट्रीय मामलों में भारत की भूमिका; भारतीय विदेश नीति की बुनियादी विशेषताएँ और उसमें उभरती हुई प्रवृत्तियाँ, भारत के संयुक्त राज्य अमेरिका, चीन एवं पाकिस्तान के साथ सम्बन्ध, संयुक्त राज्य अमेरिका और चीन की विदेश नीति- मुख्य मुद्दे और वर्तमान विकास

अनुशंसित पाठ्य पुस्तकें

1. Chalres, P.Schlechar : International Relations
2. Hans J. Morgenthau : Politics Among Nations
3. Holsti : International Politics
4. James, E.Dougherty and Robert, L.Pfatzgaff : Contending theories of International Relations
5. Jemes N.Rosenau : International Politics and Foreign Policy
6. Mahendra Kumar : Theoretical Aspect of International Politics
7. N. Palmer and H. Perkins : International Relations – The World Community in Transition
8. Quincy Wright : The Study of International Relations
9. Treyor Taylor : Approaches and Theory of International Relations
10. Rajan Kumar Mishra : International Relations and Political Alliances ; Kanishka Publication
11. James N.Rosenau : The Scientific study of foreign Policy.
12. J.Frankel, International Politics : Conflict and Harmony, London, Penguin, 1969.
13. J.Frankel, Contemporary International Theory and the Behaviour of States
14. M.Albrow and E.King (eds.), The Global Age, Cambridge, Polity, 1996.
15. शर्मा प्रभुदत्त, अन्तरराष्ट्रीय राजनीति की पृष्ठभूमि
16. महेन्द्र कुमार, अन्तरराष्ट्रीय राजनीति के सैद्धान्तिक पक्ष
17. जैन, पुखराज, अन्तरराष्ट्रीय सम्बन्ध
18. फड़िया, बी.एल., अन्तरराष्ट्रीय सम्बन्ध
19. चड्ढा, पी.के., अन्तरराष्ट्रीय सम्बन्ध
20. पंत, एच.जी., अन्तरराष्ट्रीय सम्बन्ध

ग्रुप ए : राजनीतिक सिद्धान्त

(i) "समकालीन पाश्चात्य राजनीतिक सिद्धान्त"

- इकाई 1 राजनीतिक सिद्धान्त का अर्थ, प्रकृति, विशेषताएं एवं प्रकार, मूल्य एवं तथ्यों संबंधी मुद्दे। मानवीय, अनुभववादी एवं अनुभववादी सिद्धान्त से परे की धारणा। राजनीतिक सिद्धान्त की अवनति और इस संबंध में ईस्टन और कोबन के तर्क। राजनीतिक सिद्धान्त के पुनरुत्थान के बारे में बर्लिन, ब्लॉडल और स्ट्रॉस के तर्क।

- इकाई 2 विवेचनात्मक सिद्धान्त – मारक्यूस और हेबरमास, बर्लिन का अधिमूल्य बहुलवाद और पॉपर का मुक्त समाज सिद्धान्त
- इकाई 3 समकालीन उदारवाद–रॉल्स, मैक्फरसन के उदारवाद की अपर्याप्तता। हायेक व नॉजिक की इच्छा स्वातंत्र्यवाद की धारणा, उदारवाद के हाल के आलोचक समुदायवादी, उत्तर आधुकितावादी, नारीवादी और मार्क्सवादी।
- इकाई 4 कार्ल मार्क्स और राज्य सिद्धान्त, स्वतंत्रता की अवधारणा, शास्त्रीय मार्क्सवाद में न्याय और लोकतंत्र, संशोधनवाद और उसका महत्व– लासले और बर्नस्टेन
- इकाई 5 अग्रवर्ती पूंजीवादी राज्य विषयक बहस : ग्रामसी, मिलिबेन्ड, अल्थूसर और पॉलेन्ताज, क्रान्तिकारी परिवर्तन के सिद्धान्त– मार्क्स और ग्रामसी

अनुशंसित पाठ्य पुस्तकें

1. B.Parekh, Contemporary Political Thinkers, Oxford, Martin Robertson, 1982.
2. H.Draper, Karl Marx's Theory of Revolution : State and Bureaucracy
3. J.A.Corlett (ed.), Equality and Liberty : Analyzing Rawls and Nozick, Basingstoke, Macmillian, 1991.
4. M.Freeden, The New Liberalism, Oxford and New York, Oxford University Press, 1978.
5. N.Poulantaz, Political power and Social Classes, London, New Left Books, 1973.
6. R.Corvi, An Introduction to the Thought of Karl Popper, London, and New York, Routledge, 1997.
7. R.Miliband, The State in the Capitalist Society, London, Weidenfeld & Nicholson, 1969.
8. S.Chang, Marxian Theory of the State, New York, Holt. 1965.
9. J.P.Sood : Western Political Thinkers
10. गाबा, ओमप्रकाश, राजनीति चिन्तन की रूपरेखा
11. मुखर्जी, सुब्रत एवं रामास्वमी सुशीला, पाश्चात्य राजनीतिक चिंतन
12. कमल, के.एल., प्रमुख पाश्चात्य राजनीतिक विचारक
13. जैन, पुखराज, कतिपय प्रमुख राजनीतिक विचारक

ग्रुप ए : राजनीतिक सिद्धान्त

(ii) "समकालीन भारतीय राजनीतिक सिद्धान्त"

- इकाई 1 आधुनिक भारतीय राजनीतिक चिन्तन– स्रोत एवं मुख्य विशेषताएं। भारतीय नवोत्थान की उभरती वाणी (स्वर); राजा राम मोहन रॉय, बंकिमचन्द्र और स्वामी विवेकानन्द। राजा राममोहनरॉय; उदारवादी, मानवतावादी चिन्तन के मुख्य पहलू। मातृ स्तवन के दृष्टा – बंकिमचन्द्र– वन्देमातरम् और भारतीय राष्ट्रवाद, स्वामी विवेकानन्द–आध्यात्मिक राष्ट्रवाद, वेदांती पंथनिरपेक्षता की अवधारणा, आधुनिक भारत एवं स्वामी विवेकानन्द

- इकाई 2 आर्थिक राष्ट्रवाद का उदय – दादा भाई नौरोजी, स्वराज्य की अवधारणा और निर्गम सिद्धान्त। उग्रवादी चुनौती, लोकमान्य तिलक और श्री अरविन्दो-जनाभिमुख राजनीति। शिवाजी और गणेश उत्सवों का समाजशास्त्र, स्वराज्य और राष्ट्रवाद संबंधी दृष्टिकोण, श्री अरविन्दों- आध्यात्मिक राष्ट्रवाद की अवधारणा।
- इकाई 3 भारतीय राजनीतिक चिन्तन को महात्मा गाँधी की देन और गाँधीवाद की प्रासंगिकता, जवाहरलाल नेहरू – भारतीय राष्ट्र संबंधी अवधारणा, विश्व दृष्टि-गाँधी और नेहरू
- इकाई 4 समाजवाद का भारतीय संस्करण- डॉ.राममनोहर लोहिया; इतिहास दर्शन, लोहिया के समाजवादी चिन्तन की मुख्य विशेषताएँ। विभाजन की त्रासदी, मूल्यांकन। डॉ.भीमराव अम्बेडकर – अस्पृश्यता के स्रोत- अस्पृश्यता एवं दास, हिन्दू धर्म संबंधी मत। जातिवाद का अभिशाप एवं समूलोच्छेद।
- इकाई 5 मुस्लिम पृथकतावाद की चुनौती : मोहम्मद इक़बाल के राजनीतिक विचार- मोहम्मद अली जिन्ना द्वारा प्रतिपादित द्विराष्ट्र सिद्धान्त। विभाजन के दर्शन की विसंगति। डॉ.अम्बेडकर और डॉ.लोहिया के विचार।

अनुशंसित पाठ्य पुस्तकें

1. A.Appadorai, Indian Political Thinking Through the Ages, Delhi, Khanna Publishers, 1992.
2. Arora, V.K. : The Social and Political Philosophy of Vivekananda
3. Buch, M.M. : Rise and Growth of Indian Liberalism ; Rise and Growth of Militant Nationalism
4. Das, M.A. : The Political Philosophy of Jawahar Lal Nehru
5. Dhawan : Political Philosophy of Mahatma Gandhi
6. K.Damodaran, Indian Thought : A Critical Survey, London, Asia Publishing House, 1967.
7. K.P.Kaunakaran, Modern Indian Political Tradition, New Delhi, Allied Publishers, 1962.
8. Karan Singh : Aurobindo : The Prophet of Indian Nationalism
9. Lal Bahadur : Muslim League
10. Mathur, D.B. : Gokhale : Political Bibography
11. Raman Murti : Non – Violence in Politics
12. Sharma, B.S. : The Political Philosophy of M.N.Roy
13. Shay : The Legacy of Lokmanya
14. V.R.Mehta, Foundations of Indian Political Thought, New Delhi, Manohar, 1992.
15. Verma, V.P. : Modern Indian Political Thought
16. राजपुरोहित कन्हैयालाल : आध्यात्मिक राष्ट्रवाद
17. गाबा, ओमप्रकाश, समकालीन राजनीति सिद्धान्त
18. राजपुरोहित, बी.आर., भारतीय राजनीतिक चिंतन
19. कमल, के.एल., भारतीय राजनीतिक चिंतन
20. शर्मा, बी.एम., शर्मा, आर.डी., एवं शर्मा, सविता, गांधी दर्शन के विविध आयाम

ग्रुप बी : अन्तरराष्ट्रीय सम्बन्ध

(i) “अन्तरराष्ट्रीय कानून एवं अन्तरराष्ट्रीय संगठन”

- इकाई 1 अन्तरराष्ट्रीय कानून की प्रकृति, क्षेत्र एवं स्रोत, इसकी परिभाषाएँ एवं आधार, नगरपालिका कानून एवं अन्तरराष्ट्रीय कानून में सम्बन्ध। अन्तरराष्ट्रीय कानून का संहिताकरण एवं ऐतिहासिक विकास, अन्तरराष्ट्रीय कानून और आर्थिक विकास। अन्तरराष्ट्रीय कानून के तीसरी दुनिया से सम्बद्ध मुद्दे; संप्रभु राज्य अन्तरराष्ट्रीय व्यक्ति के रूप में। अन्तरराष्ट्रीय कानून एवं मानवाधिकारों में व्यक्ति का स्थान।

- इकाई 2 मान्यता : संगठक एवं घोषणात्मक सिद्धान्त, मान्यता के परिणाम, राज्यों की प्रक्रिया, सरकारों की मान्यता, मान्यता प्रदान करने के आधार। राज्य उत्तराधिकार : उत्तराधिकारी राज्य के अधिकार और दायित्व, राज्य के क्षेत्राधिकार – भूमि, समुद्र और आकाश पर राज्य का प्रादेशिक क्षेत्राधिकार। राज्य के क्षेत्राधिकार की सीमाएँ एवं उन्मुक्तियाँ। राज्य का प्रदेश (क्षेत्र) प्राप्त करने और खोने के तरीके।
- इकाई 3 राष्ट्रीयता : राष्ट्रीयता की प्राप्ति और विलुप्ति, दोहरी राष्ट्रीयता और राज्यहीनता की स्थिति। प्रत्यापण – अर्थ एवं प्रत्यापण के मूल तत्व, राजनीतिक अपराधियों के प्रत्यापण का सिद्धान्त।
- इकाई 4 संधियाँ – संधियाँ का स्वरूप और कार्य, पुष्टिकरण, संधियाँ का क्रियान्वयन और समाप्ति। संधियाँ पर युद्ध का प्रभाव और संधियाँ की व्याख्या। विवादों का समाधान : राज्यों के विवादों का शान्तिपूर्ण समाधान। संयुक्त राष्ट्र संघ द्वारा बाध्यतापूर्ण तरीके (उपाय)। संयुक्त राष्ट्र संघ का संगठन, कार्य और शीतयुद्ध के उत्तरवादी युग में उसकी भूमिका।
- इकाई 5 अन्तरराष्ट्रीय कानून में युद्ध का स्थान, युद्ध का त्याग, युद्ध का अन्त, भूमि, समुद्र और हवाई युद्ध के नियम। तटस्थता का अर्थ, तटस्थ देशों के अधिकार और कर्तव्य, नाकेबन्दी और निषिद्ध वस्तुएँ; संकटाधिकार; गैर तटस्थ सेवाएँ निरीक्षण और खोजबीन का अधिकार। पर्यावरण और अन्तरराष्ट्रीय कानून : आतंकवाद और अन्तर राष्ट्रीय कानून; मानवाधिकार।

अनुशंसित पाठ्य पुस्तकें

1. Brierley : Law of Nations
2. Fenwick : International Law
3. Green : International Law Through Cases
4. Oppenheim : International Law
5. Schwargen Berger : A Manual of International Law
6. Starke : Public International Law
7. Tandon : International Law
8. W.H.Lewis (ed.), The Security Role of the United Nations, New York, Praegar, 1991.
9. I.Rikhey, Strengthening UN Peacekeeping, London, Hurst and Co., 1993.
10. टडन, अन्तरराष्ट्रीय विधि
11. वेदालंकार, हरिदत्त, अन्तरराष्ट्रीय कानून
12. हरिमोहन जैन, अन्तरराष्ट्रीय विधि
13. भाटिया, पी.आर., अन्तरराष्ट्रीय कानून
14. आसोपा, एस.के., अन्तरराष्ट्रीय विधि
15. कपूर, एस.के., अन्तरराष्ट्रीय विधि
16. चतुर्वेदी अरुण, तायल, विमलेन्दु, नये राष्ट्र व अन्तरराष्ट्रीय विधि
17. Bannel Roy: International Organisation-Principles & Issues 1977.

ग्रुप बी : अन्तरराष्ट्रीय सम्बन्ध

(ii) "राजनय का सिद्धान्त एवं व्यवहार एवं अन्तर राष्ट्रीय वित्तीय संस्थाएँ"

- इकाई 1 परिचय – राजनय का अर्थ, प्रकृति एवं क्षेत्र, उद्देश्य। राष्ट्रीय हितों के संवर्धन के साधक के रूप में राजनय। राजनयिक सिद्धान्त का उद्भव एवं विकास। राजनय के उद्भव में आधुनिक समय से वर्तमान तक इसके तरीके और प्रविधियाँ। यूनानी, भारतीय, रोमन, बाइजेन्टाइन, इटालियन और आधुनिक, उनकी राजनय को देन।
- इकाई 2 प्राचीन राजनय के लक्षण (विशेषताएँ), प्राचीन राजनय से नवीन राजनय में परिवर्तित होने के उत्तरदायी तत्व। अभिनव राजनय की मुख्य विशेषताएँ। प्राचीन और नवीन राजनय में अन्तर। राजनयिक व्यवहार और प्रक्रिया में आधुनिक प्रवृत्तियाँ। लोकतांत्रिक राजनय – अर्थ, गुण-दोष, सर्वाधिकारवादी राजनय – अर्थ, प्रकृति, पद्धति, उद्देश्य, गुण एवं दोष।
- इकाई 3 सम्मेलन के माध्यम से राजनय – अर्थ, गुण-दोष, इसकी बढ़ती हुई महत्ता। शिखर राजनय; अर्थ गुण एवं दोष, राजनयिक दूत : वर्गीकरण, नियुक्ति, स्थापन एवं सेवा समाप्ति, विशेषाधिकार, विमुक्तियाँ तथा राजनयिक दूत की सीमाएँ। कूटनीतिक के कार्य। कूटनीति संबंधी वियेना कन्वेंशन। वाणिज्य दूतावासी सेवाएँ-वर्गीकरण, नियुक्ति, विशेषाधिकार एवं कार्य, कुटनीतिक संबंध और वाणिज्यिक संबंध में अंतर, आदर्श कूटनीतिज्ञ और उसके गुण।
- इकाई 4 कूटनीति (राजनय) के विभिन्न प्रकार : संसदीय राजनय, तेल राजनय और सांस्कृतिक राजनय। राजनय के तरीके : ब्रिटिश, अमेरिका और भारतीय राजनय की मुख्य विशेषताएँ
- इकाई 5 अन्तरराष्ट्रीय वित्तीय संस्थाओं का विकास : द्वितीय विश्वयुद्धोत्तर ब्रेटनवुड्स व्यवस्था, विश्व बैंक संरचना एवं विकासात्मक क्रियाकलाप। अन्तरराष्ट्रीय मुद्रा कोष : संरचना और कार्यात्मक पुनरीक्षण। गैट एवं (वर्ल्ड ट्रेड आर्गनाइजेशन) विश्व व्यापार संगठन।

अनुशंसित पाठ्य पुस्तकें

1. Girija Mukerjee, French School of Diplomacy
2. Hankey : Diplomacy by Conference
3. Kennedy, A.L. : Diplomacy Old and New
4. Krishnamurthy : Dynamics of Diplomacy
5. Nicolson : Diplomacy
6. Pannikar, K.M. : Principles and Practice of Diplomacy
7. Parson, Diplomacy in the Nuclear Age
8. Rathore, L.S. : The Foundations of Diplomacy
9. Regall, Trends in Diplomatic Practice
10. Satow, Guide to a Diplomatic Practice
11. Strong, The Diplomatic Career
12. Webster, The Art and Practice of Diplomacy
13. Arun Chaturvedi : Con. Diplomatic law in contemporary Int. relations.
14. H.Kissinger, Diplomacy, New York, Simon and Schuster, 1994.
15. L.B.Pearson, Diplomacy in a Nuclear Age
16. G.Young, Diplomacy Old and New, London, Swarthmore Press, 1921.
17. गांधीजी, रॉय : राजनय के सिद्धान्त
18. शर्मा एच0सी0 : राजनय के सिद्धान्त
19. रॉय , एम0पी0 : राजनय के सिद्धान्त एवं व्यवहार

ग्रुप सी : लोक प्रशासन

(i) "भारतीय प्रशासन"

- इकाई 1 भारतीय प्रशासन का विकास— कौटिल्य, मुगलयुग और ब्रिटिश वसीयत। संवैधानिक ढाँचा : राजनीतिक संरचना और प्रशासन— राष्ट्रपति, प्रधानमंत्री और मंत्रिपरिषद्
- इकाई 2 केन्द्रीय प्रशासन की संरचना : मंत्रिमंडल सचिवालय, प्रधानमंत्री कार्यालय, केन्द्रीय सचिवालय, प्रमुख मंत्रालय और विभाग
- इकाई 3 लोक सेवाएँ : अखिल भारतीय सेवाएँ, केन्द्रीय सेवाएँ। संघीय लोक सेवा आयोग। शासन के बदलते हुए संदर्भ में प्रशिक्षण। राजनीतिक और स्थायी कार्यपालिका के बीच सम्बन्ध, प्रशासन में विशेषज्ञ और सामान्य
- इकाई 4 आर्थिक प्रशासन : केन्द्र-राज्य वित्तीय सम्बन्ध, वित्त आयोग, योजना आयोग का संगठन और कार्यप्रणाली, राष्ट्रीय विकास परिषद्, संघवाद पर आयोजन का प्रभाव। आर्थिक उदारीकरण, भूमंडलीकरण और प्रशासन पर इसका प्रभाव।
- इकाई 5 प्रशासनिक सुधार; स्वतंत्रता के अनुवर्ती युग में सुधार। प्रशासनिक सुधार आयोग का प्रतिवेदन, सरकारिया आयोग की सिफारिशें, नागरिकों की शिकायतों के निवारण के लिए भारत में विद्यमान व्यवस्था।

अनुशंसित पाठ्य पुस्तकें

1. Maheshwari, S.R. : Indian Administration
2. Jain, R.B. : Contemporary Issues in Indian Administration
3. Jain, R.B. : Public Administration in India : 21st Century Challenges for Good Government (Deep & Deep, 2002)
4. Hoshiar Singh & Mohendra Singh : Public Administration in India
5. Parmatma Sharan : Public Administration in India.
6. Mishra, B.B. : Government and Bureaucracy in India
7. J.S. Meena : Sookhana ka Adhikar ; Lok Sewa Gurantee kanoon
8. Ashok Chanda : Indian Administration
9. Kaushik, S.L. & Others (eds.) : Public Administration in India
10. Arora & Others (eds.) : Indian Administrative System
11. R.K.Arora (ed.) Administrative Change in India, Jaipur, Alekh Publishers, 1974
12. C.P.Bhambri, Bureaucracy and Politics in India, Delhi, Vikas Publications, 1971.
13. Mohit Bhattacharya, Bureaucracy and Development Administration, New Delhi, Uppal, 1978.
14. Administrative Reform Commission (Chairman : K.Hanumanthaiya), Report on Economic Administration, Delhi, the Manager of Publication, 1968.
15. Ramesh Arora & Rajni Goyal: Indian Public Administration
16. . P.D. Sharma & B.M. Sharma : Indian Administration.(H&E)
17. होशियार सिंह : भारतीय प्रशासन (किताब महल , नई दिल्ली
18. फड़िया, बी.एल., भारत में लोकप्रशासन
19. अवस्थी एवं अवस्थी, भारतीय प्रशासन
20. माहेश्वरी, एस.आर., भारतीय प्रशासन

ग्रुप सी : लोक प्रशासन

(ii) 'स्थानीय स्वशासन और भारत में विकास प्रशासन'

- इकाई 1 स्थानीय स्वशासन का अर्थ और महत्व, भारत में स्थानीय स्वशासन का विकास, 73वें और 74वें संवैधानिक संशोधन अधिनियम की विशेषताएँ।
- इकाई 2 राजस्थान के विशेष संदर्भ में ग्रामीण स्थानीय स्वशासन : ग्रामसभा की संरचना, कार्य एवं भूमिका। पंचायत समितियाँ, जिला परिषद्— विकास अधिकारी और मुख्य कार्यकारी अधिकारी की भूमिका और कार्य।
- इकाई 3 राजस्थान के विशेष संदर्भ में नगरीय स्थानीय स्वशासन — नगरपालिका तथा नगरनिगमों की संरचना, कार्य और भूमिका; राज्य वित्त आयोग, स्थानीय निकायों पर राज्य का नियंत्रण।
- इकाई 4 विकास प्रशासन : स्थानीय स्तर पर विकास की मशीनरी—जिलाधीश, जिला नियोजन और स्वयंसेवी अभिकरणों की भूमिका।
- इकाई 5 स्थायी स्वशासन की प्रवृत्तियाँ एवं समस्याएँ : लोक आत्मविकास और सशक्तिकरण में अभिनव प्रवृत्तियाँ, स्थानीय स्तर पर चुनावी राजनीति और राज्य निर्वाचन आयोग की भूमिका, ग्रामीण विकास कार्यक्रम और उसके क्रियान्वयन की समस्याएँ। विकास प्रक्रिया पर पंचायतीराज का प्रभाव।

अनुशंसित पाठ्य पुस्तकें

1. Iqbal Narain And P.C. Mathur : Panchayati Raj-Old Controls And New Challenges
2. R.K.Sapru : Development Administration, 1994
3. A.Bajpai, Panchayati Raj and Rural Development, Delhi, Sahitya Prakashan, 1997.
4. T.N.Chaturvedi (ed.), Local Government, New Delhi, Indian Institute of Public Administration, 1984.
5. S.N.Jha, and P.C.Mathur, Decentralization and Local Politics, New Delhi, Sage, 1999.
6. S.Maheshwari, Local Government in India, Agra, Lakshmi Narain Agarwal, 1996.
7. S.N.Mishra, Rural Development and Panchayati Raj, New Delhi, Concept, 1981.
8. G.Ram Reddy, Pattern of Panchayati Raj in India, Delhi, Macmillian, 1977.
9. D.Thakur and S.N.Singh (eds.), District Planning and Panchayati Raj, New Delhi, Deep and Deep, 1991.
10. C.P.Bhambri, Administration in Changing Society, Delhi, National, 1978.
11. O.P.Dwivedi, Development Administration : From Underdeveloped to Sustainable Development, Houndmills, Macmillian, 1994.
12. G.F.Grant, Development Administration : Concepts, Goals, Methods, Madison, University of Wisconsin, 1979.
13. श्री राम माहेश्वरी : भारत में स्थानीय शासन
14. मीणा, जनकसिंह, भारत में ग्रामीण विकास प्रशासन, 2012
15. शर्मा, अशोक, भारत में स्थानीय प्रशासन, 2012
16. शर्मा, रविन्द्र, भारत में स्थानीय प्रशासन, 2012
17. जोशी, प्रीता, विकास प्रशासन, 2012
18. अवस्थी, विकास प्रशासन, 2010
19. सचदेवा, प्रदीप, भारत में स्थानीय सरकार 2012
20. मीणा, जनकसिंह, ग्रामीण विकास के विविधि आयाम, 2010
21. बर्थवाल, सी.पी., स्थानीय स्वशासन

ग्रुप डी : भारतीय राजनीति

(i) "संघवाद और भारत में राज्यीय राजनीति"

- इकाई 1 भारतीय संविधान के ढांचे के अन्तर्गत राज्य राजनीति के अध्ययन का सैद्धान्तिक ढांचा। भारत में राज्यों का विकास, भाषायी राज्य और राज्यों का पुनर्गठन, राज्यीय राजनीति के सामाजिक और आर्थिक निर्धारक तत्व। राज्यीय राजनीति का व्यावहारिक रूप। भारत में राज्यीय राजनीति की उभरती हुई प्रवृत्तियाँ
- इकाई 2 भारतीय संघीय व्यवस्था : पृष्ठभूमि, भारत में संघवाद का विकास और प्रकृति। 1947 से भारत में संघवाद का विकास। केन्द्र-राज्य सम्बन्ध – विधायी, प्रशासनिक और वित्तीय संबंध, आर्थिक आयोजन और संघवाद, दलीय व्यवस्था और संघवाद की राजनीतिक गत्यात्मकता, राज्यों के लिए वृहत्तर स्वायत्तता की माँग। केन्द्र-राज्य कार्यशैली सम्बन्धों में प्रवृत्तियाँ एवं समस्याएँ, केन्द्र-राज्य सम्बन्धों पर गठित आयोग की सिफारिशों पर एक नजर।
- इकाई 3 राज्य सरकार : राज्यपाल का पद, नियुक्ति का तरीका, शक्तियाँ और कार्य। राज्यीय राजनीति में राज्यपाल की भूमिका और संवैधानिक स्थिति। मुख्यमंत्री का कार्यालय- शक्तियाँ, कार्य और राज्यीय राजनीति में उभरती भूमिका, राज्य की राजनीति में मंत्रिपरिषद्; राज्य व्यवस्थापिका-संगठन, कार्य और राज्य की राजनीति में उभरती हुई भूमिका।
- इकाई 4 दल बदल और भारत में राज्यीय राजनीति – हरियाणा, राजस्थान एवं बिहार में दल बदल राजनीति के अध्ययन के संदर्भ में। भारतीय राज्यों में साझा (मिलीजुली) राजनीति, केरल, पश्चिमी बंगाल और उत्तर प्रदेश में साझा सरकारों के कार्यशीलता के संदर्भ में। भारत में क्षेत्रीय राजनीतिक दलों की भूमिका ए. आई.ए.डी.एम.के., अकालीदल, तेलगुदेशम, और अखिल भारतीय अन्नाद्रमुक कडुगम के संदर्भ में
- इकाई 5 राजस्थान में राज्यीय राजनीति- रियासतों का एकीकरण और आधुनिक राजस्थान का उद्भव। राजस्थान की राजनीति में राजाओं की भूमिका। राजस्थान में चुनावी राजनीति और राजनीतिक विकास। राजस्थान में राजनीतिक दल। राजस्थान विधानसभा में विपक्ष की भूमिका। राजस्थान में जाति और राजनीति। राजस्थान में राज्यीय राजनीति की मुख्य विशेषताएँ।

अनुशंसित पाठ्य पुस्तकें

1. Ashok Chanda : Federalism in India : A Study of Union – State Relations
3. B.L.Panagariya : State Politics in India
4. Bombwall, K.R. : The Foundations of Indian Federalism
6. Iqbal Narain (ed.) : State Politics in India
7. I.N.Tewari : State Politics in India
8. Kamal, K.L. : Spotlight on Rajasthan Politics
9. Kashyap, Subhash : The Politics of Defection : A Study of State Politics in India
10. Menon, V.P. : The Story of Integration of Indian States
11. Myron Weiner and John Osgood Field (eds.) : Electoral Politics in the Indian States (4 vols.)
12. Paul Brass : Functional Politics in an Indian State
13. Paul Wallace and Surendra Chopra (eds.) : Political Dynamics of Punjab (4 vols.)
14. Richard Sission : The Congress Party in Rajasthan : Political Integration and Institution Building in an Indian State
15. Santhanam : Union-State Relations in India
16. Sudha Pai : State Politics – New Dimensions
17. Weiner, Myron (ed.) : State Politics in India
18. Rajni Kothari : Politics in India, 2012

ग्रुप डी : भारतीय राजनीति
(ii) राजनीतिक दल और भारत में चुनावी राजनीति

- इकाई 1 भारत में दलीय व्यवस्था, राजनीतिक दलों का उद्भव; 1885 में भारतीय राष्ट्रीय कांग्रेस की स्थापना से (आज की) कांग्रेस व्यवस्था तक। स्वतंत्रता के बाद (उत्तरवर्ती) भारत में दलीय व्यवस्था की प्रकृति। राजनीतिक दलों का वर्गीकरण— राष्ट्रीय राजनीतिक दल उनका उद्भव, कार्यक्रम, संगठन और समर्थन आधार, भारत में दलीय व्यवस्था की मुख्य विशेषताएँ। उभरती हुई द्विदलीय व्यवस्था।
- इकाई 2 क्षेत्रीय राजनीतिक दल — उनका उद्भव, कार्यक्रम, संगठन, समर्थन आधार। राष्ट्रीय और क्षेत्रीय राजनीतिक दलों के बीच अन्तर क्रिया के प्रारूप।
- इकाई 3 भारतीय राजनीति में दबाव समूह, ऐतिहासिक पृष्ठभूमि, भारत में दबाव समूहों के प्रकार, प्रमुख दबाव समूह— ट्रेड यूनियन, चेम्बर ऑफ कॉमर्स, कृषि हित समूह, मानवाधिकार और पर्यावरणीय आन्दोलन समूह के विशेष संदर्भ में। दबाव समूह के प्रतिदर्श की मुख्य विशेषताएँ
- इकाई 4 भारत में सन् 1950 से चुनावी व्यवस्था, भारत का निर्वाचन आयोग : शक्तियाँ, कार्य और उभरती हुई भूमिका। चुनावी राजनीति और लोक सभा निर्वाचन, चुनावी राजनीति और विधानसभा निर्वाचन। निर्वाचन और राजनीतिकरण की प्रक्रिया। दल बदल विरोधी कानून : एक आलोचनात्मक अध्ययन। स्वतंत्र एवं निष्पक्ष चुनाव करवाने के मार्ग में निर्वाचन आयोग के सम्मुख समस्याएँ।
- इकाई 5 भारत में निर्वाचकीय सुधार : तारकुण्डे, गोस्वामी और इन्द्रजीत गुप्त रिपोर्ट, स्वतंत्र और निष्पक्ष चुनाव के लिए आचार संहिता, चुनावी व्यवहार के निर्धारक तत्व। बहुमतीय संसदीय व्यवस्था बनाम प्रतिनिध्यात्मक संसदीय व्यवस्था।

अनुशंसित पाठ्य पुस्तकें

1. B.Arora, Political Parties and Party System : The Emergence of New Coalitions, memo, Dec., 1979.
2. C.Baxter, The Jana Sangh : A Biography of an Indian Party, Philadelphia, University of Pennsylvania Press, 1969.
3. P.Brass, Caste, Faction and Party in Indian Politics, vols. 2, Delhi, Chanakya Publications, 1984- 1985.
4. P.Brass, Factional Politics in a Indian State : The Congress Party in Uttar Pradesh, Berkeley, University of California Press, 1966.
5. A.Burger, Opposition in a Dominant Party System, Berkeley, University of California Press, 1969
6. ML.Franda and P.Brass (eds.), Radical Politics in South Asia, Cambridge Massachusetts, MIT, 1973.
7. C.Fuller and C.Jafferlot (eds.), The BJP and the Compulsions of Politics in India, Delhi, Oxford University Press, 1998.
8. H.Hartman, Political Parties in India, Merrut, Meenakshi Prakashan, 1980.
9. R.Kothari, "The Congress System Revisited : A Decennial Review", Asian Survey, 1974.,
10. R.Kothari, Party System and Election Studies, Bombay, Asia Publishing House, 1967.
11. S.Kochanek, The Congress Party of India : The Dynamics of One Party Democracy, Princeton : Princeton University Press, 1968.
12. B.Sengupta, Communism in Indian Politics, New York, Columbia University Press, 1972.
13. B.Sengupta, CPI-M: Promises, Prospects and Problems, New Delhi, Young Asia, 1979.
14. M.Weiner, Party Politics in India, Princeton NJ, Princeton University Press, 1957.
15. M.Weiner, Party Building in a New Nation : The Indian National Congress, Chicago, University of Chicago Press, 1967.
16. A.Bajpyee, Indian Electoral System : An Analytical Study, New Delhi, Nardeen Book Centre, 1992.
17. A.K.Bhagat, Elections and Electoral Reforms in India, Delhi, Vikas, 1996.
18. V.Grover (ed.), Election and Politics in India, New Delhi, Deep and Deep, 1989.
19. S.Kaushik, Election in India : its Social Bases, New Delhi, K.P.Bagchi and Co., 1982.
20. M.D.Palmer, Elections and Political Development : The South Asian Experience
21. S.L.Shakdher, The Law and Practice of Elections in India, New Delhi, national, 1992.
22. S.L.Shakdher, Electoral Reforms in India, New Delhi, National 1992.
23. माथुर, पी.सी. एवं शर्मा, रविन्द्र, (संपादित), भारती में पंचायतीराज निर्वाचन, 2013

एम.ए. उत्तरार्द्ध राजनीति विज्ञान
नवम् प्रश्न पत्र
शोध पद्धति

- इकाई 1 शोध का अर्थ एवं प्रकृति, सामाजिक विज्ञान में शोध की भूमिका राजनीति विज्ञान के विशेष संदर्भ में; शोध के रूप—मानपरक, अनुभवजन्य और व्यवहारवादी; अवधारणा एवं चर, वैज्ञानिक अनुसंधान—विशेषताएं एवं प्रकार।
- इकाई 2 प्रतिरूप (मॉडल) और रूप निदर्शन (पैराडाईम); राजनीति विज्ञान में सिद्धान्त निर्माण, वैज्ञानिक पद्धति : अर्थ, प्रकृति, उद्देश्य एवं वैज्ञानिक पद्धति के चरण।
- इकाई 3 शोध समस्या का निर्धारण : शोध प्ररचना, प्रकल्पना की अवधारणा, आंकड़ा संकलन के स्रोत—प्राथमिक एवं द्वितीयक, निदर्शन, समग्र का चयन।
- इकाई 4 आंकड़ा संकलन की विधियां – अवलोकन, प्रश्नावली एवं अनुसूची, साक्षात्कार, विषय वस्तु विश्लेषण, अध्ययन के विभिन्न रूप—पेनल, केस, क्षेत्रीय।
- इकाई 5 मापन के स्तर एवं सामाजिक शोध में मापन की समस्याएं, अनुमापन की तकनीक, सूचकांक निर्माण, कोडिंग और सारणीयन, आंकड़ों का विश्लेषण, प्रतिवेदन लेखन, समस्या का विश्लेषण, अनुसंधान नैतिकता

अनुशंसित पाठ्य पुस्तकें –

1. Goode, W.J. and Hatt, P.K., 'Methods in Social Science Research'. New Delhi, McGraw Hill, 1986
2. Halperin, Sandra and Heath, Oliver, 'Political Research : Methods and Practical Skills', New York, Oxford University Press, 2012.
3. Kothari, C.R., 'Research Methodology', Delhi, New Age International, Wishwa Publications, 2008.
4. Jaspal Singh, Instruement of Social Research, Rawat Publications, Jaipur.
5. Wilkinson & Bhandarkar, Methodology and Techniques of Social Research, Himalaya Publishing House, Delhi.
6. Young, P.V., 'Scientific Social Survey & Research', Prentice – Hall Inc., New York, NY, U.S.A. 1946.
7. Trivedi, R.N. and Shukla, D.P., 'Research Methodology' (Hindi & Eng.) College Book Depot Jaipur, 2007.
8. Ahuja, Ram, 'Research Metholdogy' (Hindi & English), Rawat Publication, Jaipur.
9. वर्मा, एस.एल., 'राजनीति विज्ञान में अनुसंधान प्रविधि', राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर।
10. वेद प्रकाश शर्मा, 'अनुसंधान प्रविधि', पंचशील प्रकाशन, जयपुर।
11. सिंहल, एस.सी., 'राजनीति विज्ञान में अनुसन्धान पद्धतियां', लक्ष्मीनारायण अग्रवाल, आगरा।
12. पाण्डेय, गणेश एवं पांडेय अरुणा, 'शोध प्रविधि', राधा पब्लिकेशन्स, दिल्ली।
13. रावत, हरिकृष्ण, 'सामाजिक शोध की विधियां', रावत पब्लिकेशन्स, जयपुर।

SYLLABUS

**M.COM. ACCOUNTING ANNUAL (REGULAR / PRIVATE)
EXAMINATION SCHEME**

2021-2023

DEPARTMENT OF ACCOUNTING



JAI NARAIN VYAS UNIVERSITY

JODHPUR

MASTER OF COMMERCE - ACCOUNTING

ACADEMIC SESSION 2021 – 2023

DEPARTMENT OF ACCOUNTING
FACULTY OF COMMERCE & MANAGEMENT STUDIES,
JAI NARAIN VYAS UNIVERSITY, JODHPUR

When Jodhpur University was established in 1962, there was single department of commerce and united faculty of commerce. Then for expansion in 1990 the Faculty of Commerce and Management Studies was divided into four departments: (1) Department of Accounting, (2) Business Finance and Economics, (3) Business Administration and (4) Management Studies. The rapid growth of Department of Accounting is reflected in its expansion with more than 18,000 students as passed out. It has produced more than 100 Ph.D. and equal number of students is registered for Ph.D. The department is running the following programmes: (1) M.Com. (Accounting), (2) B.Com. Honors (Accounting), (3) M.Phil. Accounting, (4) Post Graduate Diploma in Computer Accounting and Auditing, (5) Post Graduate Diploma in Tax Practice, (6) Post Graduate Diploma in Cost and Management Accounting.

The Department of Accounting focuses on integrated, interdisciplinary themes of fundamental importance to every aspect of decision making. The department and its expert faculty educate future business leaders. The department is dedicated to instilling the critical thinking necessary to succeed in business. A rich learning environment is enhanced by experiential learning opportunities.

RESEARCH PROGRAMME

The department provides facilities for full time M.Phil / Ph.D. / D.Lit. programmes in Accounting. The research programs in the department promote innovation; focus on activities that can make a difference to problems that matter to industry & society. These research programme continue to attract researchers of excellent caliber.

TEACHING FACULTY

The Department of Accounting is headed by Dr. Anil Verma with rich teaching experience of over 16 years. The department is supported by four Assistant Professors. Our teaching faculties are widely acknowledged as leaders in research in varied Accounting and Finance Streams. The faculty members have authored various books, produce academic papers, and written an array of articles for general accounting and business publications. The research and consultancy are translated into a classroom experience that is theoretically grounded, evidence-based, practically and forward looking. The teaching team comprises of:

| S.NO | NAME | DESIGNATION |
|------|--------------------|---------------------|
| 1. | Dr. Anil Verma | Assistant Professor |
| 2. | Dr. Virendra Tater | Assistant Professor |
| 3. | Mr. Yashpal Meena | Assistant Professor |
| 4. | Dr. Mangu Ram | Assistant Professor |

**M.COM. ACCOUNTING ANNUAL (REGULAR / PRIVATE)
EXAMINATION SCHEME 2021--2023**

GENERAL INFORMATION FOR STUDENTS:

1. THE COURSE STRUCTURE AND DURATION:

The Course leading to the degree of Master of Commerce (Accounting) [M.Com.(Accounting)] of the Department of Accounting, Faculty of Commerce & Management Studies, Jai Narain Vyas University, Jodhpur (Rajasthan) is a Two-Year full-time course run on **ANNUAL BASIS**.

The structure of the course will comprise five-papers in each YEAR (of 100 marks each and of Three (3) hours duration for theory papers.

M.COM. ACCOUNTING PREVIOUS 2021-22

| Paper No. | Subject | Marks | Duration |
|------------------|--------------------------------|--------------|-----------------|
| 101 | Advanced Accounting - I | 100 | 3 Hours |
| 102 | Advanced Business Statistics | 100 | 3 Hours |
| 103 | Advanced Financial Management | 100 | 3 Hours |
| 104 | Advanced Management Accounting | 100 | 3 Hours |
| 105 | Taxation Law and Practice | 100 | 3 Hours |

M.COM. ACCOUNTING FINAL 2022-23

| Paper No. | Subject | Marks | Duration |
|------------------|---------------------------|--------------|-----------------|
| 201 | Advanced Accounting - II | 100 | 3 Hours |
| 202 | Advanced Auditing | 100 | 3 Hours |
| 203 | Goods and Services Tax | 100 | 3 Hours |
| 204 | Operation Research | 100 | 3 Hours |
| 205 | Cost Analysis and Control | 100 | 3 Hours |

2. THE DIVISION:

The Division shall be awarded to a successful candidate on the basis of marks of all the examinations in respect of all the years as mentioned above on the following basis:

| | |
|--|-------------------|
| M.Com. (Accounting) degree will be awarded out of 1000 Marks | |
| M.Com. (Accounting) Previous Year | 500 Marks |
| M.Com. (Accounting) Final Year | 500 Marks |
| Total | 1000 Marks |

| | |
|----------|---------------------------------|
| Division | Percentage of Marks |
| First | 60 and above |
| Second | 48 and above but less than 60 |
| Third | 36 and above but less than 48 |
| Division | Marks out of |
| 1000 | |
| First | 600 and above |
| Second | 480 and above but less than 600 |
| Third | 360 and above but less than 480 |

1. The minimum pass marks will be 25 in each paper/subject and 36% in aggregate.
2. The candidate who completes the course as private candidate will not be considered for awarding rank and/or Medal.
3. There will be no provision for supplementary or carry forwarding of papers.
4. No student will be permitted to register himself/herself simultaneously for more than one post-graduate degree course.

3. THE EXAMINATION SCHEME:

The candidate will take the examinations at the end of the each year as per university examination system.

The Annual examination system/ scheme will be followed.

The examinations will be held invariably at a stretch i.e. without any gap./ or as per time table notified by the University.

The dates of the commencement of annual examinations invariably will be as follows:

| | |
|--------------------------------|----------------------------|
| M. Com (Previous) – First year | March – April of each year |
| M. Com (Final) – Second year | March – April of each year |

As far as possible the results will be declared within Eight weeks from the completion of the examinations of the respective year but there is no guarantee about this.

6. PATTERN OF EXAMINATION PAPER

Question Paper will be divided into three sections namely, 'Section – A', 'Section – B' and 'Section – C' in each section the questions will be asked as follows:

Section – A: Intends to test the clarity of concepts and to-the-point knowledge unit-wise.

(T-1) 10 very small questions, (two questions from each Unit). Each question will carry 2 marks. Answer of each question shall be limited up to 30 words. This part will be compulsory.

10 x 2 = 20

Section – B: Intends to test the knowledge unit- wise and capability to elaborate and res train within limited words.

(T-2) 10 s mall questions (two questions from each unit) students will be required to answer one question from each UNIT. Each question will carry 07 marks. Answer of each question shall be limited up to 250 words.

5 x 7 = 35

Section – C: Intends to test the overall-knowledge and capability to explain in detail of the students.

(T-3) 5 questions (one question from each unit). Students will be required to answer any three questions. Each question will carry 15 marks. Answer of each question shall be limited up to 500 words

| | | |
|-----|---|---------------------|
| T 1 | : | Very Small Question |
| T 2 | : | Small Question |
| T 3 | : | Detailed Question |

3 x 15 = 45

Note: In case of Numericals, Figures, Charts, Diagrams and Graphs, the above limit of words shall not apply.

IF UNIVERSITY NOTIFIES ANY OTHER PATERN OF EXAMINATION PAPER THEN THAT WILL SUPPRESSED TO THE ABOVE PATTERN.

M.COM. PREVIOUS 2021-2022

PAPER 101: ADVANCED ACCOUNTING - I

| | |
|----------|---|
| Unit I | Theoretical Framework of Accounting: Accounting Theory, Accounting Principles, concepts, convention and postulates; capital and revenue transactions, |
| Unit II | Introduction of Ind ASs ; Forensic Accounting ; Robotic Accounting |
| Unit III | Inflation Accounting; Segment Reporting; Related Party Disclosure, Productivity Accounting |
| Unit IV | Green Accounting; Social Accounting; Hotel Accounting; Farm Accounting, Government Accounting |
| Unit V | Earning Per Share (EPS) (Ind AS-33), Events after the reporting period (Ind AS-10), Leases (Ind AS-116), Fair Value Accounting (Ind AS113) |

SUGGESTED READINGS

Agarwal, A.N.: The Higher Science of Accountancy
Agarwal, S.D. : Financial Accounting Advanced
Badiboi: Advanced Accounting
Chakraborty , H: Advanced Accountancy
Gupta, R.L. : Advanced Accountancy
Jain and Narang: Advanced Accountancy
Nambiar, M.C.K.: Advanced Accountancy
Shukla , M.C. & Grewal, T.S. : Advanced Accounts
William Pickles: Accountancy

PAPER 102: ADVANCED BUSINESS STATISTICS

| | |
|----------|---|
| Unit I | Probability: Basic concepts and its types, Probability Rules, Probability under condition of statistical independence and statistical dependence, Bay's Theorem, Mathematical Expectations Theoretical Frequency Distribution: Binomial, Poisson and Normal Distributions: Choosing the correct Probability Distribution |
| Unit II | Correlation and Regression Analysis: Simple, Multiple and Partial Correlation, Simple and Multiple Linear Regression, Association of Attributes: Class frequencies, Association between attributes, consistency of data and Methods. |
| Unit III | Sampling and Sampling Distribution: Introduction to sampling and basic concepts for Hypothesis Testing Procedure and Estimation of parameter, Testing of Hypothesis and Estimation of Parameter for large samples (Attributes and Variables) |
| Unit IV | Testing of Hypothesis and estimation of parameter for small samples (Variables) with student's t-test, Z-transformation. F-test, Analysis of Variance (ANOVA Test). |
| Unit V | Statistical Quality Control, Concept, Control Charts Mean, Standard Deviation and Range Chart, P-Chart, np-Chart and C-Chart. Chi-Square Test for Independence and for Goodness of fit. Sign-test, One Sample Runs Test and Rank Correlation Test. |

SUGGESTED READINGS

Clarks and Jorden: Introduction to Business and Economics
Cocharar , W.G. : Sampling Techniques
Croxtan and Cowden : Applied General Statistics
Elhance D.N. : Fundamentals of Statistics
Gupta s.p. statistical methods
Gupta, B.N.: Statistics
Jean, D Gibbons: Non-Parametric Statistical Inference
Karmel, P.H.: Applied Statistics for Economics
Levin, Recharl I: Statistics for Management
Nagar , K.N. : Sankhyaki ke Mool Tatva
Sancheti and Kapoor : Statistical Method
Sharma, K.R.: Research Methodology
Statistics, Southern Western, USA

PAPER 103: ADVANCED FINANCIAL MANAGEMENT

- Unit I Environment of Business Finance : modern approach to financial management, significance of financial management , financial planning and decision making process, financial sector reforms, techniques of financial management
- Unit II Investment Alternatives: Choice Galore, Investment Attributes, Approaches to Investment Decision Making, Proverbial Investment Wisdom. Special Problems Relating to Financing and Management of Small and Medium Enterprises.
- Unit III Introduction to Capital Market in India including Depositories.
Introduction to Capital Market Instruments Including Options (Option Pricing Theory), Futures and Derivatives; Risk Return Relationship, Financial services in India including merchant banking, Portfolio Management; Credit Rating; Consumer Finance, Mutual Fund - Operations and Regulations, Venture Capital.
- Unit IV Foreign collaborations and joint ventures. Introduction to International Financial Management including Raising of Capital Abroad (ADRs, GDRs, ECB). Foreign exchange exposure and risk management, foreign exchange markets and dealing therein
- Unit V Money Markets and their Operations. Special Feature of Financial Management in Public Sector Undertakings.

SUGGESTED READING

Agarwal, M.D : Vitiya Prabandh
Ezra Soloman : Financial Management
Giotman, L.J. : Fundamental of Financial Management
Khan, M.Y. and Jain. P.K. : Financial Management
Kulkarni, P.V. : Financial Management
Kulshreshtha, R.S. : Vitiya Prabandh
Pandey, I M. : Financial Management
Venhorne J.C. : Financial Management and Policy

PAPER 104: ADVANCED MANAGEMENT ACCOUNTING

- Unit I Meaning and Concept of Marginal Costing: Break Even Analysis and Differential Costing. Valuation of stock under marginal costing and absorption costing, Product decisions based on marginal costing and Differential Costing.
- Unit II Pricing Decisions based on marginal costing and differential costing - Marketing decision and other decision Such as own or lease, repair or replace, now or Later, Shut down or Continue etc.
- Unit III Transfer Pricing- objectives, methods, advantages and disadvantage, criteria for setting transfer prices, transfer price in different situations, situation causing conflicts and resolving the conflicts,
Relevant Cost Analysis: relevant cost, irrelevant cost - Sunk or Historical cost, committed cost, absorbed cost, situations when fixed cost become relevant for decision- making and its related implications.
- Unit IV Standard Costing- Introduction, meaning and definition of standard cost and standard costing. variance analysis- material, labour, overhead and sales variance.
- Unit V Working Capital Management - estimation of working capital requirements, inventory management, receivables management, cash management, management of retained earnings and dividend decisions.

SUGGESTED READINGS:

'Tomorrow's Company: The Role of Business in Changing World' a Report of the Society of Encouragement of Arts, Manufactures and Commerce, London, 1995.
Information for Better Markets – Institute of Chartered Accountants of England of Wales.
Johnson and Kaplan: 'Relevance Lost: The Rise and Fall of Management Accounting'
William L Ferrara: Cost/Management Accounting: The 21st Century Paradigm.

PAPER 105: TAXATION LAW AND PRACTICE

| | |
|----------|--|
| Unit I | Income Tax Law, Scheme of Taxation, Important Concepts, Scope of Total Income and Residential Status, Income which do not form part of Total Income, Income under the Head "Salaries", Income from House Property, |
| Unit II | Profits and Gains of Business or Profession, Capital Gains, Income from other Sources, Clubbing of Income, Set off or Carry Forward and Set off of Losses, Deductions under Sections 80, Rebate and Relief. |
| Unit III | Assessment: Individuals, HUF, Firms and AOP/BOI. |
| Unit IV | Assessment of Companies, Co-operative Societies and Trusts. |
| Unit V | Filing of Income Tax Return and Procedure of Assessment (Sections 139 to 154), Appeals and Revision, Penalties and Prosecutions, Income Tax Authorities, Taxation of Non-Residents, Settlement Commission, Double Taxation Avoidance Agreements (DTAA), Authorities on Advance Ruling. |

SUGGESTED READING

Dr. Ahuja Girish, Dr. Gupta Ravi: Direct Taxes, Law and Practice, Bharat Law House Pvt. Ltd. New Delhi
Iyengar Sampat , A.C. : Law of Income Tax , Bharat Publishing House , Allied Publishers
Lakhotia , A.N. : How to Save Income Tax by Tax Planning Asia Pub. House , Calcutta
Lakhotia , R.N. : Tax Management , A Pitmans Publication , Calcutta
Palkiwala , N.A. and Palkiwal, B.A. : Law and Practice of Income Tax , N.M. Tripathi , Bombay
Raina , H.P. : Corporate Taxation A Hand Book , Orient Law House , New Delhi/ Allahabad
Shah , D.D. : A Treatise on Tax Planning , N.M. Tripathi , Bombay
Singhania, V.K.: Direct Taxes Law and Practice, Taxman Publication (Pvt.) Ltd. Delhi
Srinivas, E.A. : Corporate Tax Planning, Tata McGraw Hill Publishing Co., Ltd.
Sukumar Bhattacharya : Indian Income Tax Law and Practice , Wadhwa and Co. Agra, Nagpur

M. COM. FINAL 2022-2023

PAPER 201: ADVANCED ACCOUNTING - II

| | |
|----------|---|
| Unit I | Branch Accounting including Foreign Branch; Ind AS 21 Final Accounts of Electricity Companies |
| Unit II | Final Accounts of (a) Banking Companies (b) Insurance Companies |
| Unit III | Share Based Payments - meaning, equity settled transactions, transaction with employees and non employees, vesting conditions, determination of fair value of options, determination of ESOP, provision and related disclosure and settlement of ESOP, valuation of Shares, Valuation of Intangibles including brand value. |
| Unit IV | Corporate Financial Reporting – Issues and Problems with Special Reference to Published Financial Statements, value added statement, Economic Value added, market value added and share holder value added. |
| Unit V | Financial Reporting of Mutual Funds, Non Banking Finance Companies, Merchant Bankers, Stock and Commodity market intermediaries. |

SUGGESTED READINGS

Agarwal, A.N.: The Higher Science of Accountancy
Agarwal, S.D. : Financial Accounting Advanced
Badiboi: Advanced Accounting
Chakraborty , H: Advanced Accountancy
Gupta, R.L.: Advanced Accountancy
Jain and Narang: Advanced Accountancy
Nambiar, M.C.K.: Advanced Accountancy
Shukla , M.C. & Grewal, T.S. : Advanced Accounts
William Pickles: Accountancy

PAPER 202: ADVANCED AUDITING

| | |
|----------|--|
| Unit I | Concept and philosophy of auditing and its importance in present business scenario, internal control system- Review and Evaluation of Internal control System, Efficacy of Accounting Information System flow charting. Reporting to clients on Internal Control weakness. Planning and Development of Audit Programme and audit techniques |
| Unit II | Company Audit : Auditor's appointment, functions and duties, Planning the Company Audit with special reference to Managerial Remuneration, Loans to Companies under same management, Inter company Investment, Issue of Bonus Shares, Contingencies and events occurring after Balance sheet date and prior- period items. Treatment for Excise duties, Remification of accounting policy Changes, Indian Accounting Standard (Ind AS-4), (Ind AS-8), (Ind AS-5) |
| Unit III | Audit of Special entities such as Banks, Insurance Companies and Hotels, Non profit Organisations like clubs, trusts, educational institutions, Co-operative Societies. Tax Audit |
| Unit IV | Investigation and Due Diligence: Concept and types, Audit standards and Accounting standards, SA, Indian Accounting Standards (IND ASs) |
| Unit V | Auditor's Report : Contents , Qualifications and Notes, Distinction between Audit Report and Audit Certificate Report under Company Audit Report Order (CARO-2015), Companies (Auditor's Report) Order 2015. |

SUGGESTED READINGS

Ghatalia, S.V. : Spicer and Pegler's Practical Auditing, Allied Publishers
Gupta, Kamal : Contemporary Auditing , Tata McGraw Hill Publishing Co. Ltd. Delhi
Publication of the Institutes of Chartered Accountants of India Relating to Audit Practices
Sharma, T.R. : Higher Auditing, Sahitya Bhawan, Agra
Tandon, B.N. : A Hand Book of Practical Auditing, S. Chand and Co., Delhi

PAPER 203: GOODS AND SERVICE TAX

| | |
|----------|---|
| Unit I | Goods and Service Tax: Introduction Historical Development comparison of GST and other Indirect Taxes, merits and demerits of GST, Constitutional aspect and legal framework of CGST, SGST, IGST and UTGST, GST Council. |
| Unit II | Registration process of GST, Amendments, cancellation and revocation of cancellation , Identifying the nature of supply, Inter - state and Intra - state, composite and mixed supply, continuous supply, taxable and non taxable supply, exemption and composition schemes. |
| Unit III | Input tax credit – concept, eligibility and conditions for taking input tax credit, computation of GST liability. |
| Unit IV | Maintenance of Records and Books, Filling of returns and assessment, payment of tax, reverse charges and refund. |
| Unit V | Administration of Goods and Services tax, demand , recovery , audit, inspection, search and seizure, penalties and appeals. |

NOTE:

Immediately proceedings of 30th June of the academic session amendment will be applicable.

SUGGESTED READINGS:

CGST Rules 2017 – Central Board of Excise and Customs.

GST and Customs Law by Niti Bhasin and Sameer Lama, Taxman Publications

GST one nation one tax one market by LVR Prasad and GJ Kiran kumar.

GST Ready Reckoner by CA. Keshav R. Garg, Bharat Law House, Delhi.

GST Ready Reckoner By V.S. Datay.

Rajasthan GST Act, 2017.

The Central Goods and Services Tax Act, 2017.

The Integrated Goods and Services Tax Act, 2017.

PAPER 204: OPERATION RESEARCH

| | |
|----------|--|
| Unit I | Fundamental of Decision Making: Types of decisions; steps in decision making; different types of methods and their uses; model building steps. Linear Equations: Solution by reduction method and Cramer's Rule. |
| Unit II | Linear Programming: Basic concept, mathematical formulation and application; solution of LP problems using graphical, simplex and two phase method; duality in Linear Programming, Game Theory. |
| Unit III | Transportation and Assignments: Formulation, Solving Transportation and Assignment Problems, dealing with exceptional cases of transportation and assignment problems, Decision Theory, Replacement Problems. |
| Unit IV | Project Scheduling: Concept of PERT and CPM Techniques, determining critical paths, calculation of Floats, time-cost trade off; resource allocation and resource leveling, Queuing Theory, Simulation Problem. |
| Unit V | Operation with Interest rates: Simple Interest, Compound Interest, Flat rate and Effective Rate of Interest, Present Value of Money, Annuity, Simple applications of present value concept to leasing, EMI calculation and amortization, Investment and Risk analysis. |

SUGGESTED READINGS

Churchman, C.W. Ackoff, R.L. and Asnoff, E.L. : Introduction to Operation Research
Gupta , P.K. and Hira, D.S. : Operations Research : an Introduction (Published by Sultan Chand and Company Ltd. New Delhi)
Khandelwal, Gupta, Ahmad, Sharma: Operation Research; Ajmera Book Company, Jaipur
Leonard, W. Hein : the Quantitative Approaches to Managerial Decisions
Loomba, N. Paul : Linear Programming
Miller, R.W. : Schedule , Cost and Profit With Pert
Prasanna Chandra : Financial Management Theory and Practice
Ravi M Kishore : Financial Management
Sesieni, Mauriee , Yespan, Arthur and Friedman, Lawrence : Operation Research Method and Problems

PAPER 205: COST ANALYSIS AND CONTROL

| | |
|----------|---|
| Unit I | Cost Accounting an overview, Techniques of Cost Accounting, cost analysis for various function of management. |
| Unit II | JIT- Introduction, benefits use of JIT in Measuring the performance. ERP- its applications in strategic cost management - bench marketing. |
| Unit III | Total Quality Management- Basics, Stages, Principals, Control, Corrective Actions. PRAISE-steps, Problems, Implementation, Quality Costs, PARETO Analysis. |
| Unit IV | Budgetary Control – Introduction, meaning and definition of budgetary control, objectives, advantages and disadvantages of budgetary control, Types of budget, Responsibility Accounting, performance budgeting, Zero Base Budgeting (ZBB). |
| Unit V | Statistical Tools in strategies Decision making - Cost Information and Cost Analysis for Managerial Decisions, Research and Development Costs, Learning curve. |

SUGGESTED READING

Bhabatosh Banerjee : Cost Accounting , World Press. P. Ltd.
Bhar, B.K. : Cost Accounting Methods and Problems, Academic Publishers
Horngren, C. T.: Cost Accounting: A Managerial Emphasis Prentice Hall of India
Kamal Gupta : Contemporary Audit , Tata McGraw Hill and Co. Pvt. Ltd.
Keshu, Ravi M. : Advanced Cost Accounting Cost System Taxation
Lawrence, D. Schall and Charlew, W. Haley: Introduction to Financial Management , Tata Mcgraw Hill Pub. Co. Ltd.
Mariz, A. and Usry, M.F.: Cost Accounting Planning and Control
Prasad, N.K. : Principles, and Practice of Cost Accounting, Book Syndicate Pvt. Ltd.
Rose, T.G. : Management Audit, Gee and Co. Ltd.
Tikhe J. : Cost Audit and Management Audit, Bangalore Chapter of Cost Accountants

M.Sc. CHEMISTRY Syllabus
(Two Year Course) Annual Exam. 2020-21, 2021-22
For Affiliated colleges
Examination Scheme

M.Sc. I Year (Previous)

| Paper | Course No. | Course | Duration Hours | Max. Marks | Min. Marks |
|-------------|------------|----------------------|----------------|------------|------------|
| Paper-I | AN- CH-101 | Inorganic Chemistry | 3 | 100 | 36 |
| Paper-II | AN- CH-102 | Organic Chemistry | 3 | 100 | 36 |
| Paper-III | AN- CH-103 | Physical Chemistry | 3 | 100 | 36 |
| Paper-IV | AN- CH-104 | Analytical Chemistry | 3 | 100 | 36 |
| Practical | AN-CH-105 | Spread in two days | 16 | 200* | 72 |
| Total Marks | | | | 600 | |

M.Sc. II Year (Final)

| Paper | Course No. | Course | Duration Hours | Max. Marks | Min. Marks |
|--------------------------|------------|--|----------------|------------|------------|
| <u>Compulsory Papers</u> | | | | | |
| Paper-I | CH-201 | Group Theory & Inorganic Spectroscopy, Application of Spectroscopy | 3 | 100 | 36 |
| Paper-II | CH-202 | Solid State Chemistry, Bio-Chemistry | 3 | 100 | 36 |
| Paper-III | CH-203 | Elective Papers | 3 | 50 | 18 |
| Paper-IV | CH- 204 | Elective Papers | 3 | 50 | 18 |
| Paper-V | CH-205 | Elective Papers | 3 | 50 | 18 |
| Paper-VI | CH-206 | Elective Papers | 3 | 50 | 18 |
| Practical | AN-CH-207 | spread in two days | 16 | 200* | 72 |
| Total Marks | | | | 600 | |

*** out of 200 marks allocated for practicals, 30 marks are for sessionals and 170 marks are for University practical examination.**

M.Sc. CHEMISTRY
(Two Year Course) Annual Exam. 2020-21, 2021-22
For Affiliated colleges

M.Sc. I Year (Previous)

| Paper | Course No. | Course | Periods/Week |
|-----------|------------|---|--------------|
| Paper-I | AN- CH-101 | Inorganic Chemistry | 6 |
| Paper-II | AN- CH-102 | Organic Chemistry | 6 |
| Paper-III | AN-CH-103 | Physical Chemistry | 6 |
| Paper-IV | AN-CH-104 | Analytical Chemistry | 6 |
| Practical | AN-CH-105 | Inorganic, Organic, Physical & Analytical | 24 |

M.Sc. II Year (Final)

| Paper | Course No. | Course | Periods/Week |
|--------------------------|------------|---|--------------|
| <u>Compulsory Papers</u> | | | |
| Paper-I | AN-CH-201 | Group Theory & Inorganic Spectroscopy, | 6 |
| Paper-II | AN-CH-202 | Application of Spectroscopy, Solid State Chemistry, Bio-Chemistry | 6 |
| Paper-III | AN-CH-203 | Elective Papers | 3 |
| Paper-IV | AN-CH- 204 | Elective Papers | 3 |
| Paper-V | AN-CH-205 | Elective Papers | 3 |
| Paper-VI | AN-CH-206 | Elective Papers | 3 |
| Practical | AN-CH-207 | Inorganic, Organic, Physical & Analytical | 24 |

The following groups of Elective Paper are approved for M.Sc. II Year (final) course. Choice any one group

| | | |
|---------|------------|--|
| Group-A | AN-CH-203A | Organotransition Metal Chemistry |
| | AN-CH-204A | Nanoscience and Nanotechnology |
| | AN-CH-205A | Industrial Chemistry |
| | AN-CH-206A | Polymers |
| Group-B | AN-CH-203B | Photochemistry |
| | AN-CH-204B | Organic Synthesis-I |
| | AN-CH-205B | Organic Synthesis-II |
| | AN-CH-206B | Advanced Electrochemistry and Applications |

| | | |
|---------|-------------|---|
| Group-C | AN-CH- 203C | Bioinorganic and Supramolecular Chemistry |
| | AN-CH-204C | Heterocyclic Chemistry |
| | AN-CH- 205C | Chemistry of Natural Products |
| | AN-CH- 206C | Environmental Chemistry |

| | | |
|---------|------------|--|
| Group-D | AN-CH-203D | Nuclear and Radiochemistry |
| | AN-CH-204D | Medicinal and Pharmaceutical Chemistry |
| | AN-CH-205D | Physical Organic Chemistry |
| | AN-CH-206D | Chemistry of Materials |

M.Sc. I YEAR-2020-21

AN-CH- 101: INORGANIC CHEMISTRY

Unit I

Stereochemistry and bonding in compounds : Mulliken symbols for s,p and d orbitals in C_{2v} , D_{3h} , D_{4h} , T_d , & O_h point groups, σ , d π - p π bonds and synergic bonding, Bent's rule and valence shell electron pair repulsion(VSEPR) theory in structure elucidation with applications, Wave functions and Energetics of different types of hybridization. Simple reactions of covalently bonded molecules related to atomic inversion, Berry pseudo rotation, Nucleophilic displacement and free radical reactions. Limitations of crystal field theory, Jahn Teller theorem and distortion of molecules

Molecular orbital theory (MOT) : Shapes of molecular orbitals, Walsh diagram of tri atomic molecules with special reference to H₂O, molecular orbital theory of hetero atomic molecules viz . BeH₂, CO₂, NO₂ , BF₃ . Coulson diagram of CO. Molecular orbital theory (MOT) of octahedral, tetrahedral and square planer complexes, π - bonding and molecular orbital theory, Comparison with VBT and CFT.

Unit II

Metal Ligand Equilibrium in solution : Thermodynamic and kinetic stability of compexes, stepwise and overall formation constant, trends in stepwise constants, factors affecting the stability of metal complexes with reference to the nature of metal ion and ligand, Chelate effect and its thermodynamic origin, determination of binary formation constants by pH metry and Spectrophotometry viz Bjerrum, Job, Dey and Mukherjee, Asmus methods.

Metal π -complexes: Metal carbonyls, structure and bonding in metal carbonyls, vibrational spectra of metal carbonyls for bonding and structure elucidation. Preparation, bonding, structure and important reactions of transition metal nitrosyls.

Unit III

Correlation diagrams of Transition Metal Complexes:Types of transitions, selection rules and relaxation for electronic transition, coupling and micro states, Spectroscopic ground States and Term symbols, correlation diagrams, Orgel and Tanabe sugano diagrams. Racah Paramerters and Calculations of Dq. B and β parameters for d¹ to d¹⁰ states in Transitions metal complexes

Electronic spectra and Magnetic properties of transitions metal Complexes

Charge transfer spectra, Spectroscopic methods of assignment of absolute configuration in optically active metal chelates and their stereo chemical information using ORD and CD based Cotton effect, Anomalous magnetic moment, spin crossover and it's affecting factors, magnetic exchange coupling for ferromagnetism and anti ferromagnetism, Curie temperature (T_C) and Neel Temrature (T_N)

UNIT IV

Reaction mechanism of Transitions metal complexes: Energy profile of a reaction (transition state or activated complex), Nucleophilic and Electrophilic Substitution, factors responsible for including SN₁ and SN₂ reaction, Lability and inertness of octahedral complexes acc to VBT and CFT. Acid hydrolysis, factor affecting acid hydrolysis, Base hydrolysis, Conjugate base mechanism (SN₁ CB),

Evidences in favour of conjugate base mechanism, anation reactions, Substitution reaction without metal-ligand bond cleavage (Special reference to Co(III) complexes).

Substitution in square planer complexes: Trans-effect, mechanism of substitution reaction, polarization theory and π bonding theory. Redox reaction : electron transfer reaction, mechanism of 1e-transfer reaction, outer sphere reaction, Inner sphere reaction, bridge intermediate mechanism.

UNIT V

Boranes : Structure and bonding in diborane, preparations of higher boranes, Lipscomb's concept of bonding elements in higher boranes. Preparation, properties and structure of borazines.

Metal clusters: Metal carbonyl and halide type clusters, compounds with metal-metal multiple bonds, Metalloboranes, Carboranes, Silicates: types and Uses

Books Suggested:

1. Advanced Inorganic Chemistry, F.A. Cotton and Wilkinson, John Wiley.
2. Inorganic Chemistry, J.E. Huhey, Harpes & Row.
3. Chemistry of the Elements, N.N. greenwood and A.Earnshow, Pergamon.
4. Inorganic Electronic Spectroscopy, A.B.P. lever, Elsevier.
5. Magnetochemistry, R.L.Carlin, Springer Verlag.
6. Comprehensive Coordination Chemistry eds., G. Wilkinson, R.D. Gillars and LA McCleverty, Pergamon.
7. F. Basolo and R.G. Pearson: Mechanism of Inorganic Reaction, Wiley Eastern

AN-CH-102: ORGANIC CHEMISTRY

UNIT I

Nature of Bonding in Organic Molecules

Delocalized chemical bonding-conjugation, cross conjugation, resonance hyperconjugation, bonding in fullerenes, tautomerism.

Aromaticity in benzenoid and non-benzenoid compounds, alternate and non-alternate hydrocarbons, Huckel's rule, energy level of π -molecular orbitals, annulenes aromaticity, homo-aromaticity, Double aromaticity, excited state aromaticity, PMO (approach).

Bonds weaker than covalent- addition compounds, crown ether complexes, cryptands inclusion compounds, cyclodextrins, catenanes and rotaxanes.

Reaction Mechanism: Structure and Reactivity

Types of mechanisms, types of reactions, thermodynamic and kinetic requirements, Kinetic and thermodynamic control. Hammond's postulate, Curtin-Hammett principle, Potential energy diagrams, transition states and intermediates, methods of determining mechanism isotope effects. Hard and Soft acids and bases.

Generation, structure, stability and reactivity of carbocations, carbanions free radicals, carbenes and nitrenes.

Effect of structure on reactivity – resonance and field effects, steric effect, quantitative treatment. The Hammett equation and linear free energy relationship. substituent and reaction constants. Taft equation.

UNIT II

Stereochemistry

Conformational analysis of cycloalkanes, decalins, effect of conformation on reactivity conformation of sugars, steric strain due to unavoidable crowding. Stereochemistry of the compounds containing nitrogen, sulphur and phosphorus.

Elements of symmetry, chirality, molecules with more than one chiral center, threo and erythro isomers, methods of resolution, optical purity, enantiotopic and diastereotopic atoms, groups and faces, stereospecific and stereoselective synthesis. Asymmetric synthesis. Optical activity in the absence of chiral carbon (biphenyls, allenes and spiranes), chirality due to helical shape.

UNIT III

Pericyclic Reactions

Molecular orbital symmetry, Frontier orbitals of ethylene, 1,3- butadiene, 1,3,5-hexatriene and allyl system. Classification of pericyclic reactions. Woodward – Hoffmann correlation diagrams, FMO and PMO approach. Electrocyclic reactions – conrotatory and disrotatory motions, $4n$, $4n+2$ systems, $2+2$ addition of ketenes, 1,3 dipolar cycloadditions and cheletropic reactions.

Sigmatropic rearrangements – suprafacial and antarafacial shifts of H, sigmatropic shifts involving carbon moieties, 3,3- and 5,5- sigmatropic rearrangements. Claisen, Cope and Aza-Cope rearrangements. Fluxional tautomerism. Ene reaction.

Free Radical Reactions

Types of free radical reactions, free radical substitution mechanism, mechanism at an aromatic substrate, neighbouring group assistance.

Reactivity for aliphatic and aromatic substrates at a bridgehead. Reactivity in the attacking radicals. The effect of solvents on reactivity.

Allylic halogenation (NBS), oxidation of aldehydes to carboxylic acids, auto-oxidation, coupling of alkynes and arylation of aromatic compounds by diazonium salts, Sandmeyer reaction. Free radical rearrangement. Hunsdiecker reaction.

UNIT IV

Aliphatic Nucleophilic Substitution

The S_N2 , S_N1 , mixed S_N1 and S_N2 and SET mechanisms.

The neighbouring group mechanism, neighbouring group participation by π and σ bonds, anchimeric assistance.

Classical and nonclassical carbocations, phenonium ions, norbornyl system, common carbocation rearrangements. Application of NMR spectroscopy in the detection of carbocations.

The S_{Ni} mechanism.

Nucleophilic substitution at an allylic, aliphatic trigonal and a vinylic carbon.

Reactivity effects of substrate structure, attacking nucleophile, leaving group and reaction medium, phase transfer catalysis and ultrasound, ambident nucleophile, regioselectivity.

Aliphatic Electrophilic Substitution

Bimolecular mechanisms- S_E2 and S_E1 . The S_E1 mechanism, electrophilic substitution accompanied by double shifts. Effect of substrates, leaving group and the solvent polarity on the reactivity.

Aromatic Electrophilic Substitution

The arenium ion mechanism, orientation and reactivity, energy profile diagrams. The ortho/para ratio, ipso attack, orientation in other ring systems. Quantitative treatment of reactivity in substrates and electrophiles. Diazonium coupling, Vilsmeier reaction, Gattermann-Koch reaction.

Aromatic Nucleophilic Substitution

The S_NAr , S_N1 , benzyne and $S_{RN}1$ mechanisms. Reactivity – effect of substrate structure, leaving group and attacking nucleophile. The von Richter, Sommelet-Hauser, and Smiles rearrangements.

UNIT V

Addition to Carbon-Carbon Multiple Bonds

Mechanistic and stereochemical aspects of addition reactions involving electrophiles, nucleophiles and free radicals, regio- and chemoselectivity, orientation and reactivity. Addition to cyclopropane ring. Hydrogenation of double and triple bonds, hydrogenation of aromatic rings. Hydroboration. Michael reaction. Sharpless asymmetric epoxidation.

Addition to Carbon-Hetero Multiple Bonds

Mechanism of metal hydride reduction of saturated and unsaturated carbonyl compounds, acids, esters and nitriles. Addition of Grignard reagents, Organozinc and Organolithium reagents to carbonyl and unsaturated carbonyl compounds. Wittig reaction.

Mechanism of condensation reactions involving enolates – Aldol, Knoevenagel, Claisen, Mannich, Benzoin, Perkin and Stobbe reactions.

Hydrolysis of esters and amides, ammonolysis of esters.

Elimination Reactions

The E2, E1 and E1cB mechanisms and their spectrum, Orientation of the double bond. Reactivity – effects of substrate structures, attacking base, the leaving group and the medium.

Mechanism and orientation in pyrolytic elimination.

Books Suggested:

1. Advanced Organic Chemistry-Reactions, Mechanism and Structure, Jerry March, John Wiley.
2. Advanced Organic Chemistry, F.A. Carey and R.J.Sundberg, Plenum.

3. A Guide Book to Mechanism in Organic Chemistry, Peter Sykes, Longman.
4. Structure and Mechanism in Organic Chemistry, C.K.Ingold, Cornell University Press.
5. Organic Chemistry, R.T. Morrison and R.N.Boyd, Prentice-Hall
6. Modern Organic Reactions, H.O. House, Benjamin.
7. Principles of Organic Synthesis, R.O.C. Norman and J.M. Coxon, Blackie Academic & Professional.
8. Pericyclic Reactions, S.M.Mukherji, Macmillan, India.
9. Reaction Mechanism in Organic Chemistry S.M.Mukherji and S.P. Singh, Macmillan.
10. Stereochemistry Organic Compounds, D.N.asipuri, New Age International.
11. Stereochemistry of Organic Compounds, P.S.Kalsi, New Age Internationa.
12. Pericyclic Reactions by Jagdama Singh.

AN-CH-103: PHYSICAL CHEMISTRY

UNIT I

Chemical Kinetics

Chemical Dynamics: Ionic reactions, kinetic salt effects, steady state kinetics, kinetic and thermodynamic control of reactions.

Dynamic chain (hydrogen-bromine reaction, pyrolysis of acetaldehyde). photochemical (hydrogen-bromine and hydrogen-chlorine reactions) .

Homogeneous and heterogeneous catalysis, kinetics of enzyme reactions, general features of fast reactions, study of fast reactions by flow method, relaxation method, and flash photolysis method.

Dynamics of complex Reactions, Collision and Transition state, Theories of Rate Constant, dynamics of unimolecular reaction, Lindemann and Hinshelwood theories of unimolecular reactions.

UNIT II

Adsorption

Surface tension, capillary action, pressure difference across curved surface (Laplace equation), vapour pressure of droplets (Kelvin equation) Gibbs adsorption isotherm, estimation of surface area (BET equation), surface films on liquids Electro-kinetic phenomenon and quantitative treatment of Zeeta potential.

Micelles: Surface active agents, classification of surface active agents, micellization, types of ionic micelles present in colloidal electrolytes, solubilization of surfactant solutions, critical micellar concentration (CMC), factors affecting the CMC of surfactants.

Macromolecules

Polymer – definition, types of polymers,, kinetics of polymerization, mechanism of polymerisation.

Molecular mass, number and mass average molecular mass, molecular mass determination (osmometry, viscometry, diffusion and light scattering methods), sedimentation, calculation of average dimensions of various chain structures.

UNIT - III

Classical Thermodynamics:

Partial molal properties; free energy – chemical potential, Gibbs – Duhem equation, physical significance of chemical potential, variation of chemical potential with temperature and pressure, chemical potential for ideal gas and mixture of ideal gases, Thermodynamic derivation of law of mass action.

Concept of fugacity, Change in fugacity with temperature and pressure, physical significance of fugacity, fugacity of a gas in a mixture of real gases, determination of fugacity (graphical method).

Electrochemistry

Electrochemistry of solutions. Debye-Huckel – Onsager treatment and its extension, Debye-Huckel-Jerrum mode, ion - solvent interactions, Born model.

Thermodynamics of electrified interface; Derivation of electrocapillary Lippmann equation (surface excess), Structure of electrified interfaces. Helmholtz, Guoy-Chapman and Stern models.

UNIT IV

Statistical Thermodynamics

Concepts of phase space, microstate and macrostate, ensemble, canonical, grand canonical and microcanonical ensembles, ensembles averaging, Maxwell-Boltzmann distribution law using Lagrange's method of undetermined multipliers.

Bose-Einstein statistics, Fermi-Dirac statistics and Maxwell-Boltzmann statistics.

Partition functions – translational, rotational, vibrational and electronic partition functions, calculation of thermodynamic properties in terms of partition functions- Energy, specific heat at constant volume and constant pressure, entropy, work function, pressure and Gibbs free energy.

UNIT V

Quantum Chemistry

Introduction to Exact Quantum Mechanical Results: The Schrodinger's wave equation and its Hamiltonian operator form, postulates of quantum mechanics, operators. Discussion of solutions of the Schrodinger's wave equation to some model systems viz; particle in one dimensional box, particle in three dimensional box, the linear harmonic oscillator, the Hydrogen atom.

Concepts of spatial quantization and spinning electron hypothesis, Quantum numbers, Russell-Saunders terms and coupling schemes (L-S and j-j Coupling), spectral terms for p^n and d^n configurations, Magnetic effects: Normal and anomalous Zeeman effects.

Books Suggested :

1. Physical Chemistry, P.W. Atkins, ELBS.
2. Chemical Kinetics, K.J.Laidler, Megraw-Hill
3. Kinetics and Mechanism of Chemical Transformation, J.Rajaraman and J.Kuriacose, McMillan.
4. Micelles, Theoretical and Applied Aspects, V.Moroi, Plenum.
5. Modern Electrochemistry Vol. I and Vol. II, J.O.M. Bockris and A.K.N.Reddy, Plenum.
6. Introduction to Polymer Science, V.R.Gowarkar, N.V.Vishwanathan and J.Sridhar, Wiley Eastern.
7. Introduction to Quantum Chemistry, A.K. Chandra, Tata McGraw Hill.
8. Quantum Chemistry, Ira N. Levine, Prentice Hall.
9. Coulson's Valence, R. McWeeny, ELBS.
10. Theoretical Chemistry, S. Glasston, Princeton, London.
11. Fundamentals of Chemical Thermodynamics, E.N.Yeremin, Mir Publishers.

AN-CH- 104: ANALYTICAL CHEMISTRY

UNIT I

Instrumental analytical methods: Types and range of determination. Accuracy and minimization of errors, Precision and its determination (Standard deviation, R.S.D, C.V). confidence limit and confidence level significance and tapes of “t” test in analytical chemistry.

Analysis of variance (ANOVA), Correlation coefficient and linear regression. Numericals based on above concepts

Introduction to Instrumentation: Basic components of analytical instruments, Analog & digital signals, Basic digital circuit components, DAC & ADC. Operational Amplifiers (for current, potential, resistance/conductance), Automation in analysis: Automatic & Automated instruments, Process control analyzer, Continuous analyzer & Discrete analyzer, Flow injection analysis, Microprocessor controlled smart instruments

UNIT II

UV Visible Spectrophotometry: Colorimetric estimation of metal ion with specific reagents: Iron with 8-Hydroxyquinoline ; Lead with Dithizone, Technique of dual wavelength and derivative spectroscopy and their applications.

Fluorescence Photometry: Theory with partial energy diagram, instrumentation and applications.

Atomic spectral analytical techniques: Atomic absorption Spectrophotometry: Theory, Chemical and Spectral interferences , Instrumentation and Application.

Emission spectroscopy: Principle and application of Flame photometry; ICPAES- Salient features and application on multi element determination

UNIT III

Chromatography – Introduction and terms related to chromatography; Classification of Chromatographic techniques ; Selection of mobile phase.

Thin Layer Chromatographic technique (TLC):Principle, methodology and applications.

Gas chromatography (GC): Principle, Layout of instrument and types of columns; Detectors (TCD, FID, and Electron Capture) and applications.

Introduction to GC-MS

High performance liquid chromatography (HPLC)

Principle, Layout of instrument with columns, detectors (UV-Visible, RI and electro chemical) and applications.

Introduction to Super Critical Fluid chromatography (SCFC)

Unit IV

Thermal Analysis: Introduction to thermal Analysis; Thermogravimetric Analysis(TGA) : Basic Principle , Instrumentation and applications. Differential thermal Analysis (DTA) : Principle , Instrumentation and Applications of (DTA) . Introduction to Differential scanning calorimetry (DSC).

Electrochemistry : Electrochemical Cell, Ion Selective Electrodes: Types (Glass membrane, Precipitate, Solid State, Liquid-Liquid, Enzyme), Mechanism of Glass membrane ISE , Advantages and limitations of ISEs. Introduction to Sensors and their types , Design & working of Glucose Amperometric biosensor.

Unit V

Electroanalytical Methods: dc Polarography: theoretical principle, Ilkovic equation, Half wave potential and their significance. Different wave forms & Current-Voltage Curves. Cyclic Voltammetry: Theoretical Principle, Randle-Sevick Equation, Determination of Heterogenous Rate Constant (K_s), Criteria of reversibility by CV.

Theoretical Principle, Methodology and applications, Differential Pulse Voltammetry ; Square Wave Voltammetry, Stripping Voltammetry (Anodic, Cathodic and Adsorptive Stripping techniques). Application of Voltammetry in Inorganic & Organic Analysis

Books Suggested:

1. Instrumental Methods of Analysis, H.H. Willard, L.L. Merritt, J.A. Dean and F.A. Settle, CBS Publ. Delhi.
2. Principles of Instrumental Analysis, D.A. Skoog and J.L. Loary, Publ. W B Saunders
3. Instrumental Methods of Analysis, Strobel
4. Vogel's Textbook of Quantitative Chemical Analysis, G.H.Jeffery, J.Bassett, J. Mendham and R.C. Denney, Publ ELBS, Longman, UK
5. Instrumental Analysis: Skoog, Hollar and Crouch, Cengage learning.
6. Analytical Chemistry, G.D. Christian, John Willy & Sons.
7. Basic Concepts of Analytical Chemistry, S. M. Khopkar, Wiely Eastern.
8. Fundamentals of Analytical Chemistry, D.A. Skoog, D.M. West and F.J.Holler. Publ. W B Saunders.

AN-CH-105: Laboratory Course-

Inorganic Chemistry

Qualitative Analysis

Eight component mixture including two less common metal ions (Ti, Mo, W, Ti, Zr, Th, V, U in cationic/anionic forms) and insoluble – oxides, sulphates and halides.

Quantitative Analysis

Separation and estimation of metal ions in a binary mixture Cu-Ni, Ni-Zn, Cu-Ag etc. involving volumetric and gravimetric methods.

Chromatography

Separation of cations and anions by

- (a) Paper Chromatography: Separation of chloride, bromide and iodide
- (b) Column Chromatography – separation of Cu, Ni, Co by Ion exchange.

Preparations

Preparation of selected inorganic compounds and their studies by I.R., electronic Mossbauer, E.S.R. and magnetic susceptibility measurements. Handling of air and moisture sensitive compounds.

- (1) VO(acac)₂
- (2) Cis-K[Cr(C₂O₄)₂(H₂O)₂]
- (3) Na[NH₃]₂(SCN)₄
- (4) Mn(acac)₃
- (5) K₃[Fe(C₂O₄)₃]
- (6) Prussian Blue, Turnbull's Blue
- (7) [Co(NH₃)₆][Co(NO₂)₆]
- (8) Cis-[Co(trine)(NO₂)₂]Cl.H₂O
- (9) Hg[Co(SCN)₄]

(10) $\{\text{Co}(\text{Py})_2\text{Cl}_2\}$

(11) $[\text{Ni}(\text{NH}_3)_6]\text{Cl}_2$

(12) $\text{Ni}(\text{dmg})_2$

(13) $[\text{Cu}(\text{NH}_3)_4]\text{SO}_4 \cdot \text{H}_2\text{O}$

ORGANIC CHEMISTRY

Qualitative Analysis

Separation, purification and identification of compounds of binary mixture (one liquid and one solid), chemical tests, Interpretation of IR Spectra of simple compounds.

Two Step Organic Synthesis

Acetylation: Acetylation of glucose and hydroquinone.

Oxidation: Adipic acid by chromic acid oxidation of cyclohexanol.

Cannizzaro reaction: 4-Chlorobenzaldehyde as substrate.

Aromatic electrophilic substitutions: Synthesis of p-nitroaniline and p-bromoaniline.

Quantitative Analysis

Determination of the percentage or number of hydroxyl group in an organic compound by acetylation method.

Estimation of amines/phenols using bromate bromide solution/or acetylation method.

Determination of Iodine and Saponification values of an oil sample.

Determination of DO, COD and BOD of water sample.

Physical Chemistry

Surface Tension

- (i) To determine the parachor of carbon and hydrogen atoms by drop weight method.
- (ii) To determine the relative efficiencies of different detergents by surface tension measurements.

Chemical Kinetics

- (i) To compare the strengths of HCl and H₂SO₄ by studying the kinetics of hydrolysis of an ester.
- (ii) Determination of the effect of
 - (a) Change of temperature
 - (b) Change of concentration of reactant and catalyst.
 - (c) Ionic strength of the media on the velocity constant of acid hydrolysis of an ester
- (iii) To study the effect of acid strength on the reaction of acetone and iodine.

Adsorption

- (i) To study surface tension-concentration relationship for solutions (Gibbs equation) and hence determine the limiting cross-sectional area of molecule.
- (ii) To study the adsorption of acetic acid/oxalic acid by activated charcoal and verification of Freundlich and Langmuir's isotherms.

Book Suggested:

1. Vogel's Textbook of Quantitative Analysis, revised, J.Bassett, R.C. Denney, GH.H. Jeffery and J. mENDHAM, elbs.
2. Synthesis and Characterization of Inorganic Compounds, W.L.Jolly, Prentice Hall.
3. Practical Physical Chemistry, A.M.James and F.E. Prichard, Longman.
4. Findley's Practical Physical Chemistry, B.P.Levitt, Longman.
5. Experimental Physical Chemistry, R.C.Das and B.Behera, Tata McGraw Hill.
6. Advanced Practical Physical Chemistry, J.B.Yadav, Goel Publishing House.
7. Advanced Experimental Chemistry, Vol. I Physical, J.N.Gurtu and R.Kapoor, S.Chand & Co.

ANALYTICAL CHEMISTRY

Conductometry:

- (1) Estimation of Oxalic acid by Conductometric Titration in following solutions
 - (a) A solution of pure oxalic acid
 - (b) A solution of oxalic acid and HCl
- (2) To titrate a given mixture of sulphuric acid, acetic acid and Copper Sulphate conductometrically.

Environmental Analysis:

- (1) Determination of carbon dioxide, carbon monoxide, oxygen and nitrogen in air sample using Orsat apparatus.
- (2) Determination of NO_x by spectrophotometry in environmental samples.

Electrophoresis:

- (1) To study the separation of amino acids in a mixture by electrophoresis.
- (2) To Determine isoelectric point of glutamic acid by paper electrophoresis.

TLC :

- (1) Separation of dyes by TLC
- (2) Separation of pharmaceutical Samples by TLC
- (3) Study of reaction monitoring by TLC

Books Suggested:

1. Vogel's Textbook of Quantitative Chemical Analysis, G.H.Jeffery, J.Bassett, J. Mendham and R.C. Denney, Publ ELBS, Longman, UK
2. Handbook of Organic Analysis – Qualitative and Quantitative, H. Clark, Adward Arnold.
3. Vogel's Textbook of Practical Organic Chemistry, John Wiley. Experiments and Techniques in Organic Chemistry, D. Pasto, C.Johnson and M.Miller, Prentice Hall
4. Macroscale and Microscale Organic Experiments, K.L. Williamson, D.C. Heath.
5. Systematic Qualitative Organic Analysis, H. Middleton, Adward Arnold.
6. Instrumental Methods of Analysis, H.H. Willard, L.L. Merritt, J.A. Dean and F.A. Settle, CBS Publ. Delhi.
7. Principles of Instrumental Analysis, D.A. Skoog and J.L. Loary, Publ. W B Saunders
8. Instrumental Methods of Analysis, Strobel

Marking Scheme for M.Sc. Practicals

AN-CH-105: Laboratory Course-

Inorganic

1. Gravimetric
OR
Inorganic Mixture Eight component 25 Marks
2. Inorganic Preparation 15 Marks
OR
Separation of cations and anions by Paper / Column Chromatography

Organic

1. Qualitative Analysis
OR 25 Marks
Two step organic synthesis
2. Quantitative Analysis 15 Marks

Physical

1. Major Experiment 25 Marks
2. Minor Experiment 15 Marks

Analytical

1. Conductometry 25 Marks
2. Environmental Analysis/Electrophoresis 15 Marks
OR
TLC

| | |
|--------|-----------|
| Viva | 20 Marks |
| Record | 20 Marks |
| Total | 200 Marks |

M Sc II YEAR 2020-21

Compulsory Paper-I

CH-201: GROUP THEORY & INORGANIC SPECTROSCOPY, APPLICATION OF SPECTROSCOPY

Unit I

Molecular Symmetry and Group theory (A) : Symmetry elements and operation. Symmetry classification of group, relation between orders of a finite group and its sub groups. Conjugacy relation and classes. Schonflies symbols, representation of groups by matrices (representation for the $C_n, C_{nv}, C_{nh}, D_{nh}$ etc. groups to be worked out explicitly types of Matrices, Matrix Multiplications, Transformations of Matrices,). Characters of representations.

Molecular symmetry and group theory (B) : The great orthogonality theorem and its importance, character table and its constructions, use in spectroscopy. Mulliken Symbols for Irreducible representations areas of character tables, reduction formula and its application, unit vector transformation, direct product.

Orbital symmetries and overlap, hybridization in linear trigonal planar, tetrahedral square planar, square pyramidal and trigonal pyramidal molecules. symmetry and hybridization in Buta-1,3-diene and benzene.

Unit II

Vibrational Spectroscopy: Symmetry and shapes of AB_2 AB_3 AB_4 AB_5 & AB_6 mode of bonding of ambidentate ligands, ethylenediamine and di ketonato complexes, applications of Resonance . Raman Spectroscopy particularly for the study of activesites of metalloproteins.

Electron Spin Resonance Spectroscopy: Hyperfine coupling, spin polarization for atoms and transition metal ion, spin-orbit- coupling and significance of g-tensors, Applications to transition metal complexes (having one unpaired electron) including biological systems and to inorganic free radicals such as PH_4 , F_2 and $[BH_3]$.

Nuclear Magnetic Resonance of Paramagnetic substances in solution. The contact and pseudo contact shifts, factors affecting nuclear relaxation, some applications including biochemical systems, an overview of NMR of metal nuclides with emphasis on ^{195}Pt and ^{119}Sn NMR. Mossbauer

Spectroscopy: Basic principles, spectral display applications of the technique of the studies of (1) bonding and structures of Fe^{2+} and Fe^{3+} compounds including those of intermediate spin, (2) Sn^{2+} and Sn^{4+} compounds nature of M-L bond, coordination number, structure and (3) detection of oxidation state and in equivalent MB atoms.

UNIT III

Ultraviolet and Visible Spectroscopy

Various electronic transitions (185-800 nm), Instrumentation, Beer-Lambert law, effect of solvent on electronic transitions, ultraviolet bands for carbonyl compounds, unsaturated carbonyl compounds, dienes, conjugated polyenes. Fieser-Woodward rules for conjugated dienes and carbonyl compounds, ultraviolet spectra of aromatic and heterocyclic compounds. Steric effect in biphenyls.

Infrared Spectroscopy

General introduction, Instrumentation and sample handling, Characteristic vibrational frequencies of alkanes, alkenes, alkynes, aromatic compounds, alcohols, ethers, phenols and amines. Detailed study of vibrational frequencies of carbonyl compounds (ketones, aldehydes, esters, amides, acids, anhydrides, lactones, lactames and conjugated carbonyl compounds). Effect of hydrogen bonding and solvent effect on vibrational frequencies, overtones, combination bands and Fermi resonance. FT IR. IR, of gaseous, solids and polymeric materials..

Optical Rotatory Dispersion (ORD) and Circular Dichroism (CD): Definition, deduction of absolute configuration, octant rule for ketones.

UNIT IV

Nuclear Magnetic Resonance Spectroscopy

General introduction and definition, chemical shift, spin-spin interaction, shielding mechanism, mechanism of measurement, chemical shift values and correlation for protons bonded to carbon (aliphatic, olefinic, aldehydic and aromatic) and other nuclei (alcohols, phenols, enols, carboxylic acids, amines & amides), chemical exchange, effect of deuteration, complex spin-spin interaction between two, three, four and five nuclei (first order spectra), virtual coupling. Stereochemistry, hindered rotation, Karplus curve-variation of coupling constant with dihedral angle. Simplification

of complex spectra-nuclear magnetic double resonance, contact shift reagents, solvent effects. Fourier transform technique, nuclear Overhauser effect (NOE). Resonance of other nuclei-F, P.

Carbon-13 NMR Spectroscopy

General considerations, chemical shift (aliphatic, olefinic, alkyne, aromatic, heteroaromatic and carbonyl carbon), coupling constants.

Two dimension NMR spectroscopy – COSY, NOESY, DEPT, INEPT, APT and INADEQUATE techniques. Instrumentation of H^1 and C^{13} NMR and sample handling.

UNIT V

Mass Spectrometry

Introduction, ion production – EI, CI, FD and FAB, factors affecting fragmentative, ion analysis, Instrumentation and sample handling. Mass spectral fragmentation of organic compounds, common functional groups, molecular ion peak, metastable peak, McLafferty rearrangement. Nitrogen rule. High resolution mass spectrometry. Examples of mass spectral fragmentation of organic compounds with respect to their structure determination.

Books Suggested:

1. NMR, NQR, EPR and Mossbauer Spectroscopy in Inorganic Chemistry, R.V. Parish, Ellis Horwood.
2. Practical NMR Spectroscopy, M.L. Martin, J.J. Delpeuch and G.J. Martin, Heyden.
3. Spectrometric Identification of Organic Compounds, R.M. Silverstein, G.C. Bassler and T.C. Morrill, John Wiley.
4. Introduction to NMR Spectroscopy, R.J. Abraham, J. Fisher and P. Loftus, Wiley.
5. Application of Spectroscopy of Organic Compounds, J.R. Dyer, Prentice Hall.
6. Spectroscopic Methods in Organic Chemistry, D.H. Williams, I. Fleming, Tata McGraw-Hill.
7. Spectroscopy, P. S. Kalsi New Age Publishers
8. Chemical Applications of Group Theory. F.A. Cotton

9. Physical Methods in Chemistry, R.S.Drago, Saunders College.
10. NMR, NQR, EPR and Mossbauer Spectroscopy in Inorganic Chemistry, R.V.Parish, Ellis Harwood.
11. Structural Methods in Inorganic Chemistry, E.A.V. Ebsworth, D.W.H. Rankin and S. Cradock, ELBS.
12. Infrared and Raman Spectra: Inorganic and Coordination Compounds, K. Nakamoto, Wiley.
13. Progress in Inorganic Chemistry vol., 8 ed., F.A. Cotton, vol., 15, ed. S.J. Lippard, Wiley.

CH-202: SOLID STATE CHEMISTRY AND BIO-CHEMISTRY

UNIT I

Solid State Reactions and Non-Stoichiometry

Crystalline solid, Solid State Reactions - General principles and Experimental procedures, Wagner's theory in reference to MgO and Al₂O₃, Enhancement of reactivity of solids, Co-precipitation as a precursor to solid state reaction, Kinetics of solid state reaction

Non-Stoichiometry – Introduction, Classification – Small and Large deviations from stoichiometry, Superlattice ordering of defects

Crystal Defects

Perfect crystal and Crystal Defect, Thermodynamic requirement of defect, Intrinsic and Extrinsic defects, Point defects - Schottky, Frenkel, Interstitial atom, Substitutional impurity atom and Color Centre, Line defect – Dislocation (edge and screw), Plane defects - Lineage boundary, Grain Boundary, Stacking fault, Thermodynamics of Schottky and Frenkel defect

UNIT II

Electronic Structure of Solids

Introduction to Free electron theory of Metals, Formation of Energy bands, Valence and Conduction bands, Kronig-Penny Model, Band theory of solids, Brillouin zone, Motion of electrons in a band – velocity and effective mass of an electron, f_k factor, Distinction between metal, semiconductor and insulator on the basis of Band theory

Electrically conducting solids – Conjugated systems, Charge-transfer complexes

UNIT III

Semiconductors and Properties of Solids

Intrinsic and Extrinsic semiconductors, p-type and n-type semiconductors, Dependence of conductivity of n-type and p-type semiconductors on temperature, p-n Junction

Optical Properties – Photoconduction and Photoelectric effect

Magnetic Properties: Classification of materials – para-, dia-, ferro-, and antiferromagnet, Effect of temperature on magnetic susceptibility of para-, dia-, ferro-, antiferromagnetic substances, Magnetic Hysteresis

Superconductor

Superconductivity, Factors affecting superconductivity, Isotope effect, Meissner Effect, Magnetic effects – Type I and Type II superconductors, Persistent current, BCS theory of superconductivity, Cooper pair, Occurrence of superconductivity– conventional, organic and high temperature superconductors, Fullerene as superconductor

UNIT IV

Metal ions in Biological Systems: Role of metal ions in biological processes.

Dioxygen Uptake: Structure and function of haemoglobin, myoglobin, hemocyanins and hemerythrin, model system and synthetic complexes of iron and Copper. Electron Transfer in Biology: Structure and function of metalloproteins, Cytochromes and iron-sulphur proteins, synthetic models, peroxidases and catalases.

Nitrogenases: Biological nitrogen fixation, molybdenum nitrogenases, model systems

Enzymes: Introduction and historical perspective, chemical and biological catalysis, remarkable properties of enzymes like catalytic power, binding energy specificity and regulation. Kinetics of enzyme action that is activation energy, Michaelis- Menten equation, Lineweaver Burk plot & factors effecting enzyme activity. Nomenclature and classification. Fischer's lock and key and Koshland's induced fit hypothesis. Types of inhibition, concept and identification of active site by the use of inhibitors and affinity labeling. Transition state theory, acid-base catalysis and covalent catalysis.

UNIT V

Co-Enzyme Chemistry: Cofactors as derived from vitamins, coenzyme, prosthetic groups, apoenzymes. Structure and biological functions of coenzyme A, thiamine pyrophosphate,

pyridoxal phosphate, NAD⁺, NADP⁺, FMN, FAD, lipoic acid, vitamin B12, Mechanism of reaction catalysed by the above cofactors. Large-scale production and purification of enzymes, techniques.

Bio-energetic and Bio-polymer Interactions: Standard free energy change in biochemical reactions, exergonic, endergonic. Hydrolysis of ATP, synthesis of ATP from ADP.

Forces involved in biopolymer interactions. Electrostatic charges and molecular expansion, hydrophobic forces, dispersion force interactions. Multiple equilibria and various types of binding processes in biological systems. Hydrogen ion titration curves.

Diffraction Methods and Statistical Mechanics in Biopolymers: Evaluation of size, shape, molecular weight by various experimental techniques. Light scattering, X-ray scattering, X-ray diffraction and photo correlation spectroscopy ORD. Chain configuration of macromolecules and calculation of average dimensions. Polypeptide and protein structures, introduction to protein folding.

Books Suggested:

1. Solid State Chemistry and its Applications, A.R. West, Plenum
2. Principles of Solid State, H.V. Keer, Wiley Eastern
3. Solid State Chemistry, D.K. Chakrabarty, New Age International
4. Fundamentals of Solid State Physics, B.S. Saxena, R.C. Gupta and P.N. Saxena
5. Solid State Physics, A. J. Dekkar, Macmillan
6. The Inorganic Chemistry of Biological Processes, M.N.Hughes Wiles (1972).
7. Bioinorganic Chemistry-An Introduction, Enchiroochiai.
8. Principles of Bioinorganic Chemistry, S.J. Lippard and J.M.Berg, University Science Books.
9. Bioinorganic Chemistry, I Bertini, H.B. Gray, S.J.Lipard and J.S. Valentine, University Science Books.
10. Bioorganic Chemistry: A Chemical Approach to Enzyme Action, Hermann Dugas and C.Penny, Springer-Verlag.
11. Understanding Enzymes, Trevor Palmer, Prentice Hall.
12. Enzyme Chemistry: Impact and Applications, Ed. Collin J. Suckling, Chapman and Hall.
13. Enzyme Mechanisms Ed. M.I.Page and A.Williams, Royal Society of Chemistry.
14. Fundamentals of Enzymology, N.C. Price and L. Stevens, Oxford University Press.

15. Immobilized Enzymes: An Introduction and Applications in Biotechnology, Michael D. Tevan, John Wiley.
16. Enzymatic Reaction Mechanisms, C.Walsh, W.H. freeman.
17. Enzyne Structure and Mechanism, A Fersht, W.H. Freeman.
18. Biochemistry: The Chemical Reactions of Living Cells, D.E.Metzler, Academic Press.
19. Principles of Biochemistry, A.L.Lehninger, Worth Publishers.
20. Biochemistry, L. Strver, W.H.Freeman
21. Biochemistry, J.David Rawn, Neil Patterson.
22. Biochemistry, Voet and Voet, John Wiley.
23. Outlines of Biochemistry, E.E.Conn and P.K.Stumpf, Johh Wiley.
24. Bioorganic Chemistry: A Chemical Approach to Enzyme Achon. H. Dugas and C.Penny, Springer-Verlag.
25. Macromolecules: Structure and Function, F.World, Prentice Hall.

Group A

Elective Paper-I

CH-203A: ORGANOTRANSITION METAL CHEMISTRY

UNIT I

Organotransition metal compounds : Definition, Classification and nomenclature of organotransition metal compounds. Comparison of bonding between metal carbonyls and Organotransition metal compounds. Organometallic compounds of inner transition elements

UNIT II

Alkyls and Aryls of Transition Metals: Types, methods of synthesis, thermal stability and decomposition pathways.

UNIT III

Transition Metal π -Complexes

Transition metal π -complexes with unsaturated organic molecules, alkenes, cyclopentadienyls and arenes, methods of synthesis, properties, nature of bonding and structural features.

UNIT IV

Homogeneous Catalysis

Homogeneous catalytic hydrogenation of Alkenes, Zeigler Natta polymerization of olefins, Isomerisation of Alkenes, Hydroformylation, Dimerisation and polymerization of Alkenes and Alkynes.

UNIT V

Organocopper in Organic Synthesis : Conjugated additions, halogen substitution, alkylation of epoxides, alkylation of allylacetates, ketones from acid chlorides.

Books Suggested:

1. Principles and Application of Organotransition Metal Chemistry, J.P. Collman, L.S. Hegsdus, J.R. Norton and R.G. Finke, University Science Books.
2. The Organomettalic Chemistry of the Transition Metals, R.H. Crabtree, John, Wiley.
3. Metallo-organic Chemistry, A.J. pearson, Wiley.
4. Organometallic Chemistry, R.C. Mehrotra and A. Singh, New Age International.

Group A

Elective Paper-II

CH-204A: NANOSCIENCE & NANOTECHNOLOGY

Unit I Introduction and Preparation: Introduction to Nano Scale and Nanomaterials, Unique properties of Nanomaterials; Optical, Magnetic, electrical, thermal and chemical properties of Nanomaterials. Bonding, self-assembly, catalysis.

Synthesis of nanomaterial: Chemical Approaches: Chemical reduction; sonochemical synthesis; Sol-Gel Synthesis; Self assembly. Physical Approaches: Aerosol spray; Chemical vapour deposition(CVD) and lithography.

Unit II Nanostructured materials: Classification of nano materials based on dimension and configuration, Nanorods, Nanotubes and Nanofibres, wells & wires. Semiconductors quantum dots.

Inorganic nano materials: Metal/Oxide nanoparticles (NPs).

Organic nano materials- Polymer NPs

Carbon nano materials: Graphenes, Fullerenes, Carbon Nano tubes (CNTs)- Single walled carbon nanotubes (SWNTs), Multiwalled Carbon nanotubes (MWNTs)

Unit III Characterization techniques for Nanomaterials-I:

Electron Microscopy: Scanning electron microscopy (SEM), Transmission electron microscopy (TEM), Scanning Probe Microscopy- Atomic force Microscopy (AFM)

Unit IV Characterization techniques for Nanomaterials-II

Particle size Analyser (Dynamic light scattering), X-ray Diffraction (XRD), Auger Emission Spectroscopy, Electron Spectroscopy for Chemical analysis (ESCA)

Unit V Application of Nanomaterials and Nanotechnology:

Impact of Nanotechnology in various fields. Pharmaceutical-Advance drug delivery system, Medical & Health diagnosis through biosensors. Environment-water purification and air pollution control. Consumer goods-cosmetics and sports goods, Defence- Light Military platform and soldier protection.

Books Recommended:

1. Essentials in Nanoscience and Nanotechnology, N. Kumar & S. Kumbhat ; John Wiley & Sons.
2. Concise Concepts of Nanoscience & Nanomaterials, N. Kumar & S. Kumbhat ; Scientific Publishers.
3. Charles P. Poole, Jr. and Frank J.Owens ;Introduction to Nanotechnology, , Wiley, 2003
4. G. Cao, Nanostructures and Nanomaterials: Synthesis, Properties and Applications, ICP, London, 2004.
5. C.M. Niemeyer and C.A. Mirkin, Nanobiotechnology, Concepts, Applications and perspectives, WILEY-VCH, Verlag Gmb H&Co, 2004.
6. G.M.Chow and K.E.Gonslaves ;Nanotechnology - Molecularly Designed Materials, (American chemical society)
7. K.P.Jain,Physics of semiconductor Nanostructures: Narosa Publishers, 1997
8. S.P. Gaponenko, Optical Properties of semiconductor nanocrystals, Cambridge University Press, 1980.
9. G. Cao, Nanostructures & Nanomaterials: Synthesis, Properties & Applications, Imperial College Press, 2004.
10. T.Pradeep, “Nano: The essentials, Tata Mc Graw Hill, New Delhi, 2007.
11. Willard, “Instrumental Methods of Analysis”, 2000.

Group A

Elective Paper-III

CH-205A: INDUSTRIAL CHEMISTRY

UNIT I

Chemistry of colors

Introduction, Classification of dyes, according to chemical constitution and according to application. General ideas about the synthesis of different dye intermediate and synthetic dyes i.e. direct and reactive dyes, azoic colours, acid and basic dyes, newer cationic dyes for acrylics, Disperse dye, mordant and sulphur dyes. Pigment and fluorescence brighteners. Colour fastness against light, washing, perspiration, rubbing etc. and its evaluation. Methods of colour measurements.

UNIT II

Industrial/ Commercial polymers and their compounding ingredients:

General characteristics of Fibers, Plastic, Rubbers and Adhesives-

Structure, properties and preparation of Polyamides, Polystyrene, Polychloride, Polymethylmethacrylate, Polymethacrylate, ABS, Epoxide, IR, SBR, NBR & IIR

Compounding Ingredients: Extenders, Fillers, plasticisers, stabilizers, anti oxidant and anti ozonants, Flame retardants, mould release agents, Sulphur vulcanisation.

UNIT III

Ores and Minerals

Inorganic materials of industrial importance, their availability, forms and structure-

Bauxite, clay, mica, zeolites, copper pyrites, zinc blend, dolomite and coal.

UNIT IV

Characteristic Features of surfactants: Conditions under which interfacial phenomena and surfactants become significant. General structural features and behaviour of surfactants : General use of charge types, general effect of nature of hydrophobic group.

UNIT V

Micelle Critical micelle concentration (cmc), factors affecting the value of cmc in aqueous medium. factors determining the extent of Solubilization, effect of Solubilization. Formation of emulsions, factors determining emulsion stability, Mechanism of the cleaning process.

Books Recommended:

1. Hall, A.J.(8TH ed.): The Standard Hand Book of Textiles, Butter-Worth, London.
2. Clark, W.: An Introduction to Textiles Printing, A Practical Manual for use in Laboratories College and School of Arts, Bottonworth, London.
3. Shinai, V.A.: technology OF textile processing, Sevak publication, Bombay, Vols. I to IX
4. Chakravarty, R.R. : Glimpses of Textile Technology, Caxton Press, Delhi.
5. Peters, R.H.: Textile Chemistry, Elsevier, Amsterdam, Vol. I to Vol. II
6. Surfactants and Interfacial Phenomenon. Milton J. Rosen, Johan-Wiley, 1978.
7. Textbook of Polymer Science, F.W. Billmeyer Jr. Wiley.
8. Polymer Science, V.R. Gowariker, N.V. Viswanathan and J. Screeedhar, Wiley-Eastern.

Group A

Elective Paper-IV

CH-206A: POLYMERS

UNIT I

Basics:

Importance of polymers. Basic concepts: Monomers, repeat units, degree of polymerization. Linear, branched and network polymers.

Classification of polymers.

Polymerization: condensation, addition, radical chain-ionic and co-ordination and co-polymerization. Polymerization conditions and polymer reactions. Polymerization in homogeneous and heterogeneous systems.

UNIT II

Polymer Characterization

Polydispersion-average molecular weight concept. Number, weight and viscosity average molecular weights. Polydispersity and molecular weight distribution. The practical significance of molecular weight. Measurement of molecular weights End-group analysis and ultracentrifugation methods.

Analysis and testing of polymers-chemical analysis of polymers, Microscopy.

Thermal techniques: thermo gravimetric analysis, differential thermal analysis, and physical testing-tensile strength, impact. Tear resistance. Hardness and abrasion resistance.

UNIT III

Structure and Properties

Morphology and order in crystalline polymers-configurations of polymer chains. Crystal structures of polymers. Morphology of crystalline polymers, strain-induced morphology, crystallization and melting. Polymer structure and physical properties-crystalline melting point T_m -melting points of

homogeneous series, effect of chain flexibility and other steric factors, entropy and heat of fusion. The glass transition temperature, T_g-Relationship between T_m and T_g, effects of molecular weight, diluents, chemical structure, chain topology, branching and cross linking. Property requirements and polymer utilization.

UNIT IV

Polymer Processing

Plastics, elastomers and fibres. Compounding. Processing techniques: Calendering, die casting, rotational casting, film casting, injection moulding, blow moulding, extrusion moulding, thermoforming, foaming, reinforcing and fibre spinning.

UNIT V

Properties of Commercial Polymers

Polyethylene, polyvinyl chloride, polyamides, polyesters, phenolic resins, epoxy resins and silicone polymers. Functional polymers – Fire retarding polymers and electrically conducting polymers. Biomedical polymers – contact lens, dental polymers, artificial heart, kidney, skin and blood cells.

Books Suggested:

1. Textbook of Polymer Science, F.W. Billmeyer Jr. Wiley.
2. Polymer Science, V.R. Gowariker, N.V. Viswanathan and J. Screedhar, Wiley-Eastern.
3. Functional Monomers and Polymers, K. Takemoto, Y. Inaki and RM. Ottanbrite.
4. Contemporary Polymer Chemistry, H.R. Alcock and F.W. Lambe, Prentice Hall.
5. Physics and Chemistry of Polymers, J.M.G. Gowie, Blackie Academic and Professional.
6. J.M.G. Gowie, Blackie Academic and Professional.

Group B

Elective Paper-I

CH-203B: PHOTOCHEMISTRY

UNIT I

Solar radiation spectrum, Insolation; Photochemical Reactions: Interaction of electromagnetic radiations with matter, types of excitations, fate of excited molecules, quantum yield, transfer of excitation; Properties of excited states: Structure, dipole moment, acid-base strengths, Reactivity; Bimolecular deactivation-quenching. Determination of Reaction Mechanism: Classification, rate constants and life time of reactive energy states- determination of rate constants of reaction, Effect of light intensity on the rate of photochemical reactions, Types of photochemical reaction- photo-dissociation, gas-phase photolysis.

UNIT II

Photochemistry of Alkenes and Carbonyl Compounds: Intramolecular reactions of the olefinic bond – geometrical isomerism, cyclisation reactions, rearrangement 1,4- and 1,5- dienes; Intramolecular reactions of carbonyl compounds – saturated, cyclic and acyclic, β,γ – unsaturated and α,β -unsaturated compounds, Cyclohexadienones; Intermolecular cycloaddition reactions – dimerisations and oxetane formation.

UNIT III

Photochemistry of Aromatic Compounds : Isomerisations, additions and Substitutions; Miscellaneous Photochemical Reactions; Photo-Fries reaction of anilides, Photo- Fries rearrangement, Barton reaction, Singlet molecular oxygen Reactions; Photochemical formation of smog, Photo degradation of polymers, Photochemistry of vision.

UNIT IV

Excited states of metal complexes: Excited states of metal complexes: Comparison with organic compounds, electronically excited states of metal complexes, charges transfer spectra, charge transfer excitations; Ligand field photochemistry: Photosubstitution, Photoreduction, lability and Selectivity, Zero vibrational levels of ground state and excited state, energy content of excited state, zero-zero spectroscopic energy, development of the equations for redox potentials of the excited states; Redox reactions by excited metal complexes: Redox reactions of metal complexes in excited states, excited electron transfer using examples $[\text{Ru}(\text{bpy})]^{2+}$ complexes and $[\text{Fe}(\text{bpy})_3]^{3+}$ complex, role of spin-orbit coupling, life times of excited states in these complexes; Metal complex sensitizers: Metal complex sensitizer, electron relay, metal colloid systems, semiconductor supported metal or oxide systems, water photolysis, nitrogen fixation and carbon dioxide reduction.

UNIT V

Photochemistry and electricity generation; solar energy conversion and storage; Concepts of solar power, maximum current, open-circuit potential, short-circuit current, i-v characteristics, Energy conversion efficiency, Thermodynamic efficiency limit, Quantum efficiency, Maximum power, Fill factor. Solar power storage; Basic principles, fabrication, characteristics, application and latest status of various solar power techniques like Solar steam generator (solar concentrating solar power), Solar chimney or solar cells, Organic/Polymer solar cells, Nanocrystal solar cells, Multijunction photovoltaic cells, Photoelectrochemical cells, Photogalvanic cells, Point-contact solar cells, Porous Nanoparticulate PEC, Perovskite Solar Cell.

Books Suggested:

1. Fundamentals of Photochemistry, K.K. Rohtagi-Mukherji, Wiley-Easter.
2. Molecular Photochemistry, N.J. Turro, W.A. Benjamin.
3. Introductory Photochemistry, A. Cox and T. Camp, McGraw-Hill.
4. Photochemistry, R.P. Kundall and A. Gilbert, Thomson Nelson.
5. Organic Photochemistry, J. Coxon and B. Halton, Cambridge University Press.
6. Solar Energy Hand Book, J.F. Kreider and F. Krejth, MacGraw Hill Book Co. 1981.

7. Solar Energy Conversion, R.C. Neville, Elsevier.
8. Alternative Energy Systems, B.K. Hodge, Wiley.
9. Advanced Energy Systems, Second Edition, Nicolai V. Khartchenko; Vadym M. Kharchenko, Taylor & Francis.
10. Non- Conventional Energy Resources, D.S. Chauhan, New Age International
11. Concepts of Inorganic Photochemistry, A.W. Adamson and P.D. Fleischauer, Wiley
12. Inorganic Photochemistry, J.Chem.Educ.vol. 60 No. 10, 1983.
13. Progress in Inorganic Chemistry, Vol. 30ed. S.J. Lippard. Wiley.
14. Photochemistry of Coordination Compounds, V. Balzari and V. Carassiti, Academic Press.
15. Elements in Inorganic Photochemistry, G.J. Ferraudi, Wiley..

Group B

Elective Paper-II

CH-204B: ORGANIC SYNTHESIS I

UNIT I

Organometallic Reagents

Principle, preparations, properties and applications of the following in organic synthesis with mechanistic details.

Group I and II metal organic compounds- Li, Mg, Hg, Cd, and Zn compounds.

Transition metals- Cu, Pd, Ni, Fe, Co, and Ti compounds.

Other elements- Si and B compounds.

UNIT II

Oxidation

Introduction, Different oxidative processes.

Hydrocarbons- alkenes, aromatic rings, saturated C-H groups (activated and unactivated).

Alcohols, diols, aldehydes, ketones, ketals and carboxylic acids.

Amines, hydrazines, and sulphides.

Oxidations with ruthenium tetraoxide, iodobenzene diacetate and thallium (III) nitrate.

UNIT III

Reduction

Introduction. Different reductive processes.

Hydrocarbons – alkanes, alkenes, alkynes and aromatic rings.

Carbonyl compounds – aldehydes, ketones, acids and their derivatives

Epoxides.

Nitro, nitroso, azo and oxime groups.

Hydrogenolysis.

UNIT IV

Rearrangements

General mechanistic considerations – nature of migration, migratory aptitude, memory effects. A detailed study of the following rearrangements:

Pinacol-pinacolone, Wagner-Meerwein, Demjanov, Benzil-Benzilic acid, Favorskii, Arndt-Eistert synthesis, Neber, Beckmann, Hofmann, Curtius, Schmidt, Baeyer-Villiger, Shapiro reaction.

UNIT V

Metallocenes, Nonbenzenoid Aromatics and Polycyclic Aromatic Compounds.

General considerations, synthesis and reactions of some representative compounds.

Books Suggested:

1. Modern Synthetic Reactions, H.O. House, W.A. Benjamin.
2. Some Modern Methods of Organic Synthesis, W. Carruthers, Cambridge Univ. Press.
3. Advanced Organic Chemistry, Reactions Mechanisms and Structure, J. March, John Wiley.
4. Principles of Organic Synthesis, R.O.C. Norman and J.M. Coxon, Blackie Academic & Professional.
5. Advanced Organic Chemistry Part B. F.A. Carey and R.J. Sundberg, Plenum Press.
6. Rodd's Chemistry of Carbon Compounds, Ed. S. Coffey, Elsevier.

Group B

Elective Paper-III

CH-205B: ORGANIC SYNTHESIS II

UNIT I

Disconnection Approach

An introduction to synthons and synthetic equivalents, disconnection approach, functional group inter-conversions, the importance of the order of events in organic synthesis, one group C-X and two group C-X disconnections, chemoselectivity, reversal of polarity, cyclisation reactions, amine synthesis.

UNIT II

Protecting Groups, & Heterocyclic Compounds

Principle of protection of alcohol, amine, carbonyl and carboxyl groups.

Heterocyclic Compounds

IUPAC of Heterocyclic compounds, saturated heterocyclic compounds containing mono-hetero atom (O, S, N), synthesis of 3-, 4-, 5- and 6-membered rings, aromatic heterocyclic compounds in organic synthesis.

UNIT III

One Group C-C Disconnections

Alcohols and carbonyl compounds, regioselectivity. Alkene synthesis, use of acetylenes and aliphatic nitro compounds in organic synthesis.

UNIT IV

Two Group C-C Disconnections

Diels-Alder reaction, 1,3-difunctionalised compounds, α,β -unsaturated carbonyl compounds, control in carbonyl condensations, 1,5-difunctionalised compounds. Micheal addition and Robinson annelation.

UNIT V

Synthesis of Some Complex Molecules

Application of the above in the synthesis of following compounds:

Camphor, Longifoline, Cortisone, Reserpine, vitamin D, Juvabione, Aphidicolin and Fredericamycin A.

Books Suggested:

1. Designing Organic Synthesis, S. Warren, Wiley.
2. Organic Synthesis- Concept, Methods and Starting Materials, J. Fuhrhop and G. Penzillin, Verlage VCH.
3. Some Modern Methods of Organic Synthesis. W. Carruthers, Cambridge Univ. Press.
4. Modern Synthetic Reactions, H.O. House, W.A. Benjamin.
5. Advanced Organic Chemistry: Reactions, Mechanisms and Structure, J. March, Wiley.
6. Principles of Organic Synthesis, R. Norman and J.M. Coxon, Blackie Academic & Professional.
7. Advanced Organic Chemistry Part B, F. A. Carey and R.J. Sundberg, Plenum Press.

Group B

Elective Paper-IV

CH-206B: ADVANCED ELECTROCHEMISTRY AND APPLICATIONS

UNIT I

Electrochemical Energy Storage

Properties of Electrochemical energy stores: measure of battery performance, charging and discharging of batteries, storage density, energy density,

Classical Batteries: (i) Lead Acid (ii) Nickel- Cadmium (iii) Zinc- Manganese dioxide

Modern Batteries: (i) Zinc Air (ii) Nickel- Metal Hydride (iii) Lithium battery

Future electricity stores: storage in (i) hydrogen (ii) alkali metals (iii) non aqueous solution

UNIT II

Electrochemical Energy Generators

Fuel cells: Hydrogen –Oxygen Cell, Electrochemical solar cell, and Application of Fuel Cell. Comparisons of batteries, fuel cells and super capacitors, electrochemical processes of particular relevance to energy conversion.

UNIT III

Corrosion and Material Protection

Electrochemical corrosion: Fundamentals and mechanism , thermodynamics and stability of metals, theories of corrosion, forms of corrosion, corrosion current and corrosion potential- Evans diagrams. Measurement of corrosion rate: Non electro chemical method and electrochemical method. corrosion monitoring and prevention methods. anodic protection ,by alternation in the medium, by alternation in the metal and design consideration, inhibitors, Green inhibitors.

UNIT IV

Kinetics of Electrode process and their nature

Kinetically and mass transport controlled electrochemical processes, Mass transport by migration, convection and diffusion. , essential of electrode reaction,. Current density, over potential, Tafel equation, Buttlar- Volmer equation, Potentiostatic and galvanostatic methods including chronoamperometry, chronopotentiometry.

UNIT-V

Environmental Electrochemistry

Types of electro-organic reactions, constant current and constant potential, electrolysis, cell design, effect of variable, Techniques of electro organic synthesis, overvoltage, application of sewage waste water treatment, electrochemical incineration of human waste in combined space, electro- organic synthesis of novel drugs.

Books Recommended:

1. Modern electrochemistry, Vol. I, IIA, Vol. II B, JOM Brockris and A.K.N. Raddy, Plenum publication, New York.
2. Electrochemical methods by Allen J. Bard and Larry R. Faulkner, John Wiley.
3. Techniques of Electro-organic synthesis part I, II and III by N.L. Weinberg, John Wiley.
4. *Corrosion and Corrosion Engineering* chemistry by M.G. Fontana, N.D. Green, McGraw-Hill, New York.
5. Electro chemistry by Carl H. Hamann, Andrew Hamett and Wolf Vielstich. Joh
6. M. G. Fontana "Corrosion Engineering", Mc Graw Hill, New York, 1997
7. ."Corrosion Metal Environment Reactions" eds. L L. Shreir, R. A. Jerman, G. T. Burstein, Butterworths, London, 1994
8. . D. Gabe "Principles of Metal Surface Treatment and Protection", Merlin Books, London, 1993
9. Corrosion Inhibitors, Principles & Applications, V.S. Sastry, John Wiley & Sons.
10. *Electrochemistry for clean environment by Bockrish*
11. *Electrochemistry by D R crow*
12. *Organic electrochemistry by M.M. Baizer*

Group C

Elective Paper-I

CH-203C: BIOINORGANIC AND SUPRAMOLECULAR CHEMISTRY

UNIT I

Metal storage Transport: Iron storage and Transport;

Oxygen carriers: Hb, Mb , ferritin and transferrin;

Bio-mineralization;

Iron Transport in Microbs: siderophores.

Calcium in Biology: Storage and Transport of Calcium & calcium in Muscle contraction, transport and regulation, intramolecular process, extracellular binding protein, Ca^{2+} ATP ase structure, Ca^{2+} ATP ase reaction cycle, intracellular Ca^{+2} transport.

UNIT II

Metalloenzymes: Zinc enzymes- carboxy peptidase and carbonic anhydrase. Iron enzymes- Reactivity and structure of catalase, peroxidase and cytochrome P450. Copper enzymes- Reactivity and structure of superoxide dimutase (SOD).

Co enzyme vitamin B_{12} – Names of different forms, biochemical function of cobalamin, Vitamin B_{12} , special characteristics of B_{12} co-enzyme.

UNIT III

Metals and chelates in medicine, metal deficiency and disease, toxic effect of metals, metal used for diagnosis and chemotherapy with particular reference to anticancer drugs.

UNIT IV

Supramolecular chemistry: Concepts and language molecular recognition, Principal of molecular receptors designs for different types of molecules, design and synthesis of co- receptor molecules and multiple recognition.

UNIT V

Supramolecular reactions and catalysis, supramolecular assemblies, Molecular and supramolecular devices, molecular and supra molecular photonic , electronic and ionic devices. supramolecular photochemistry

Books suggested:

1. Principles of Bioinorganic chemistry, SJ Lippard and J.M. Berg, University science books.
2. Bioinorganic chemistry, I Bertini, H.B. Garg, S.J. Lippard and J.S. Valentine, University science books.
3. Inorganic Biochemistry, Vol I and II Ed. G.S. Eichhorn, Elsevier progress in inorganic chemistry Vol. 18 and 38 ed. J.J. Lippard, Wiley.
4. Supra molecular chemistry, J.M. Lehn, VCH.
5. Bioinorganic chemistry, A K. Das Books and allied (P) Ltd.
6. Bioinorganic and supra molecular chemistry, Ajay kumar bhagi, G.R. Chatwal Himalaya publishing house.

Group C

Elective Paper-II

CH-204C: HETEROCYCLIC CHEMISTRY

UNIT I

Nomenclature of heterocycles: Systemic nomenclature of monocyclic, fused & bridge heterocycles.

Three Membered Heterocyclic Compounds With One Hetero Atom:

Aziridines, Oxiranes and Thiiranes

UNIT II

Four Membered Heterocyclic Compounds with One Hetero Atom:

Azities & Azetidines; Oxitanes, Thietanes

Bicyclic Ring Systems Derived from Pyrrole, Furan and Thiophene:

Benzopyrroles, benzofurans and benzothiophenes

UNIT III

Five Membered Heterocyclic Compounds with One Hetero Atom:

Tautomerism

Pyrroles, Furans and Thiophenes

Five Membered Heterocyclic Compounds with Two Hetero Atoms:

Pyrazoles, Imidazoles, Oxazoles and Thiazoles

UNIT IV

Six Membered Heterocyclic Compounds With One Hetero Atom:

Pyridines, Pyrylium salts and α - and γ -Pyrones

Six Membered Heterocyclic Compounds with Two Hetero Atoms:

Pyrazines, Pyridazines and Pyrimidines,

Cinnolines and Phthalazines

UNIT V

Seven Membered Heterocyclic Compounds with Two Hetero Atoms:

Azepines, Oxepins and Thiepins

Bicyclic Ring Systems Derived from Pyridine:

Quinoline and Isoquinolone

Books Suggested:

1. Heterocyclic Chemistry Vol. 1-3, R.R. Gupta, M. Kumar and V. Gupta, Springer Verlag.
2. The Chemistry of Hetrocycles, T. Eicher and S. Hauptmann, Thieme.
3. Heterocyclic Chemistry, J.A. Joule, K. Mills and G.F. Smith, Chapman and Hall.
4. Heterocyclic Chemistry, T.L., Gilchrist, Longman Scientific Techinal.
5. Contemporary Heterocyclic Chemistry, G.R. Newkome and W.W. Paudler, Wiley-Inter Science.
6. An Introduction to the Heterocyclic Compounds, R.M. Acheson, John Wiley.
7. Comprehensive Heterocyclic Chemistry, A.R. Katritzky and C.W. Rees, eds. Pergamon Press.

Group C

Elective Paper-III

CH-205C: CHEMISTRY OF NATURAL PRODUCTS

UNIT I

Terpenoids and Carotenoids

Classification, nomenclature, occurrence, isolation, general methods of structure determination, isoprene rule, biosynthesis.

Structure determination, synthesis of the following representative molecules: Citral, Geraniol, α -Terpeneol, Zingiberene, Phytol, Abietic acid and β -Carotene.

UNIT II

Alkaloids

Definition, nomenclature and physiological action, occurrence, isolation, general methods of structure elucidation, degradation, classification based on nitrogen heterocyclic ring, role of alkaloids in plants, biosynthesis.

Structure, synthesis of the following: Ephedrine, (+)-Cocaine (conine), Nicotine, Quinine and Morphine.

UNIT III

Steroids

Occurrence, nomenclature, basic skeleton, Diel's hydrocarbon, Stereochemistry biosynthesis. Isolation, structure determination of Cholesterol and Bile acids.

UNIT IV

Plant Pigments

Occurrence, nomenclature and general methods of structure determination. Isolation structure and synthesis of Apigenin, Luteolin, Quercetin, Myricetin, Vitexin, Diadzein, Butein, Aureusin, Cyanidin, Hirsutidin.

Biosynthesis of flavonoids : Acetate pathway and Shikimic acid pathway.

UNIT V

Porphyrins

Structure of Haemoglobin and Chlorophyll.

Prostaglandins

Occurrence, nomenclature, classification, physiological effects. Synthesis of PGE₂ and PGF_{2α}

Pyrethroids and Rotenones

Structure and reactions.

Books Suggested:

1. Natural Products: Chemistry and Biological Significance, J. Mann, R.S. Davidson, J.B. Hobbs, D.V. Banthrope and J.B. Harborne, Longman, Essex.

2. Organic Chemistry, Vol. 2 I.L. Finar, ELBS.
3. Stereoselective Synthesis: A Practical Approach, M. Nogradi, VCH.
4. Rodd's Chemistry of Carbon Compounds, Ed. S. Coffey, Elsevier.
5. Chemistry, Biological and Pharmacological Properties of Medicinal Plants from the Americas, Ed. Kurt Hostettmann, M.P. Gupta and A. Marston, Harwood Academic Publishers.
6. Introduction to Flavonoids, B.A. Bohm, Harwood Academic Publishers.
7. New Trends in Natural Product Chemistry, Atta-ur-Rahman and M.I. Choudhary, Harwood Academic Publishers.
8. Insecticides of Natural Origin, Sukh Dev, Harwood Academic Publishers.

Group C

Elective Paper-IV

CH-206C: ENVIRONMENTAL CHEMISTRY

UNIT I

Environment; An Introduction, Atmosphere & Air Pollution

Concept & scope of Environmental chemistry; Environmental segments; Environmental Pollution; Classification of pollutants; Bio-geological cycles in the environment: Hydrological cycle, C, N, O, S and P cycles in the environment; Bio-distribution of elements;

Structure and Composition of Atmosphere; Particles, Ions & Radicals in the atmosphere; Major sources of Air Pollutants.

Pollution by C, CO, NO_x, SO_x, HC, Acid Rain, Smog, Particulates; Green House effect/Global Warming, Ozone Layer; Effects & Control of Air Pollutants; Air quality standards; Sampling, Monitoring.

UNIT II

Hydrosphere & Water Pollution

Aquatic environment, Chemical composition of water bodies; Lakes, Streams, Rivers.

Classification of water pollution; Pollution by Pesticides, Polymers, Detergents, Agriculture and Sewage wastes; Purification and Treatment of water;

UNIT III

Lithosphere: Soil Pollution

Introduction: Soil formation, composition & classification; Acid-Base and Ion-exchange reactions in Soil; Macro- and Micronutrients, Soil Profile; Soil fertility and Productivity, Soil erosion, Soil Analysis (Moisture, Nitrogen & pH).

Soil Pollution: Sources & Classification, Effects of Pesticides, Fertilizers & Sediments, Control of soil pollution.

UNIT IV

Industrial Pollution & Toxicology

Classification, Nature and treatment of Industrial Effluents, Industrial Effluents from Distillery, Textile, Cement, Electroplating, Paper & pulp, Dairy & Detergent, Fertilizers, Tanning, .

Toxic Chemicals in the Environment, Biochemical Effects of Ozone, PAN, Carcinogens, Cyanides, Pesticides, Natural & Man-made Disasters.

Solutions to Environmental Problems; Preventive Environmental Management, Better Industrial Processes.

UNIT V

Green Chemistry

Principles and Goals of Green Chemistry, Green chemicals, reagents, catalysts, and solvents. Examples of green synthesis / reactions, Microwave assisted synthesis.

Books Recommended/Suggested

1. Environmental Chemistry: Edited by J. O'M. Bockris, Plenum Press.
2. Environmental Chemistry: S.E. Manahan, Lewis Publications.
3. Environmental Chemistry: H. Kaur, Pragati Prakashan.
4. Environmental Chemistry: AK Day, New Age Int. Publishers.
5. Environmental Chemistry: SM Khopkar, Wiley Estern.
6. Physico-chemical Examination of Water, Sewage & Industrial Effluents: K. Manivasakam.
7. An introduction to Green Chemistry, V Kumar, Vishal Publ..

Group D

Elective Paper-I

CH-203D: NUCLEAR AND RADIOCHEMISTRY

UNIT I

Stability of the nucleus, Mass Energy relationship for nuclear reactions, Properties of nucleus, Nuclear Models (The shell model, the liquid drop model, the fermi gas model, the collective model and the optical model).

Nuclear reactions, Energetics of nuclear reactions, fission and fusion reactions, spallation, fragmentation, stripping and pick up reactions, photonuclear and thermonuclear reactions.

UNIT II

Interaction of radiation with matter, passage of neutrons through matter, interaction of radiation with matter; measurement of radiations. Radiolysis of water, counting techniques (GM Ionisation, proportional and scintillation counter), counting statistics.

UNIT III

Applications of radioactivity, Activation Analysis, isotopic dilution analysis, radiometric titrations, application in chemical investigations and synthesis in physiochemical analysis, in age determination and in prospecting of natural resources. Medical agricultural and industrial applications, source of electricity. Radiation hazards and protection.

UNIT IV

Nuclear reactors: Basic features, materials and design of nuclear power reactors, Conversion and Breeding, safety features of reactors, Health Physics: Radiation unit (exposure unit), External and doses from various sources of radiations, allowed limit of intake (ALI)

UNIT V

Applications of radioisotopes in biology & molecular biology: biodistribution, metallic & biochemical pathways for protein synthesis, purine nucleotide synthesis, role of methionine in research, radioligand assay, autoradiography, primer extension, Nick translation , hybridization, nucleic acid sequencing.

Books Recommended:

1. Essentials of Nuclear Chemistry, H.J. Arnikar.
2. Introduction to Nuclear Science, M.W. Sarton, East West Edition.
3. Theory of Nuclear Structure, M.K. Pal, East West Edition.
4. Principles of Radiochemistry, G.W.A. Newton and V.J. Robinson, Macmilan Education Ltd.
5. Nuclear Chemistry, A. Vertes and I. Kiss.
6. Fundamental of radiation Chemistry, A. Mojumdar, J. David, Morrisey, G. T. Seaborg
7. Fundamentals of Analytical Chemistry, D.A. Skoog, D.M. West and F.J.Holler. Publ. W B Saunders.

Group D

Elective Paper-II

CH-204D: MEDICINAL AND PHARMACEUTICAL CHEMISTRY

UNIT I

Drug design & Pharmacodynamics

Procedure followed in drug design, Concepts of lead compound and lead modification, concepts of pro drugs & soft drugs, structure-activity relationship(SAR), Theories of drug activity : occupancy theory, rate theory, induced fit theory .

An Introduction of pharmacodynamics, Mechanism of drug action, elementary treatment of enzyme stimulation, enzyme inhibition, sulphonamides , drug metabolism

UNIT II

Antineoplastic agents :

Introduction, cancer chemotherapy, role of alkylating agents and antimetabolites in treatment of cancer. Mention of carcinolytic antibiotics and mitotic inhibitors.

Synthesis of cyclophosphamide , Uracil and mustards .

UNIT III

Cardiovascular Drugs :

Introduction , Cardiovascular diseases, drug inhibitors of peripheral sympathetic function , Synthesis of amyl nitrite, sorbitrate, Methyldopa and atenolol.

UNIT IV

Drugs: Psychotic and Antipsychotic –

Introduction, CNS depressants, general anaesthetics, mode of action of; hypnotics, sedatives, anti-anxiety drugs. Anti depressants, stereochemical aspects of psychotropic drugs. Synthesis of diazepam, alprazolam and barbiturates..

UNIT V

Antibiotics :

Cell wall biosynthesis , inhibitors , β -lactam rings , antibiotics inhibiting protein synthesis , synthesis of penicillin –G , penicillin – V, Chloramphenicol and Tetracyclin.

Books Suggested:

1. Introduction to Medicinal Chemistry, A. Gringuage, Wiley-VCH.
2. Wilson and Gisvold's Text Book of Organic Medicinal and Pharmaceutical Chemistry, Ed. Robert F. Dorge.
3. An Introduction to Drug Design, S.S. Pandeya and J.R. Dimmock, New Age International.
4. Burger's Medicinal Chemistry and Drug Discovery, Vol-1 (Chapter-9 and Ch-14), Ed. M.E. Wolff, John Wiley.
5. Goodman and Gilman's Pharmacological Basis of Therapeutics, McGraw-Hill.
6. The Organic Chemistry of Drug Design and Drug Action, R.B. Silverman, Academic Press.
7. Strategies for Organic Drug Synthesis and Design, D. Lednicer, John Wiley.

Elective Paper-III

CH-205D: PHYSICAL ORGANIC CHEMISTRY

UNIT I

Principles of Reactivity

Mechanistic significance of entropy, enthalpy and Gibb's free energy. Arrhenius equation. Transition state theory. Uses of activation parameters, Hammond's postulate. Potential energy surface model. Reactivity and selectivity principles.

UNIT II

Kinetic Isotope Effect and Structural Effects:

Theory of isotope effects. Primary and secondary kinetic isotope effects. Heavy atom isotope effects. Tunneling effect. Solvent effects.

Linear free energy relationships (LFER) The Hammett equation, substituent constants, theories of substituent effects. Interpretation of σ -values. Reaction constant ρ . Deviations from Hammett equation. Dual-parameter correlations, inductive substituent constant. The Taft model, σ I- and σ R-scales.

UNIT III

Solvation and Solvent Effects

Qualitative understanding of solvent-solute effects on reactivity. Thermodynamic measure of solvation. Effects of solvation on reaction rates and equilibria. Various empirical indexes of solvation based on physical properties, solvent-sensitive reaction rates, spectroscopic properties and scales for specific solvation.

UNIT IV

Steric and Conformational Properties

Various type of steric strain and their influence on reactivity. Steric acceleration. Molecular measurements of steric effects upon rates. Steric LFER. Conformational barrier to bond rotation, Rotation around partial double bonds. Winstein-Holness and Curtin-Hammett principle.

UNIT V

Nucleophilic and Electrophilic Reactivity

Structural and electronic effects on SN1 and SN2 reactivity. Solvent effects. Kinetic isotope effects. Intramolecular assistance. Electron transfer nature of SN2 reaction. SRN1 mechanism. Electrophilic reactivity, general mechanism. Kinetic of SE2-Ar reaction. Structural effects on rates and selectivity.

Books Suggested:

1. Molecular Mechanics, U. Burkert and N.L. Allinger, ACS Monograph 177,1982.
2. Organic Chemists' Book of Orbitals. L. Salem and W.L. Jorgenses, Academic Press.
3. Mechanism and Theory in Organic Chemistry, T.H. Lowry and K.C. Richardson, Harper and Row.
4. Introduction to Theoretical Organic Chemistry and Molecular, Modeling, W.B. Smith, VCH, Weinheim.
5. Physical Organic Chemistry, N.S. Isaacs, ELBS/Longman.
6. Supramolecular Chemistry, Concepts and Perspectives, J.M. Lehn, VCH.
7. The Physical Basis of Organic Chemistry, H. Maskill, Oxford University Press.

Group D

Elective Paper-IV

CH-206D: CHEMISTRY OF MATERIALS

UNIT I

Multiphase Materials

Classification and properties of materials, Types of phase diagrams, Isomorphous, Eutectic, Peritectic, Monotectic and Eutectoid systems, Calculation of phase amounts from a phase diagram, Phase rule, Ferrous alloys Fe-C phase diagram, Non Ferro alloys, Phase diagrams of brass and tin bronze.

UNIT II

Ceramic Materials

Raw materials of glass, Cement and Ceramics, Refractories, Characterization, Properties and Applications, Abrasives, kinds and uses, Powder metallurgy, Manufacturing process, Properties and Applications, Advantages and Limitations.

UNIT III

Composite Materials

Traditional composites, concrete, Asphalt and Wood, Synthetic composites, dispersion reinforced, Particle reinforced, Laminated and fiber reinforced composites, applications of composites.

UNIT IV

Polymeric and advanced materials : Brief idea of following :Insulating material, Semiconductors, Superconductors, Fullerenes, Optical fibers, Organic electronic material.

UNIT V

Environmental effects of Materials : Corrosion mechanisms of dry and wet corrosion, Galvanic and concentration cell corrosion, Pitting and stress corrosion, Corrosion control methods, Types, preparation and uses of adhesives, Types and Application of paints and Pigments.

Books Suggested:

1. Solid State Physics, N.W. Ashcroft and N.D. Mermin, Saunders College.
2. Material Science and Engineering, An Introduction, W.D. Callister, Wiley.
3. Principles of the Solid State, H.V. Keer, Wiley Eastern.
4. Materials Science, J.C. Anderson, K.D. Leaver, J.M. Alexander and R.D. Rawlings, ELBS.
5. Thermotropic Liquid Crystals, Ed., G.W. Gray, John Wiley.
6. Handbook of Liquid Crystals, Kelker and Hatz, Chemie Verlag.

Marking Scheme for Practicals II YEAR

Lab Course CH-207

Inorganic

- | | |
|---|----------|
| 1. Gravimetric Analysis OR Rare earth Mixture | 25 Marks |
| 2. Inorganic Preparation | 15 Marks |

Analytical

- | | |
|--------------------|----------|
| 1. Instrumental-I | 20 Marks |
| 2. Instrumental-II | 10 Marks |
| 3. COD/DO etc | 10 Marks |

Organic

- | | |
|--|----------|
| 1. Mixture three components | 20 Marks |
| 2. Extraction OR Organic Preparation | 10 Marks |
| 3. Spectroscopy | 10 Marks |

Physical

- | | |
|---------------------|----------|
| 1. Major Experiment | 25 Marks |
| 2. Minor Experiment | 15 Marks |

| | |
|--------|-----------|
| Viva | 20 Marks |
| Record | 20 Marks |
| Total | 200 Marks |

LABORATORY COURSE CH-207

INORGANIC

I. Preparation of some Inorganic coordination compounds/ Complexes.

II. Analysis the given mixture for four rare elements.

III. Estimation of three constituent in the given sample of alloy / Coin (Two gravimetrically and one volumetrically).

IV. Spectrophotometry

a. Iron- phenanthroline complex: Job's Method of continuous variations.

b. Find out the stability constant of metal complexes by Bjerrum's Method.

V. Complexometry

a. Estimate Zn in given tablet/ sample complexometrically using xylenol orange as an indicator.

b. Estimate Ni in given sample complexometrically using mureoxide as an indicator.

ANALYTICAL

I. pH metry:

1. To determine the dissociation constants of dibasic and tribasic acids.

2. Titration of mixture of acids (HCl + CH₃COOH) against strong base.

II. Spectrophotometry:

1. Determination of P_{ka} of an indicator (e.g. methyl red) in (a) aqueous and (b) micellar media.

2. Determination of stoichiometry and stability constant of inorganic (e.g. Iron– salicylic acid) and organic (e.g. Amine – Iodine).

3. To determine the concentration of chromium and Complexes a binary mixture.

III. Polarography:

1. To study oxygen wave by polarography.
2. To characterize and determine Pb^{2+} , Cd^{2+} and Zn^{2+} ions by polarography/ cyclic voltammetry

IV Fluorometry

1. Determination of strength of Vitamin B (Riboflavin) and Aluminium.

V. Nephelometry

1. Determination of sulphate content in water sample.
2. Determination of phosphate content in water sample.

VI. Flame photometry

1. Estimation of Mg, K and Ca.
2. Estimation in a mixture (Na and K; K and Ca).

VII. Water and Waste Water examination:

1. DO and BOD determination.
2. COD estimation.
3. Fluoride and nitrate determination.

VIII. Cement Analysis

IX. Chromatography: Column

Books Suggested:

1. Systematic Qualitative Organic analysis by H. Middleton.
2. Qualitative and Quantitative hand book of Organic analysis by H. Clark
3. Vogel's Text book of practical Organic Chemistry by Vogel

ORGANIC

I. Qualitative Analysis

Separation, purification and identification of three components of a mixture of organic compounds (three solids or two liquids and one solid, two solids and one liquid).

II. Multi-step Synthesis of Organic Compounds

Benzophenone → Benzpinacol → Benzpinacolone

→ Benzophenone → Benzophenone oxime → Benzanilide

Benzoin → Benzil → Benzilic acid

Skraup synthesis: Preparation of quinoline from aniline.

Synthesis using microwaves

To carry out oxidation of alcohols and oxime by PCC.

Synthesis using phase transfer catalyst

Alkylation of diethyl malonate or ethyl acetoacetate with an alkyl halide.

III. Extraction of Organic Compounds from Natural Sources

1. Isolation of caffeine from tea leaves.
2. Isolation of casein from milk (the students are required to try some typical colour reactions of proteins).
3. Isolation of lactose from milk (purity of sugar should be checked by TLC and PC and R_f value reported).
4. Isolation of piperine from black pepper.
5. Isolation of lycopene from tomatoes.
6. Isolation of β -carotene from carrots.

7. Isolation of eugenol from cloves.

IV. Paper Chromatography / TLC

Separation and identification of the sugars present in the given mixture of glucose, fructose and sucrose by paper chromatography and determination of R_f values.

V. Spectroscopy

Identification of organic compounds by the analysis of their spectral data (UV, IR, PMR, MS).

Spectrophotometric (UV/VIS) Estimations

1. Amino acids
2. Proteins
3. Carbohydrates
4. Ascorbic acid
5. Aspirin
6. Caffeine

Books Suggested:

1. Systematic Qualitative Organic analysis by H. Middleton.
2. Qualitative and Quantitative hand book of Organic analysis by H. Clark
3. Vogel's Text book of practical Organic Chemistry by Vogel
4. Practical Organic Chemistry by N.K. Vishnoi.

PHYSICAL

I. Chemical Kinetics

- (i) To investigate the kinetics of the reaction between I^- and persulphate ion
 - (a) Order of the reaction
 - (b) Energy of activation of the reaction.
 - (c) Effect of ionic strength on rate.
- (ii) To find out the order of the reaction of saponification of ester using unequal concentrations of reactants.

II. Chemical kinetics

- (i) To investigate the kinetics of the reaction between ceric ammonium sulfate and glycollic acid.
 - (a) Order with respect to ceric ion.
 - (b) Order with respect to glycollic acid.
 - (c) Energy of activation of the reaction.
 - (d) Effect of ionic strength on rate.
- (e) To study the reaction between ceric ammonium nitrate and primary alcohol.

II. Thermodynamics

- (i) Determination of partial molar volume of solute (e.g., KCl) and solvent in a binary mixture.
- (ii) Determination of the temperature dependence of the solubility of a compound in two solvents having similar intermolecular interactions (benzoic acid in water and in DMSO-water mixture) and calculate the partial molar heat of solution.

III. Phase Equilibrium

- (i) To find out the equilibrium constant for the triiodide formation:

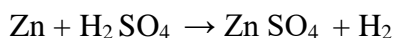
- (ii) To find the formula of complex cuprammonium ion by distribution method.

IV. Conductometry

- (i) To find out the equivalent conductance of strong electrolytes at different dilutions and to verify Debye Huckel Onsagar equation.
- (ii) To determine the equivalent conductance of a weak electrolyte at infinite dilution.
- (iii) To determine the dissociation constant of acetic acid/Oxalic acid and verify the Ostwald's dilution law.
- (iv) To determine the degree of hydrolysis and hydrolysis constant of ammonium chloride at room temperature.
- (v) To determine the activity coefficient of zinc ions in the solution of 0.002 M ZnSO₄ using Debye-Huckel's Limiting Law.
- (vi) Determination of the velocity constant, order of the reaction and energy of activation for saponification of ethyl acetate by NaOH conductometrically.
- (vii) To determine the solubility and solubility product of sparingly soluble salt (PbSO₄, BaSO₄)

V. Potentiometry/pH metry

- (i) To determine the dissociation constants of weak acids (oxalic, tartaric, phosphoric) using pH meter.
- (ii) To determine the temperature dependence of emf of a cell.
- (iii) To determine the degree of hydrolysis of aniline hydrochloride for three different solutions at room temperature and hence calculate the hydrolysis constant of the salt and dissociation constant of the base.
- (iv) To study the acid-base titration in a non-aqueous media using a pH meter.
- (v) To find out thermodynamic constants ΔG , ΔS and ΔH for the reaction by emf measurements.



Books suggested:

1. Practical Physical Chemistry, A.M. James and F.E. Prichard, Longman.
2. Findley's Practical Physical Chemistry, B.P. Levitt, Longman.
3. Experimental Physical Chemistry, R.C. Das and B. Behera, Tata McGraw Hill.
4. Advanced Practical Physical Chemistry, J.B. Yadav, Goel Publishing House.
5. Advanced Experimental Chemistry, vol.1 – Physical J.N. Gurtu and R. Kapoor, S. Chand & Co.