

2. Curriculum Enrichment

QIm 1.3.1 Institution integrates crosscutting issues relevant to professional Ethics, Gender, Human value, environment and sustainability into the curriculum.

Response:

The curriculum prescribed by Shaheed Nand Kumar Patel University, Raigarh (CG) reflects sensitivity to issues relevant to professional Ethics, Gender, Human values, Environment and sustainability. The Institute integrates them into the curriculum in order to prepare a sound academic foundation of the student to ensure their contribution for community development.

Addressing cross cutting issues through curricula

Human Values

Language: National integration, Indian culture and its contribution in the development of science and societal development, gender sensitization and equity, tolerance and life of eminent persons and their contributions in the development of a well structured CIVIL SOCIETY.

(UG – First year Hindi Language (Unit IV & V)

Commerce: Business ethics in trade and commerce, study of the consumer behavior, social accounting.

B.Com I, Group II, Paper II (Unit V)

Business management: Business environment

B.Com I, group III, Paper I (Unit I)

Ethics:

Political science: Human rights, political thought with regard to human values and ethics.

B.A I, Paper I (Unit V), Paper II (Unit I)

Management: Professional Ethics in trade and management, Organizational behavior, Ethical values in Entrepreneurship and marketing

B.Com II, Group, Paper II (Unit I, II, III, IV, V)


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Sports/N.S.S./Yoga: Humanistic approach, habit, life style and health, stress management, cooperative and collaborative learning, professional and societal etiquettes.

Environmental sustainability: Under graduate programs of humanities and natural sciences have compulsory component of environmental awareness and human rights inclusive of a project work as well.

Geography: Study of environment and dealing with environmental crises

B.A. I, Paper I (Unit III & V), Paper II (Unit I, III & V)

Botany: Ecology and ecosystem, horticulture and environment.

B.Sc. II, Paper II (Unit I, II, III, V)

Zoology: Biodiversity, wildlife, ecology, environmental physiology

B.Sc. II, Paper II (Unit IV, V) B.Sc. III, Paper I (Unit I, II)

Chemistry: Environmental chemistry and sustainability


B.Sc. III, Paper II (Unit IV, V)

Gender Equity: In psychology course, gender behavior is taught in various fields which involves empowering all students and providing them with same human rights. It also includes correcting biases students hold about themselves.

International women's day is celebrated every year in college in which lectures, debate are arranged on Gender Issues.

At the college level, various webinars and lectures are organized on many important occasions like – Anti Drugs Day, World population day.

Women cell, Anti ragging committee, Redressal cell, Sexual harassment cell, NSS and various other committees are responsible for the integration of professional ethics, human values environment and sustainability.


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शहीद नंदकुमार पटेल विश्वविद्यालय, गढ़ उमरिया, ओड़िशा रोड, रायगढ़

SYLLABUS

संशोधित पाठ्यक्रम

बी.ए./बी.एस-सी./बी.कॉम./बी.एच.एस.-सी.

भाग - एक (आधार पाठ्यक्रम)

प्रश्न पत्र- प्रथम (हिन्दी भाषा)

(पेपर कोड -0101)

पूर्णांक- 75

नोट :-

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

पाठ्य विषय :-

इकाई-1

- क. पल्लवन, पत्राचार, अनुवाद, पारिभाषिक शब्दावली एवं हिंदी में पदनाम
ख. ईदगाह (कहानी) - मुंशी प्रेमचंद

इकाई-2

- क. शब्द शुद्धि, वाक्य शुद्धि, शब्द ज्ञान-पर्यायवाची शब्द, विलोम शब्द, अनेकार्थी शब्द, समश्रुत शब्द, अनेक शब्दों के लिए एक शब्द एवं मुहावरे-लोकोक्तियाँ
ख. भारत वंदना (कविता)- सूर्यकान्त त्रिपाठी निराला

इकाई-3


- क. देवनागरी लिपि - नामकरण, स्वरूप एवं देवनागरी लिपि की विशेषताएँ, हिंदी अपठित गद्यांश, संक्षेपण, हिंदी में संक्षिप्तीकरण
ख. भोलाराम का जीव (व्यंग्य) - हरिशंकर परसाई

इकाई-4

- क. कम्प्यूटर का परिचय एवं कम्प्यूटर में हिंदी का अनुप्रयोग
ख. शिकागो से स्वामी विवेकानंद का पत्र

इकाई-5

- क. मानक हिन्दी भाषा का अर्थ, स्वरूप, विशेषताएँ, मानक, उपमानक, अमानक भाषा
ख. सामाजिक गतिशीलता - प्राचीन काल, मध्यकाल, आधुनिक काल


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मूल्यांकन योजना :-

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

पाठ्यक्रम संशोधन का औचित्य :-

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


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(संशोधित पाठ्यक्रम)

बी.ए./बी.एस-सी./बी.कॉम./बी.एच.एस.-सी.


भाग - तीन, आधार पाठ्यक्रम

प्रश्न पत्र - प्रथम (हिन्दी भाषा)

(पेपर कोड - 0231)

पूर्णांक- 75

- इकाई-एक (क) भारत माता : सुमित्रानंदन पंत
(ख) कथन की शैलियों
1. विवरणात्मक शैली
2. मूल्यांकन शैली
3. व्याख्यात्मक शैली
4. विचारात्मक शैली
- इकाई-दो (क) सूखी डाली : उपेन्द्रनाथ अशक
(ख) विभिन्न संरचनाएँ
1. विनम्रता सूचक संरचना
2. विधि सूचक संरचना
3. निषेध परक संरचना
4. काल-बोधक संरचना
5. स्थान-बोधक संरचना
6. दिशा बोधक संरचना
7. कार्य-कारण सम्बन्ध संरचना
8. अनुक्रम संरचना
- इकाई-तीन (क) वसीयत : मालती जोशी
(ख) कार्यालयीन पत्र और आलेख
1. परिपत्र
2. आदेश
3. अधिसूचना
4. ज्ञापन
5. अनुस्मारक
6. पृष्ठांकन
- इकाई-चार (क) योग की शक्ति : हरिवंश राय बच्चन
(ख) अनुवाद : स्वरूप एवं परिभाषा, उद्देश्य
स्रोत भाषा और लक्ष्य भाषा,


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अच्छे अनुवाद की विशेषताएँ,
अनुवाद प्रक्रिया, अनुवादक

इकाई—पांच (क) संस्कृति और राष्ट्रीय एकीकरण : योगेश अटल

(ख) घटनाओं, समारोहों आदि का प्रतिवेदन, विभिन्न प्रकार के निमंत्रण पत्र

मूल्यांकन योजना : प्रत्येक इकाई से एक-एक प्रश्न पूछा जाएगा। प्रत्येक प्रश्न में आंतरित विकल्प होगा। प्रत्येक प्रश्न के 15 अंक होंगे। इसलिए प्रत्येक प्रश्न के दो भाग 'क' और 'ख' होंगे एवं अंक क्रमशः 8 एवं 7 अंक होंगे। प्रश्नपत्र का पूर्णांक 75 निर्धारित है।

पाठ्यक्रम संशोधन का औचित्य —

निर्धारित पाठ का अध्ययन एवं हिन्दी भाषा प्रयोग की व्यावहारिक प्रणालियों से विद्यार्थियों को परिचित कराना तथा भाषा प्रयोग की सामान्य अशुद्धियों को दूर करने की दृष्टि से पाठ्यक्रम तैयार किया गया है। विद्यार्थियों के लिए पाठ्यक्रम का विस्तार बहुत ज्यादा न हो इसका ध्यान रखा गया है।


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B.Com Part- I

Compulsory

Group – II Paper – II – BUSINESS REGULATORY FRAMEWORK

OBJECTIVE – To provide a brief idea about the framework of Indian business laws.

| Present Syllabus | Proposed Syllabus | Remark |
|---|--|---|
| <p>UNIT –I Law of Contract (1872) : Nature of contract ; Classification ; Offer and acceptance; Capacity of parties to contract, free consent, Considerations, Legality of object; Agreement declared void; Performance of contract; Discharge of contract; Remedies for breach of contract.</p> <p>UNIT –II Special contracts; Indemnity ; Guarantee; Bailment and pledge; Agency.</p> <p>UNIT –III Sale of Goods Act (1930) ;Formation of contracts of sale ;Goods and their classification, price, Conditions and warranties; Transfer of property in goods; Performance of the contract of sales; Unpaid seller and his rights; sale by auction; Hire purchase agreement.</p> <p>UNIT –IV Negotiable Instrument Act (1881) : Definition of negotiable instrument; Feature; Promissory note; Bill of exchange & cheque; Holder and holder in the due course; Crossing of a cheque, types of crossing; Negotiation; Dishonour and discharge of negotiable instrument.</p> <p>UNIT –V The Consumer Protection Act 1986 : Salient features; Definition of consumer ; Grievance redressal machinery; Foreign Exchange Management Act 2000 : Definition and main provisions, Right to Information Act 2005(Main Provision)</p> | <p>UNIT –I Law of Contract (1872) –I : Nature of contract ; Classification ; Offer and acceptance; Capacity of parties to contract, free consent, Considerations, Legality of object; Agreement declared void.</p> <p>UNIT –II Law of Contract (1872) - II : Performance of contract, Discharge of contract; Remedies for breach of contract. Special contracts; Indemnity ; Guarantee; Bailment and pledge; Agency.</p> <p>UNIT –III Sale of Goods Act (1930) ;Formation of contracts of sale ;Goods and their classification, price, Conditions and warranties; Transfer of property in goods; Performance of the contract of sales; Unpaid seller and his rights; sale by auction; Hire purchase agreement.</p> <p>UNIT –IV Negotiable Instrument Act (1881) : Definition of negotiable instrument; Feature; Promissory note; Bill of exchange & cheque; Holder and holder in the due course; Crossing of a cheque, types of crossing; Negotiation; Dishonor and discharge of negotiable instrument.</p> <p>UNIT –V The Consumer Protection Act 1986 : Main Provision, Definition of consumer ,Consumer Disputes , Grievance redressal machinery ; Indian Partnership Act 1932. Limited Liabilities Partnership Act 2008. Introduction of Intellectual Property Right Act – Copyright, Patent & Trademark.</p> | <p>Balancing of Syllabus</p> <p>Replaced FEMA & RTI with Partnership act, LLP Act 2008 and Intellectual property right act.</p> |

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B.Com Part- I

Compulsory

Group – III Paper – I– BUSINESS ENVIRONMENT

OBJECTIVE – To acquainting the students with the emerging issues in business at the national and international level in the light of the policies of liberalization and globalization.

| Present Syllabus | Proposed Syllabus | Remark |
|--|---|---|
| UNIT –I Indian Business Environment : Concept, components and importance Economic Trends (overview) : Income : Saving and investment ; industry; Trade and balance of payment, Money ; Finance ; Prices. | UNIT –I Business Environment : Concept, Components and Importance Economic Trends (overview) : Income : Saving and investment ; Trade and balance of payment, Money and Finance . | |
| UNIT –II Problems of Growth : Unemployment ; Poverty ; Regional imbalances ; social injustice; Inflation ; Parallel economy ; Industrial sickness. | UNIT –II Problems of Growth : Unemployment ; Poverty ; Regional imbalances ; Social Injustice; Inflation ; Parallel economy ; Industrial sickness. | |
| UNIT –III Role of Government ; Monetary and fiscal policy ; Industrial policy ; Industrial licensing. Privatization ; Devaluation; Export-Import policy; Regulation of foreign investment; Collaborations in the light of recent changes. | UNIT –III Role of Government ; Monetary and fiscal policy ; Industrial policy ; Industrial licensing. Privatization ; Liberalisation, Globalisation Devaluation; Demonitisation; Export-Import policy. | Addition of Liberalization, Globalization and Demonitisation. |
| UNIT –IV Review of Previous Plans, the current five year Plan, major policy, Resources Allocation. | UNIT –IV Economic Planning in India : Need, objectives, Strategy; Review of Previous Plans, Planning Commission. Foreign Exchange Management Act 2000 : Basic Concept and Main Provisions. | Addition of Planning Commission and omitted current five year plan. |
| UNIT –V International Environment ; international trading environment (overview); Trends in World trade and the problems of developing countries; Foreign trade and economic growth; International economic groupings ; International economic institutions – GATT. WTO World Bank. IMF; FDI; Counter trade. | UNIT –V International Environment ; Trends in World trade and the problems of developing countries; Foreign trade and economic growth; International economic groupings – GATT. ,WTO ,UNCTAD, World Bank, IMF; FDI. | Addition of UNCTAD and omitted international trading environment. |

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बी. ए. भाग एक B.A. Part I

राजनीति विज्ञान Political Science

प्रथम प्रश्न पत्र : राजनीतिक सिद्धान्त Paper I : Political Theory

- इकाई 1 : राजनीति विज्ञान का अर्थ, परिभाषा (आधुनिक अवधारणा सहित) । राजनीति एक विशिष्ट मानवीय व्यवहार के रूप में । शक्ति, सत्ता, प्रभाव : अर्थ, विशेषताएं, प्रकार । राजनीति विज्ञान की अध्ययन पद्धतियां : परम्परागत एवं व्यवहारवाद एवं उत्तर व्यवहारवाद ।
- Unit 1 : Meaning and Definition of Political Science (with modern concept). Politics as a specific human behaviour. Power, Authority and Influence : meaning, features and kinds. Method of Study to Political Science : Traditional , Behaviouralism and Post Behaviouralism.
- इकाई 2 : राज्य एवं उसके आवश्यक तत्व । राज्योत्पत्ति के विभिन्न सिद्धान्त, मार्क्सवादी सिद्धान्त । सावयविक सिद्धान्त ।
- Unit 2 : State and its essential elements. Various theories of the origin of the State, Marxist theory . Organismic Theory.
- इकाई 3 : सम्प्रभुता एवं उसकी बहुलवादी आलोचना । अधिकार: अर्थ, प्रकार , सिद्धान्त । कर्तव्य । स्वतन्त्रता : अर्थ , प्रकार, संरक्षण । समानता : अर्थ , प्रकार एवं स्वतन्त्रता से सम्बंध । प्रजातन्त्र : परिभाषा, व्यापक अर्थ, चुनौतियां, सफलता के लिए आवश्यक शर्तें , गुण-दोष । प्रत्यक्ष प्रजातन्त्र ।
- Unit 3 : Sovereignty and its pluralistic criticism. Rights : meaning, kinds and theories. Duties. Liberty : meaning, kinds , safeguards. Equality : meaning, kinds and relations with Liberty. Democracy : meaning, comprehensive meaning, challenges, conditions for its success, merits and demerits. Direct Democracy.
- इकाई 4 : शासन के प्रकार : एकात्मक व संघात्मक , संसदीय व अध्यक्षीय, निरंकुशतन्त्र । शासन के अंग : कार्यपालिका, व्यवस्थापिका, न्यायपालिका । शक्ति पृथक्करण का सिद्धान्त व नियंत्रण -संतुलन का सिद्धान्त । संविधान : अर्थ , प्रकार । प्रतिनिधित्व के सिद्धान्त एवं निर्वाचन प्रणालियां ।
- Unit 4 : Kinds of Government : Unitary and Federal, Parliamentary and Presidential. Dictatorship. Organs of Government : Executive, Legislature and Judiciary. Theory of Separation of Powers and Checks and Balances. Constitution : meaning and kinds. Theories of representation and Electoral Process.
- इकाई 5 : लोककल्याणकारी राज्य । दल पद्धति : अर्थ , प्रकार, पद्धति । दबाव समूह : अर्थ, प्रकार, तकनीक । सामाजिक परिवर्तन : अर्थ, विशेषताएं , सिद्धान्त । नारीवाद, राष्ट्रवाद ।
- Unit 5 : Public Welfare State. Party System : meaning , kinds , process. Pressure Groups : meaning, kinds and technique. Social Change : meaning, characteristics, theories. Feminis. Nationalism.


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बी. ए. भाग एक B. A. Part I

राजनीति विज्ञान Political Science

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

- इकाई 1 : भारतीय राष्ट्रीय आन्दोलन : 1858 का प्रथम स्वतन्त्रता संग्राम, असहयोग आन्दोलन, सविनय अवज्ञा आन्दोलन, भारत छोड़ो आन्दोलन । भारत का संविधानिक विकास : 1858, 1909, 1919 और 1935 का भारत शासन अधिनियम ।
- Unit 1 : **Indian National Movement : First Independence Movement 1858, Non cooperation Movement, Civil Disobedience Movement and Quit India Movement. Constitutional Development of India : Govt. of India Act of 1858, 1909, 1919 and 1935.**
- इकाई 2 : भारतीय संविधान : विशेषताएं , प्रस्तावना, स्रोत, । संघीय व्यवस्था , मौलिक अधिकार, मूल कर्तव्य, नीति निर्देशक तत्व । संविधान संशोधन प्रक्रिया ।
- Unit 2 : **Constitution of India : Characteristics, Preamble, Sources. Federal System. Fundamental Rights and Duties, Directive Principles of State Policy. Constitution Amendment Process.**
- इकाई 3 : संघीय कार्यपालिका : राष्ट्रपति, उपराष्ट्रपति, मन्त्रिपरिषद् और प्रधानमन्त्री । संघीय व्यवस्थापिका : संसद : लोकसभा और राज्यसभा । संसदीय प्रक्रिया ।
- Unit 3 : **Union Executive : President , Vice President, Council of Ministers and Prime Minister. Union Legislature : Parliament: Lok Sabha and Rajya Sabha. Parliamentary Procedure.**
- इकाई 4 : संघीय न्यायपालिका : सर्वोच्च न्यायालय : गठन, क्षेत्राधिकार, न्यायिक पुनरावलोकन, न्यायिक सक्रियतावाद । राज्य कार्यपालिका : राज्यपाल , मन्त्रिपरिषद् और मुख्यमन्त्री ।
- Unit 4 : **Union Judiciary : Supreme Court : Organisation, Jurisdiction, Judicial Review, Judicial Activism. State Executive : Governor, Council of Ministers and Chief Minister.**
- इकाई 5 : राज्य व्यवस्थापिका : विधानसभा एवं विधानपरिषद् । निर्वाचन आयोग व चुनाव सुधार । राष्ट्रीय व क्षेत्रीय दल । भारतीय राजनीति के प्रमुख मुद्दे : जाति, धर्म, भाषा और क्षेत्र । पंचायती राज व्यवस्था ।
- Unit 5 : **State Legislature : Legislative Assembly and Legislative Council. Election Commission and Election Reforms. National and Regional Parties. Major issues of Indian Politics : Caste, Religion, Language and Region. Panchayati Raj System.**

संदर्भ पुस्तकें (Reference Books)

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

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


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SHAHEED NANDKUMAR PATEL VISHWAVIDYALAYA RAIGARH (C.G.)

Group - III PAPER - II

FUNDAMENTALS OF ENTREPRENEURSHIP

OBJECTIVE

It Provides exposure to the students to the entrepreneurial culture and industrial growth so as to preparing them to set up and manage their own small units.

| Current Syllabus | Proposed Syllabus | Remark |
|--|--|--------|
| <p>UNIT-I Introduction : The entrepreneur; Definition; Emergence of entrepreneurial class; Theories of entrepreneurship; Role of socio - economic environment; Characteri-stics.</p> | <p>UNIT-I Introduction : The entrepreneur; Definition; Emergence of entrepreneurial class; Theories of entrepreneurship; Role of socio - economic environment; Characteri-stics.</p> | |
| <p>UNIT-II Promotion of a Venture; Opportunities analysis; External environmental analysis economic, social and technological; Competitive factors; Legal requirements for establishment of a new unit, and raising of funds; Venture capital sources and documentation required.</p> | <p>UNIT-II Promotion of a Venture; Opportunities analysis; External environmental analysis economic, social and technological; Competitive factors; Legal requirements for establishment of a new unit, and raising of funds; Venture capital sources and documentation required.</p> | |
| <p>UNIT-III Entrepreneurial Behavior : Innovation and entrepreneur; Entrepreneurial behavior and Psycho - Theories, Social responsibility.</p> | <p>UNIT-III Entrepreneurial Behavior : Innovation and entrepreneur; Entrepreneurial behavior and Psycho - Theories, Social responsibility.</p> | |
| <p>UNIT-IV Entrepreneurial Development Programs (EDP) : EDP, their role, relevance, and achievements; Role of Government in organizing EDPs; Critical evaluation.</p> | <p>UNIT-IV Entrepreneurial Development Programs (EDP) : EDP, their role, relevance, and achievements; Role of Government in organizing EDPs; Critical evaluation.</p> | |
| <p>UNIT-V Role of Entrepreneur : Role of an entrepreneur in economic growth as an innovator, generation of employment opportunities, complementing and supplementing economic growth, bringing about social stability and balanced regional development of industries; Role in export promotion and import substitution, forex earnings, and augmenting and meeting local demand.</p> | <p>UNIT-V Role of Entrepreneur : Role of an entrepreneur in economic growth as an innovator, generation of employment opportunities, complementing and supplementing economic growth, bringing about social stability and balanced regional development of industries; Role in export promotion and import substitution, forex earnings, and augmenting and meeting local demand.</p> | |

SUGGESTED READINGS :

3. Srivastava S.B. : A Practical Guide to industrial Entrepreneurs; Sultan Chand and Sons, New Delhi.
4. Tandon B.C. : Environment and Entrepreneur; Chugh Publications, Allahabad.
5. Prasanna Chandra : Project Preparation, Appraisal, Implementation; Tata McGraw Hill, New Delhi.


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PAPER - I

PHYSICAL GEOGRAPHY


Max. Marks: 50

(Paper Code-0117)

- Unit I** The Nature and Scope of Physical Geography. Origin of the Earth, Geological Time Scale, Earth's Interior, Continental Drift Theory (Wegner), Plate Tectonics, Isostasy.
- Unit II** Earth movements: Earthquakes and Volcanoes. Rocks, Weathering, Erosion, and Normal cycle of erosion, Evaluation of landscapes- Fluvial, Arid, Glacial, Karts and Coastal landscape.
- Unit III** Elements of Weather and Climate, Composition and Structure of the Atmosphere. World patterns of Atmospheric Temperature, Pressure, and Wind.
- Unit IV** Atmospheric Moisture, and Disturbances, Climatic Classification (Koppen and Thornthwait) types, characteristics and World patterns.
- Unit V** Surface relief of Pacific Ocean, Atlantic Ocean, and Indian Ocean. Distribution of Temperature and Salinity of oceans and seas, Currents and Tides, Ocean Deposits and Coral Reefs, and Oceanic Resources.

Books Recommended:

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


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PAPER - II
HUMAN GEOGRAPHY

Max. Marks: 50
(Paper Code-0118)

- Unit I** Definition and Scope of Human Geography. Man - environment relationship; Determinism, Possibilism, and Probabilism; Human Development Index (HDI).
- Unit II** Classification of Human Races – their Characteristics and Distribution; Human adaptation to environment: Eskimos, Bushman, Pigmy, Gond, Masai, and Naga.
- Unit III** Growth, Density and Distribution of World Population and factors influencing Spatial distribution; Over , Under, and Optimum Population; Migration of Population. .
- Unit IV** Settlements – Urban Settlements: Urbanization, Evolution and Classification, Trends of Urbanization.
Rural settlements: Characteristics, Types and Regional Pattern, Rural Houses in India - Types, Classification and Regional Pattern.
- Unit V** Issues – Global Warming, Climate Change, Deforestation, Desertification, Air, Water and Soil Pollution.

Books Recommended:

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


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SHAHEED NANDKUMAR PATEL VISHWAVIDYALAYA RAIGARH (C.G.)

**B.Sc.-II (BOTANY) PAPER-II
(ECOLOGY AND PLANT PHYSIOLOGY)**

UNIT-I

Introduction and scope of ecology, environmental and ecological factors, Soil formation and soil profile, Liebig's law of minimum, Shelford's law of tolerance, morphological and anatomical adaptations in hydrophytes, xerophytes and epiphytes.

UNIT-II

Population and community characteristics, Raunkiaer's life forms, population interactions (e.g. Symbiosis, Amensalism etc.), succession, ecotone and edge effect, ecological niches, ecotypes, keystone species

Concept of ecosystem, trophic levels, flow of energy in ecosystem, food chain and food web, concept of ecological pyramids

Biogeochemical cycles: carbon cycle, nitrogen cycle and phosphorus cycle

UNIT-III

Plant water relations: Diffusion, permeability, osmosis, imbibitions, plasmolysis, osmotic potential and water potential, Types of soil water, water holding capacity, wilting, Absorption of water, theories of Ascent of sap, Mineral nutrition and absorption, Deficiency symptoms, Transpiration, stomatal movement, significance of transpiration, Factors affecting transpiration, guttation.

UNIT-IV

Photosynthesis: Photosynthetic apparatus and pigments, light reaction mechanism of ATP synthesis. C₃, C₄ CAM pathway of carbon reduction, photorespiration, factors affecting photosynthesis.

Respiration: Aerobic and anaerobic respiration, Glycolysis, Krebs's cycle, factors affecting respiration, R.Q.

UNIT-V

Plant growth hormones: Auxin, Gibberellin, Cytokinin, Ethylene and Abscisic acid. Physiology of flowering, Florigen concept, Photoperiodism and Vernalization. Seed dormancy and germination, plant movement.

Books Recommended:

Koromondy, E.J. *Concepts of Ecology*, Prentice Hall, USA


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Singh, JS Singh SP and Gupta SR. *Ecology and Environmental Science and Conservation*, S. Chand Publishing, New Delhi

Sharma, PD. *Ecology and Environment*, Rastogi Publications, Meerut

Hopkins, WG and Huner, PA. *Introduction to Plant Physiology*, John Wiley and Sons.

Pandey SN and Sinha BK, *Plant Physiology*, Vikas Publishing, New Delhi


Taiz, L and Zeiger. E. *Plant Physiology*, 5th edition, Sinauer Associates Inc. M.A, USA

Srivastava, HS *Plant Physiology and Biotechnology*, Rastogi Publications, Meerut

B.Sc. II (BOTANY)

Practical

1. Taxonomy: Detailed description and identification of locally available plants of the families as prescribed in the theory paper.
2. Economic Botany: Identification and comment on the plants and plant products belonging to different economic use categories
3. Preparation of Herbarium of local wild plants.
4. Quantitative vegetation analysis of a grassland ecosystem.
5. Anatomical characteristics of hydrophytes and xerophytes.
6. Demonstration of root pressure.
7. Demonstration of transpiration.
8. Demonstration of evolution of O₂ in photosynthesis, factors affecting of photosynthesis.
9. Comparison of R.Q. of different respiratory substrates.
10. Demonstration of fermentation.
11. Determination of BOD of a water body.
12. Demonstration of mitosis.


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Zoology
B.Sc. Part - II

Paper-II

VERTEBRATE ENDOCRINOLOGY, REPRODUCTIVE BIOLOGY
BEHAVIOUR, EVOLUTION AND APPLIED ZOOLOGY

Unit: I

- Structure and function of Endocrine glands
- Hormone receptor
- Biosynthesis and secretion of thyroid, adrenal, ovarian and testicular hormones
- Endocrine disorder of pituitary, thyroid, adrenal and pancreas

Unit:II

- Reproductive cycle in vertebrates
- Menstruation, lactation and pregnancy
- Mechanism of parturition
- Hormonal regulation of gametogenesis

Unit: III

- Evidences of organic evolution.
- Theories of organic evolution.
- Variation, Mutation, Isolation and Natural selection.
- Evolution of Horse

Unit:IV

- Introduction to Ethology: Branches and concept of ethology.
- Patterns of Behaviour, Taxes, Reflexes, Drives and Stereotyped behaviour.
- Reproductive behavioural patterns.
- Drugs and behavior, Hormones and behaviour

Unit:V

- Prawn Culture
- Sericulture
- Apiculture
- Pisciculture
- Poultry keeping
- Elements of Pest Control: Chemical & Biological Control

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Zoology
B.Sc. Part III 2018-19
Paper-I

**ECOLOGY, ENVIRONMENTAL BIOLOGY: TOXICOLOGY,
MICROBIOLOGY AND MEDICAL ZOOLOGY**

Unit: I (Ecology)

- Aims and scopes of ecology
- Major ecosystems of the world-Brief introduction
- Population- Characteristics and regulation of densities
- Communities and ecosystem
- Bio-geo chemical cycles
- Air & water pollution
- Ecological succession

Unit: II (Environmental Biology)

- Laws of limiting factor
- Food chain in fresh water ecosystem
- Energy flow in ecosystem- Trophic levels
- Conservation of natural resources
- Environmental impact assessment

Unit: III (Toxicology)


- Definition and classification of Toxicants
- Basic Concept of toxicology
- Principal of systematic toxicology
- Heavy metal Toxicity (Arsenic, Mercury, Lead, Cadmium)
- Animal poisons- snake venom, scorpion & bee poisoning
- Food poisoning

Unit: IV (Microbiology)

- General and applied microbiology
- Microbiology of domestic water and sewage
- Microbiology of milk & milk products
- Industrial microbiology: fermentation process, production of penicillin, alcoholic beverages, bioleaching.

Unit: V (Medical Zoology)

- Brief introduction to pathogenic microorganisms, Rickettsia, Spirochaetes, AIDS and Typhoid
- Brief account of life history & pathogenicity of the following pathogens with reference to man: prophylaxis & treatment
- Pathogenic protozoan's- Entamoeba, Trypanosome & Plasmodium
- Pathogenic helminthes- Schistosoma
- Nematode pathogenic parasites of man
- Vector insects


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UNIT-I

QUANTUM MECHANICS-I

Black-body radiation, Planck's radiation law, photoelectric effect, Compton effect. Operator: Hamiltonian operator, angular momentum operator, Laplacian operator, postulate of quantum mechanics, eigen values, eigen function, Schrodinger time independent wave equation, physical significance of ψ & ψ^2 , application of Schrodinger wave equation to particle in a one dimensional box, hydrogen atom (separation into three equations) radial and angular wave functions.

UNIT-II

A. QUANTUM MECHANICS-II

Quantum Mechanical approach of Molecular orbital theory, basic ideas-criteria for forming M.O. and A.O., LCAO approximation, formation of H_2^+ ion, calculation of energy levels from wave functions, bonding and antibonding wave functions, Concept of σ , σ^* , π , π^* orbitals and their characteristics, Hybrid orbitals- sp , sp^2 , sp^3 Calculation of coefficients of A.O.'s used in these hybrid orbitals.

Introduction to valence bond model of H_2 , comparison of M.O. and V.B. models. Huckel theory, application of Huckel theory to ethene, propene, etc.

UNIT III

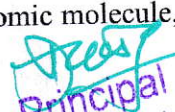
SPECTROSCOPY

Introduction: Characterization of Electromagnetic radiation, regions of the spectrum, representation of spectra, width and intensity of spectral transition, Rotational Spectrum of Diatomic molecules. Energy levels of a rigid rotor, selection rules, determination of bond length, qualitative description of non-rigid rotator, isotopic effect.

Vibrational Spectroscopy: Fundamental vibration and their symmetry vibrating diatomic molecules, Energy levels of simple harmonic oscillator, selection rules, pure vibrational spectrum, determination of force constant, anharmonic oscillator

Raman spectrum: Concept of polarizability, quantum theory of Raman spectra, stokes and antistokes lines, pure rotational and pure vibrational Raman spectra. Applications of Raman Spectra.

Electronic Spectroscopy: Basic principles, Electronic Spectra of diatomic molecule, Franck-


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Condon principle, types of electronic transition, application of electronic spectra.

UNIT-IV


ELECTROCHEMISTRY-I

- A. Electrolytic conductance: Specific and equivalent conductance, measurement of equivalent conductance, effect of dilution on conductance, Kohlrausch law, application of Kohlrausch law in determination of dissociation constant of weak electrolyte, solubility of sparingly soluble electrolyte, absolute velocity of ions, ionic product of water, conductometric titrations.
- B. Theories of strong electrolyte: limitations of Ostwald's dilution law, weak and strong electrolytes, Elementary ideas of Debye-Huckel-Onsager's equation for strong electrolytes, relaxation and electrophoretic effects.
- C. Migration of ions: Transport number, Determination by Hittorf method and moving boundary method, ionic strength.

UNIT-V

ELECTROCHEMISTRY-II

- A. Electrochemical cell and Galvanic cells – reversible and irreversible cells, conventional representation of electrochemical cells, EMF of the cell and effect of temperature on EMF of the cell, Nernst equation Calculation of ΔG , ΔH and ΔS for cell reactions.
- B. Single electrode potential : standard hydrogen electrode, calomel electrode, quinhydrone electrode, redox electrodes, electrochemical series
- C. Concentration cell with and without transport, liquid - junction potential, application of concentration cells in determining of valency of ions, solubility product and activity coefficient
- D. Corrosion-types, theories and prevention


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