

01 May 2019

CURRICULUM AND SYLLABUS

B.A. Honours in Geography
and
B.A Program in Geography
(w.e.f 2016-2017)

UNDER CHOICE BASED CREDIT SYSTEM



KAZI NAZRUL UNIVERSITY
ASANSOL, WEST BENGAL

Kazi Nazrul University
Curriculum and Syllabus

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Department of Geography
Kazi Nazrul University
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**B. A./B.Sc. Honours in Geography and B.A./B.Sc. Program in
Geography**

(6 Semesters Pattern)

(With effect from 2016-2017 academic session and onwards)

B.A Honours in Geography

Semester 1

Core Course 1: Geotectonic and Geomorphology

UNIT-1

1.1 Rocks: Origin, Classification and Characteristics

1.2 Folds and Faults: Classification

UNIT-2

2.1 Earthquake: Definition, Seismic waves, Causes, Classification, Effects of Earthquake on Man and Environment

2.2 Global tectonics: Concept of Plate Tectonics, Tectonics of Plate Margins and landform Development, Cordilleran Orogen with particular reference to Andes, Continental collision orogen with particular reference to Himalaya

UNIT-3

3.1 Theory of Landscape Evolution: Davis and Penck (Steady state Equilibrium), Hack (Dynamic Equilibrium)

3.2 Evolution of landform and drainage development in Uniclinal and Domal Structure

UNIT-4

4.1 Evolution of Landform on Folded and Faulted Structure

4.2 Landform on Sedimentary Rocks

UNIT -5

Internal Assessment: Assignment on Structure and landforms

Suggested Readings:

Ahmad, E. 1990, *Geomorphology*, Kalyani Pub. New Delhi

Bland, W. and Rolls, D. 1998, *Weathering*, Hodder & Stoughton.

Bloom, A L 1998, *Geomorphology: A Systematic Analysis of Late Cenozoic Landforms*. 3rd Edition. Prentice Hall India Ltd. New Delhi.

Burbank, .D. G. and Anderson, R.S. 2001, *Tectonic Geomorphology: A Frontier in Earth Science*, Blackwell Science Inc. London.

Carter, R.W.G. 1988, *Coastal Environments: An Introduction to the Physical Ecological and Cultural Systems of Coastlines*, Academic Press, London.

Chorley, R.J. and Kates, R.W. (Editors) 1969, *Water Earth and Man*, Methen, London.

Cox, A. and Hart, R.B. 1986, *Plate Tectonics: How it Works*, Blackwell Scientific Publications, Oxford.

Dayal, P. 1990, *A Textbook of Geomorphology*, Shukla Book Depoi, Patna.

Duff, P.M.D. (Editor) 1994, *Holmes' Principles of Physical Geology*, English Language Book Society/Champman & Hall, London.

Faniran, A. and Jaje, L.K. 1983, *Humid Tropical Geomorphology*, Longman Ltd. Hyderabad.

B.A Honours in Geography: CBCS

Syllabus: Kazi Nazrul University

- Faribridge, S.W. *Encyclopedia of Geomorphology*, Reinhold Corp. Ltd.
- Kale, V.S. and Gupta. A. 2001, *Introduction to Geomorphology*, Orient Balckswan Ltd. Hyderabad.
- Keary. F. and Vine. M. 1997, *Global Tectonics*. 2nd edition, Blackwell Scientific Publications. Oxford.
- Kington D. 1998, *Fluvial Forms and Processes: A New Perspective*, Arnold. London.
- Pal, S.K. 2003. *Physical Geography of India*, Orient Balckswan Ltd. Hyderabad
- Powell, J. 2001, *Mysteries of Terra Firma: The Age and Evolution of the Earth*. Free Press. London. 272p.
- Prasad. N. and Basu R. (Editors) 2002, *Contemporary Dimensions in Geography*: Academic Staff College. University of Burdwan. Bardhaman.
- Selby, M.J. 1985, *An Introduction to Geomorphology*, Clarendon, Oxford.
- Sharma, R.C. and Vatal. M. *Oceanography for Geographers*. Chaitanya Pub. House. Allahabad.
- Singh. S. 2000, *Geomorphology*, 2nd edition, Prayag Pustak Bhavan, Allahabad.
- Stahler and Strahler 2002, *Geography and Man's Environment*, John Wiley, New York.
- Summerfield M.A. (Editor) 1991, *Global Geomorphology: An Introduction to the Study of Landforms*, John Wiley and Sons Ltd., New York.
- Tarback. E.J. Lutgens. F.K. and Tasa. D., 2003, *Earth Science, 10th edition*, Prentice Hall, Englewood Cliff's.
- Thornbury. W.D. 1969, *Principles of Geomorphology*, 2nd edition, Wiley Eastern Limited. New Delhi.
- Woodroffe, C.D. 2002, *Coasts: Form, Process and Evolution*, Cambridge University Press. Cambridge.

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Core Course 2: Fundamentals of Practical Geography (Practical)

UNIT-1

Scale: Linear, Comparative, Diagonal, Vernier

UNIT-2

Identification of Rocks and Minerals: Quartz, Talc, Feldspar, Magnetite, Chalcopyrite, Galena, Calcite, Gypsum, Bauxite, Granite, Basalt, Dolarite, Pegmatite, Sandstone, Shale, Limestone, Gneiss, Schist, Phyllite, Laterite

UNIT-3

Geological Maps: Analysis of Geological Maps (Horizontal, Uniclinal, Folded, Faulted structures along with intrusions and unconformities)

UNIT-4

Internal Assignment: Elementary Geological Survey of Local Area (Signed Report to be Submitted during the Practical Examination)

UNIT-5

Laboratory Note Book and Viva –Voce

6+4=10 Marks

Suggested Readings:

- Elfic. M.H. Fryer. J.G. Brinkners. R.C. and Wolf. P.R. 1994, *Elementary Surveying* 8th edition. Harper Collins Publishers. London.
- Hussain. S.K. AND Nagaraj. M.S. 1992, *Text Book of Surveying*. S. Chand & Co. Ltd. New Delhi.
- Kanetkar. R.P. and Kulkarni. S.V. 1988, *Surveying and Levelling, Part-I* Pune Vaidyarathi Griha Prakashani, Pune.
- Kellaway. G.P. 1979, *Map Projections*. 1st Indian edition. B.I. Publication. Delhi.
- Kochher, C.i. 1993, *A Text Book of Surveying*. S.K. Katariya & Sons. Delhi
- Mishra R.P. Ramesh. A 2000, *Fundamentals of Cartography*. Concept Publishing Company, New Delhi.
- Monkhouse, F.J. and Wilkinson. H.R. 1971, *Maps and Diagrams: Their Compilation and Construction*. B.I. Publications Private Limited. New Delhi.
- Roy P. 1988, *An Analytical Study of Map Projections*. Volume I, Kolkata.
- Sarkar, A. 1997, *Practical Geography: A Systematic Approach*, Orient Blackswan Ltd. Hyderabad.
- Singh. R.L and Singh. R.P.B. 1991, *Elements of Practical Geography*. Kalyani Pub. New Delhi.
- Steers. J.A. 1965, *An Introduction to Map Projections*. 14th edition. University of London Press. London.
- Venkatramaiah. C. 1996, *A Textbook of Surveying*. Universities Press/Orient Longman Ltd. Hyderabad.


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Generic Elective Course 1: Disaster Management

UNIT-1

Disasters – Definition and Concepts: Hazards, Disasters – Risk and Vulnerability

UNIT-2

Disasters in India: (a) Flood: causes, impact and distribution (b) Drought: causes, impact and distribution.

UNIT-3

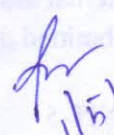
Disasters in India: (a) Earthquake and Tsunami: Causes, impact and distribution (b) Cyclone: causes, impact and distribution

UNIT-4

Man-made Disasters: with special reference to Bhopal Gas Tragedy and its significance.
Response and Mitigation to Disasters: Dos and Do nots –during and post-disaster (Flood, Drought and Earthquake)

Environmental Studies

Ability-Enhancement Compulsory Course (AECC)-1


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Semester 2
Core Course 3: Geomorphology and Oceanography

UNIT-1

- 1.1 Weathering- Types and resulting landforms.
- 1.2 Mass wasting- causes, types and resulting landforms.

UNIT-2

- 2.1 Processes and landforms - Fluvial, Glacial.
- 2.2 Landform developed in coastal and arid region.

UNIT-3

- 3.1 Temperature and salinity of Ocean water with particular reference to Atlantic and Pacific oceans.
- 3.2 Marine sediments: Classification, distribution and economic importance.

UNIT-4

- 4.1 Theories of development of coral reefs (Darwin, Davies).
- 4.2 Tides: Types, Characteristic and Theories of Origin (Progressive wave theory and Stationary wave theory).

UNIT -5

Internal Assessment: Assignment on coral reefs

Core Course 4: Map projection and Surveying (Practical)

UNIT-1

Projection- Basis of classification and suitability of projection, construction of graticule of cylindrical equal area Projection; Simple conical Projection with one standard Parallel; Polyconic Projection, Polar Zenithal Equal Area Projection, Marketers Projection.

UNIT-2

Surveying- Closed and Open traverse survey using prismatic compass and preparation of land use of a small area. Levelling and preparation of contour map using Dumpy Level. Trigonometrical survey using Transit Theodolite (accessible and inaccessible).

UNIT-4

Internal assignment- Local area land use survey and preparation of land use map (Signed Report to be submitted during the practical exam).

UNIT-5

Laboratory note book and viva-voce.

6+4=10 Marks

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**Generic Elective Course 2:
Climate Change, Adaptability and Vulnerability Assessment**

UNIT-1

Definition of weather and climate; Elements of weather and climate
Concept of Climate Change; Theories of Climate Change

UNIT-2

Recent episode of Climate Change; Possible causes of Climate Change
Evidences of Climate Change, Politics of Climate Change- from Ozone hole through
Global Warming to Climate Change

UNIT-3

3.1 Impact of Climate Change: Change of Sea level; Impact on Geomorphic processes (Costal and
Glacial), Biosphere, Agriculture; Diseases and Health
3.2 Adaptation for Climate change: Livelihood adaptation, Agricultural adaptation, Health related
adaptation.

UNIT-4

4.1 Climate change and hazard: Flood, Drought and Cyclone
4.2 Vulnerability assessment for climate change: Nature of vulnerability, Methods of assessment of
vulnerability, Vulnerability assessment index.

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Semester 3
Core Course 5: Climatology

UNIT-1

- 1.1 Atmospheric temperature: Insolation and its latitudinal variation and heat budget. Horizontal and vertical distribution of temperature with special reference to inversion of temperature.
- 1.2 Global distribution of atmospheric pressure and planetary wind system.

UNIT-2

- 2.1 Forces and mechanism of wind system – Coriolis force, Geostrophic wind, Ekman spiral, Jet stream and surface weather condition.
- 2.2 Atmospheric disturbances: Temperate and Tropical cyclone (origin, characteristics and their impact on weather).

UNIT-3

- 3.1 Atmospheric stability and instability: Concept of equilibrium, Adiabatic Lapse rate, Atmospheric stability and lapse rate
- 3.2 Condensation – Process of cooling, forms of condensation, theories of precipitation. Cloud burst and flash flood

UNIT-4

- 4.1 Classification of World climate: Köppen and Trewartha; Recent climate change issues: causes and evidences
- 4.2 Impact of climate on agriculture and house types; Agro-climatic regions of India

UNIT -5

Internal Assessment: Assignment related to climate change

Core Course 6: Soil and Biogeography

UNIT-1

- 1.1 Concept of Land and Soil. Physical and chemical properties of soil: Texture, Structure, pH, Organic matter
- 1.2 Profile development of Zonal soils: Laterite, Chernozem, and Podzol

UNIT-2

- 2.1 Soil fertility and productivity: Definition, factors affecting fertility and productivity, soil fertility improvement methods
- 2.2 Soil erosion and Conservation and management

UNIT-3

- 3.1 Definition of Biosphere and Biogeography, Meaning of Ecology, Ecosystem, Environment, Eco-tone, Communities, Habitats, Niche, Biotopes, Biomes and Ecological pyramids
- 3.2 Energy flow in ecosystem, biogeochemical cycles (Carbon, Nitrogen, Oxygen), Food chain and Food web

UNIT-4

- 4.1 Biomes: Tropical rainforest and temperate grassland
- 4.2 Wildlife Conservation and its importance. Tiger and Elephant conservation in India

UNIT -5

Internal Assessment: Assignment on management of soil-species diversity in the local area

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Core Course 7: Weather Data Recording and Soil Testing (Practical)

UNIT-1

Meaning of Weather Codes and Symbols- IMD and International

UNIT-2

Preparation and interpretation of Station Models

UNIT-3

3.1 Reading, Recording and Analysis of Weather Data obtained from Barometer, Hygrometer and Maximum-Minimum Thermometer

3.2 Soil Testing: pH, Organic carbon and Nitrogen. Determination of Soil Texture by Feel method

UNIT-4

Internal assignment: Preparation of Soil map of a local Mouza

UNIT-5

Laboratory Note Book and Viva-Voce

6+4=10 Marks

SEC 1: Remote Sensing Techniques

UNIT-1

Basic Concepts of Remote Sensing –Resolution of Satellite Sensors with special reference to Landsat and IRS series, GIS and GPS

UNIT-2

Basic concepts of Aerial Photography, land cover and land use analysis through Aerial photographs

UNIT -3

Preparation of Standard False Colour Composites from Landsat and IRS Images; Supervised and Unsupervised Classification of satellite data

UNIT -4

Internal Assessment: Preparation of Campus Map or Administrative Area using GPS

UNIT -5

Laboratory Note Book and Viva-Voce

6+4=10 Marks

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Generic Elective Course 3: Tourism and Development

UNIT-1

1.1 Scope and Nature, Concepts and Issues of Tourism, Recreation and Leisure Inter-Relations; Geographical Parameters of Tourism (Robinson).

1.2 Type of Tourism: Nature Tourism, Cultural Tourism, Medical Tourism, Pilgrimage.

UNIT-2

2.1 Recent Trends of Tourism: International and Regional; Domestic (India); Eco-Tourism, Sustainable Tourism, Meetings Incentives Conventions and Exhibitions (MICE) .

2.3 Relationship between Tourism and Development.

UNIT -3

3.1 Need for the development of infrastructure for tourism, Tourism and Regional development: Impact on tourism for cultural diffusion and cultural change.

3.2 Impact of Tourism: Economy; Environment; Society, Reality and Potentials of Tourism Industry in India.

UNIT -4

4.1 Tourism in India: Tourism Infrastructure; Case Studies of Himalaya, Desert and Coastal Areas.

4.2 Ecotourism and Sustainable tourism in India.

Reading List

1. Dhar, P.N. (2006) International Tourism: Emerging Challenges and Future Prospects. Kanishka, New Delhi.
2. Hall, M. and Stephen, P. (2006) Geography of Tourism and Recreation – Environment, Place and Space, Routledge, London.
3. Kamra, K. K. and Chand, M. (2007) Basics of Tourism: Theory, Operation and Practise, Kanishka Publishers, Pune.
4. Page, S. J. (2011) Tourism Management: An Introduction, Butterworth-Heinemann-USA. Chapter 2.
5. Raj, R. and Nigel, D. (2007) Morpeth Religious Tourism and Pilgrimage Festivals Management: An International perspective by, CABI, Cambridge, USA, www.cabi.org.
6. Tourism Recreation and Research Journal, Center for Tourism Research and Development, Lucknow
7. Singh Jagbir (2014) "Eco-Tourism" Published by - I.K. International Pvt. Ltd. S-25, Green Park Extension, Uphaar Cinema Market, New Delhi, India (www.ikbooks.com).

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Semester 4
Core Course 8: Geographical Thought

UNIT-1

- 1.1 Definition, Scope and Content of Geography. Different branches of Geography.
1.2 Development of Geography in Ancient period, Roman, Greek and Indian.

UNIT-2

- 2.1 Development of Geography in Medieval period.
2.2 Development of Geography in Modern period with special emphasis on Post modernism.

UNIT -3

- 3.1 School of Thought: German (Humboldt and Ritter), American (Sample and Davis) and British (Stamp and Mackinder).
3.2 Development of Indian School of Thought and major contributors of Prof. S.P. Chatterjee, Enayet Ahmed, R.L. Singh.

UNIT -4

- 4.1 Concept of Determinism, Possibilism and Neo-Determinism, Positivism, Behaviourism.
4.2 Approaches to the study of Geography: Chronological, Regional, Systematic and Landscape approaches.

UNIT -5

Internal Assessment -Assignment on Dualism in Geography.

Core Course 9: Economic and Social Geography

UNIT-1

- 1.1 Resources: Concept and Classification, Economic and Environmental approach, Problems of resource depletion (Water and Fossil Fuels).
1.2 Economic activities – Types, evolution, characteristics and role in economic development.

UNIT-2

- 2.1 Type of Agriculture: Intensive Subsistence agriculture in Asia, Commercial grain farming in USA, Sheep rearing in Argentina, Market gardening and Orchard farming in Europe.
2.2 Agricultural Economy: Agricultural location theory – Von –Thunen and Hoover.

UNIT -3

- 3.1 Major Industries: Tourism industry in India, Petrochemicals in USA, IT industry in India, Hooghly Industrial region.
3.2 Role of Transport for industrial and economic development of a region, Rostow and Tuffe model of Transport and Economic development.

UNIT -4

- 4.1 Definition, Nature, Scope & Content of Social Geography. Major Racial groups of India.
4.2 Concept of Culture, Cultural diffusion & Convergence. Cultural Realms of the World.

UNIT -5

Internal Assessment Assignment on Eco- firming/ Agro based Industries.

Core Course 10: Thematic Maps and Diagrams (Practical)

UNIT-1

Choropleth and Isopleth map based on population data and morphometric data, Preparation of Chorochromatic maps.

UNIT-2

Cartograms: Ergograph, Hythergraph, Proportional diagrams (Circles, Square, Sphere), Ombrothermic diagram, Hypsometric Curve (area measurement by graph paper method from Topographical sheet).

UNIT -3

Rainfall dispersion diagram, Line graph showing trend of population growth, β index map, Dominant and distinctive function of towns and cities: Map showing development and backwardness.

UNIT -4

Internal assignment: Preparation of Crop Calendar.

UNIT -5

Laboratory Note Book & Viva-Voce.

6+4=10 Marks

Generic Elective Course 4: Rural Development

UNIT-1

1.1 Concepts and Approaches of Development; Need for Rural development in Developing Countries with special reference to India.

1.2 Paradigms of Rural development and its changing Perspectives.

UNIT-2

2.1 Problems, prospects and strategies for Rural Development with special emphasis on India.

2.2 Scope for Rural Development in India- Agriculture, Agro Industry, cottage Industry, Forestry with special emphasis on Social Forestry.

UNIT -3

3.1 Nature and Characteristics of Rural Development in Pre and Post- Independent Period; Strategies, success and Failure of Important Rural Development Programmes – IRDP, IAY, SGSY.

3.2 Tribal Development: Need, approaches and Programmes in India.

UNIT -4

4.1 Green Revolution and its impact on Rural development and Food Security in India.

4.2 Rural Development in India of 21st Century through Employment (MGNREGS), Health (NHRM) Education (SSA).

UNIT -5

Internal Assessment: Participation in Rural Development (Tree planting, Road repairing, Sewage cleaning) / Discussion of the people and preparation of Report.

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SEC 2 (A): Geographical Information System

UNIT-1

Traditional and Digital Mapping Need and advantage of Digital mapping.

UNIT-2

Georeferencing of Scanned Maps and Satellite Images applying Reference Spheroids (WGS-84 and Everest) and Projection (Universal Transverse Mercator's and Polyconic) using Open Source Software.

UNIT -3

Digitization and Extraction of Physical and Anthropogenic Features for Change Detection.

UNIT -4

Internal Assessment: Preparation of GIS Map on Crop Productivity/ Population Density.

UNIT -5

Laboratory Note Book and Viva-Voce.

SEC 2 (B): Research Methods

UNIT-1

1.1 Meaning and Objectives of research, Types of research, Research Approaches, Research process.
1.2 Research problem: Meaning, Selecting the problem, Techniques involved in Defining a problem, Research Design: Meaning, Features, Different Designs.

UNIT-2

2.1. Preparation of Questionnaire and Survey Schedule.
2.2 Different Methods of Data Collection, Sampling: Steps in Sampling Design, Criteria of selecting a Sampling Procedure.

UNIT -3

3.1 Processing and Analysis of Quantitative Data: Measures of Central Tendency and Dispersion, Measures of Skewness.
3.2 Processing and Analysis of Quantitative Data: Measures of linear relationship- Correlation and Regression.

UNIT -4

4.1 Analysis of Qualitative Data.
4.2 Perception Survey, Participatory Research.

UNIT -5

Internal Assessment: Assignment on Report Writing.

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Semester 5
Core Course 11: Settlement Geography

UNIT-1

- 1.1. Nature and Content of Settlement Geography.
- 1.2. Concept and Definition of Settlement, Human Settlement as a system.

UNIT-2

- 2.1. Definition and Scale of Rural Settlement.
- 2.2. Size, Form and Types of Rural Settlement.

UNIT -3

- 3.1 Urban Settlement: Concept, Problems of Definition and Classification of Urban Settlement.
- 3.2. Theories of Urban Structure Propounded by E.W. Burgess, Harris and Ullman, Homer Hoyt.

UNIT -4

- 4.1. Functional Hierarchy of Settlement with special reference to Christaller Central Place Theory.
- 4.2. Rural-Urban Fringe: Structure, Characteristics and Functions.

UNIT -5

Internal Assessment: Assignment on Urbanization in India

- 1. Daniel, P. (2002) Geography of Settlement. Rawat Publications, Jaipur and New Delhi.
- 2. Ghosh, S. (1999) A Geography of Settlements. Orient Longman, Kolkata
- 3. Rykwert, J. (ed.) (2004) Settlements. University of Pennsylvania Press, University Park, USA
- 4. Singh, R.L. (eds.) (1973) Rural Settlement in Monsoon Asia, National Geographical Society of India, Varanasi
- 5. Singh, R.Y. (2005) Geography of Settlements. Rawat Publications, Jaipur and New Delhi
- 6. Wood, M. (2005) Rural Geography: Processes, Responses and Experiences of Rural Restructuring. Sage Publication, London.

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Core Course 12: Statistical Techniques (Practical)

UNIT-1

- 1.1 Geographical Data Management: Collection (Sampling Techniques- Significance and Types), Collection, Tabulation, Interpretation and Analysis of Geographical Data.
- 1.2 Frequency Distribution of Discrete and Continuous Variable. Graphical Representation of Frequency Distribution (Histogram, Frequency Polygon, and Ogive).

UNIT-2

- 2.1 Measures of Central Tendencies: Mean, Median, Mode.
- 2.2 Measures of Dispersion: Range, Quartile deviation, Mean Deviation and Standard Deviation.

UNIT -3

- 3.1 Simple Linear Correlation and Regression.
- 3.2 Scatter Diagram with Trend Line Fitted by using Least Square Method. Time Series Analysis.

UNIT -4

- 4.1 Standard Error of Estimate and Standard Scores
- 4.2 Absolute and Relative Residual Mapping

UNIT -5

Internal Assessment

DSEC (1/2): Population Geography

UNIT-1

- 1.1 Scope and Content of Population Geography. Basic sources of data: The Census, National Population Register, UID.
- 1.2 Measures of population distribution and concentration: Factors affecting population distribution and density.

UNIT-2

- 2.1 Population Change-Measures of Fertility and mortality, Determinants of fertility and mortality.
- 2.2 Migration-Types, determinants and consequences.

UNIT -3

- 3.1 Population composition based on age and sex: Determinants of sex composition and age composition.
- 3.2 Literacy differentials, Determinants of literacy.

UNIT -4

- 4.1 India: Distribution of population, population growth and causes.
- 4.2 Sex ratio and literacy.

UNIT -5

Internal assessment: Assignment on Population Issues.

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DSEC (1/2): Resource Geography

UNIT-1

- 1.1 Concept and classification of resources. Different sources, production and consumption of biotic resources.
- 1.2 Different sources, relative importance, production and consumption of energy resources.

UNIT-2

- 2.1 Mineral Resources: Global distribution of Iron Ore, Copper, Bauxite.
- 2.2 Human resource.

UNIT -3

- 3.1 Problems of resource depletion and Resource crisis.
- 3.2 Sustainable development: Definition, Population-Resource Relationship, Basic indications of human development, Literacy and education, Health and nutrition.

UNIT -4

- 4.1 Resource development in India-Forest, Agriculture.
- 4.2 Resource Development in West Bengal-Coal, Fish.

UNIT -5

Internal Assessment: Assignment on Resource Crisis.

DSEC (1/2): Urban Geography

UNIT-1

- 1.1 Definition of urban area, scope and content of urban geography, Concept of Urbanization.
- 1.2 Relationship between urbanization and economic development, significance of urbanization in regional development, growth pole and core periphery model.

UNIT-2

- 2.1 Classifications of towns by Mumford and C. D. Harris.
- 2.2 Models of urban structure by E.W.Burgess, R.M.Hurd and Hoyt, Sinclair.

UNIT -3

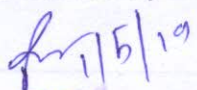
- 3.1 Central place hierarchies: Christaller, Losch, umland of towns.
- 3.2 Trends of urbanization in India, urban regions of India.

UNIT -4

- 4.1 Urban growth and internal migration, Urbanisation and environmental problems.
- 4.2 Urban planning: Rural urban fringe and linkages, Policies of urban planning in India.

UNIT -5

Internal Assessment: Assignment on Urban Land Use/ Urban Community Life.


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DSEC (1/2): Agricultural Geography

UNIT-1

- 1.1 Origin of Agriculture, Agricultural Systems of the World.
- 1.2 Physical and Human Influences on Distribution of Agricultural Systems.

UNIT-2

- 2.1 Characteristics and Agricultural Regions of Shifting Cultivation and Plantation Farming, Impact of Colonialism on shifting cultivation.
- 2.2 Characteristics and Agricultural Regions of Intensive Subsistence Agriculture (Paddy) and Commercial Farming (Wheat).

UNIT -3

- 3.1 Models of Agricultural Location by Von Thunen and Hoover.
- 3.2 Methods of Agricultural Regionalization. Agro-climatic Regions of India.

UNIT -4

- 4.1 Agricultural Development during Plan Periods in India.
- 4.2 Green Revolution: Problems and Prospects.

UNIT -5

Internal Assessment: Assignment on Horticulture of local area or Agricultural Problems.

DSEC (1/2): Geography of Tourism

UNIT-1

- 1.1 Development of Geography of Tourism as a Separate Discipline, Scope and content of Geography of Tourism
- 1.2 Concept and Types of Tourism: Religious, Popular, Commercial and Home stayed Tourism; Emerging Concept of Eco-Tourism

UNIT-2

- 2.1 Physical, Cultural and Geographical factors for development of Tourism
- 2.2 Tourism as the most important emerging Economy and Industry

UNIT -3

- 3.1 Impact of Tourism on local economy and culture, Tourism in India – Historical Perspectives and recent changes.
- 3.2 Problems, prospects and challenges of Tourism with special reference to India.

UNIT -4

- 4.1 Tourism Infrastructure with special reference to Transport, food and lodging.
- 4.2 Regional Perspective of Tourism: Himalaya with special reference to Kashmir, Desert and Coast.

UNIT -5

Internal Assessment: Assignment on Problems and Prospects of Tourism in West Bengal

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Semester 6

Core Course 13: Regional Geography of India and West Bengal

UNIT-1

- 1.1 Regionalisation in India: Physiographic (R.L.Singh), Socio-Cultural (Sopher), Economic (Sengupta).
- 1.2 Geology and structure with special reference to Himalaya and evolution of the Peninsular India.

UNIT-2

- 2.1 Drainage systems: Pattern, Evolution and Characteristics of Peninsular and Himalayan regions.
- 2.2 Climate, Soil and Vegetation: Characteristics, Classification and Distribution.

UNIT -3

- 3.1 Mineral and power resources distribution and utilization of Iron ore, Coal, Petroleum. Agriculture- Green Revolution and New Agricultural Policy Industrial development – Iron & Steel industry & Information Technology.
- 3.2 Growth of population, Distribution of population based on Race and Language.

UNIT -4

- 4.1 Physiographic divisions of West Bengal, Climate, Soil and Vegetation of West Bengal (Characteristics and Classification).
- 4.1 Population growth, distribution and Human development, Problems of Flood, Drought & Ground water pollution and their management.

UNIT -5

Internal Assessment: Assignment on Regional Issues

Core Course 14: Topographical Sheet and Weather Map Interpretation (Practical)

UNIT-1

Interpretation of topographical maps (Plateau region, 1: 50000), Principles of topographical sheet numbering (Defense Series and Open Series Maps) as followed by Survey of India, Construction of profiles: Super imposed, projected and composite, Long and cross profiles along and across river, Morphometric analysis in 5*5 km area: Relative Relief, Drainage Density, Drainage Frequency, Average Slope (Wentworth's Method), Analysis of landforms and vegetation characteristics, Interpretation of settlement, transport and communication, Relation between physical and cultural elements.

UNIT-2

Interpretation of daily Weather Report prepared by Indian Meteorological Department.

UNIT -3

Internal Assessment: Project work: Preparation of maps and charts from toposheet and interpretations (At least two from the following: i. Geomorphic map, ii. Composite morphological map, iii. Index showing toposheet network, iv. Hierarchy of settlement).

UNIT -4

Laboratory Note Book and Viva-voce.

6+4=10 Marks

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DSEC (3/4): Land Use and Land Use Planning

UNIT-1

- 1.1 Land: Concept and Classification, Importance of Land in geographical study.
- 1.2 Land use: Concept, Factors and Types.

UNIT-2

- 2.1 Determinants of Land use: soil and water.
- 2.2 Land use: Principles (Graham and Stamp) and Approaches.

UNIT -3

- 3.1 Land Capability: Concept, Objectives and Classification (L.D. Stamp and AIS and LSO).
- 3.2 Land use Planning: Concepts and Methods (British method, FAO's method and Indian method).

UNIT -4

- 4.1 Land use planning and rural development: planning, problems, management, and Indian scenario.
- 4.2 Land use planning in different regions with special reference to Sundarbans and Darjeeling Himalaya.

UNIT -5

Internal Assessment: Assignment on Land Capability Classification.

DSEC (3/4): Political Geography

UNIT-1

- 1.1 Concept, Nature, Scope and Recent trends in Political Geography
- 1.2 Concepts of Territoriality, State, Nation and Nation State

UNIT-2

- 2.1 Frontiers and Boundaries: Definition, Concept and Classification
- 2.2 Geopolitics: Concept and Theories (Heartland and Rimland)

UNIT -3

- 3.1 Regionalism and Federalism in India: Growth and Factors.
- 3.2 Electoral Geography – Geography of voting, Geographic influence on voting pattern, Geography of Representation

UNIT -4

- 4.1 Political Geography of Resource Conflicts- Water sharing disputes, Disputes and conflicts related to Forest Rights and Minerals
- 4.2 Politics of Displacement: Issues of Relief Compensation and rehabilitation with reference to Dams and Special Economic Zones

UNIT -5

Internal Assessment: Assignment on Political Issues during Municipal and Panchyat Elections about Amenities Facilities

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DSEC (3/4): Hydrology

UNIT-1

- 1.1 Definition, Scope and Content of Hydrology and its relevance.
- 1.2 Components and distribution of Hydrosphere

UNIT-2

- 2.1 Global Hydrological cycle and its implications
- 2.2 Controlling factors of run-off and run-off cycle

UNIT -3

- 3.1 Aspects of Infiltration, Evaporation and Transpiration
- 3.2 Groundwater: Sources and types and Significance, transport, storage, Concept of Aquifers

UNIT -4

- 4.1 Factors influencing groundwater movement and storage
- 4.2 Karst process and Karst cycle

UNIT -5

Internal assessment: Assignment on Groundwater Problem

DSEC (3/4): Social and Cultural Geography

UNIT-1

- 1.1 Definition, scope and Content of Social Geography, Evolution of Social Geography: Approaches- Behavioral, Radical and Welfare
- 1.2 Social Structure, Social Processes, Social Patterns, Social wellbeing, Social Space

UNIT-2

- 2.1 Social Elements; Class, Caste and Ethnicity with special reference to India
- 2.2 Social Groups: Tribal, Traditional and Modern Society

UNIT -3

- 3.1 Concept of Culture; Definition, scope and content of Cultural Geography; Cultural Regions, Cultural Areas and Cultural Landscape
- 3.2 Cultural Hearth; Cultural Change: Innovation, Diffusion, Acculturation and Cultural Modification

UNIT -4

- 4.1 Ethnic Groups, Ethnicity and Ethnocentrism; Areal Expression of Ethnicity: Ethnic clusters, Shifting Ethnic Concentration; Ethnic Regionalism
- 4.2 Ethnic, Linguistic and Religious groups within India

UNIT -5

Internal Assessment: Assignment on Social Problems in Local Area

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DSEC (3/4): Environmental Geography

UNIT-1

- 1.1 Meaning of Environment; Components, Structure and Types of Environment.
- 1.2 Man-Environment Relationship during Periods of Hunting and Food Gathering, Domestication of Animals and Plants, and Industrialization

UNIT-2

- 2.1 Man and Atmosphere: Global Warming and Ozone Depletion, Man and Forest: Deforestation and Biodiversity Loss
- 2.2 Hazards and Disasters: Meaning, Concept and Types, Hazards and Disasters related to Flood, Drought, Tropical Cyclones in India

UNIT -3

- 3.1 Air and Water Pollution- Causes and Impact
- 3.2 Air and Water Pollution- Controlling Measures

UNIT -4

- 4.1 Conservation and Management of Forest in India: Afforestation, Social Forestry, Agro-forestry, Joint Forest Management
- 4.2 Environmental Monitoring: Biological Monitoring Programme, Bio-indicators and Environmental Monitoring

UNIT -5

Internal Assessment: Assignment on Local Environmental Issues

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**B.A. /B.Sc. Program in Geography
Semester 1**

Core Paper 1: Geotectonics and Geomorphology: Marks: 50

UNIT-I

1.1 Origin of the Earth: Theories Propounded by Kant and Laplace; Geological Time Scale with Major Physical and Biological Events

1.2 Internal Structure of the Earth; Origin, Classification and Characteristics of Rocks

UNIT-II

2.1 Continental Drift Theory for Crustal arrangement and Shape-Evidences and Mechanisms; Theory of Plate tectonics- Evidences and Mechanisms

2.2 Classification of Folds and Faults and resulted landforms

UNIT-III

3.1 Mass Wasting- Processes and Landforms; Weathering- Processes and Landforms

3.2 Theory of Landscape Evolution: Davis and Penck and Hack

UNIT-IV

4.1 Glacial Processes and Landforms with Special reference to Morains; Fluvial Processes and Landforms with Special reference to Deltas

4.2 Aeolian Processes and Landforms with Special reference to Dunes; Karst Processes and Landforms with Special reference to Sinkholes

Suggested Readings:

- Ahmad, E. 1990, *Geomorphology*, Kalyani Pub. New Delhi
- Bland, W. and Rolls, D. 1998, *Weathering*, Hodder & Stoughton.
- Bloom, A L 1998, *Geomorphology: A Systematic Analysis of Late Cenozoic Landforms*. 3rd Edition. Prentice Hall India Ltd. New Delhi.
- Burbank, .D. G. and Anderson, R.S. 2001, *Tectonic Geomorphology: A Frontier in Earth Science*, Blackwell Science Inc. London.
- Carter, R.W.G. 1988, *Coastal Environments: An Introduction to the Physical Ecological and Cultural Systems of Coastlines*, Academic Press, London.
- Chorley, R.J. and Kates, R.W. (Editors) 1969, *Water Earth and Man*, Methen, London.
- Cox, A. and Hart. R.B. 1986, *Plate Tectonics: How it Works*, Blackwell Scientific Publications, Oxford.
- Dayal, P. 1990, *A Textbook of Geomorphology*, Shukla Book Depoi, Patna.
- Duff. P.M.D. (Editor) 1994, *Holmes' Principles of Physical Geology*, English Language Book Society/Champman & Hall, London.
- Faniran, A. and Jaje, L.K. 1983, *Humid Tropical Geomorphology*, Longman Ltd. Hyderabad.
- Faribridge, S.W. *Encyclopedia of Geomorphology*, Reinhold Corp. Ltd.
- Kale, V.S. and Gupta. A. 2001, *Introduction to Geomorphology*, Orient Balckswan Ltd. Hyderabad.
- Keary, F. and Vine. M. 1997, *Global Tectonics*. 2nd edition, Blackwell Scientific Publications. Oxford.
- Kinghton D. 1998, *Fluvial Forms and Processes: A New Perspective*, Arnold. London.

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- Pal, S.K. 2003. *Physical Geography of India*, Orient Balckswan Ltd. Hyderabad
- Powell, J. 2001, *Mysteries of Terra Firma: The Age and Evolution of the Earth*. Free Press. London. 272p.
- Prasad. N. and Basu R. (Editors) 2002, *Contemporary Dimensions in Geography*: Academic Staff College . University of Burdwan. Bardhaman.
- Selby, M.J. 1985, *An Introduction to Geomorphology*, Clarendon, Oxford.
- Sharma, R.C. and Vatal. M. *Oceanography for Geographers*. Chaitanya Pub. House. Allahabad.
- Singh. S. 2000, *Geomorphology*, 2nd edition, Prayag Pustak Bhavan, Allahabad.
- Stahler and Strahler 2002, *Geography and Man's Environment*, John Wiley, New York.
- Summerfield M.A. (Editor) 1991, *Global Geomorphology: An Introduction to the Study of Landforms*, John Wiley and Sons Ltd., New York.
- Tarback. E.J. Lutgens. F.K. and Tasa. D., 2003, *Earth Science, 10th edition*, Prentice Hall, Englewood Cliff's.
- Thornbury. W.D. 1969, *Principles of Geomorphology*, 2nd edition, Wiley Eastern Limited. New Delhi.
- Woodroffe, C.D. 2002, *Coasts: Form, Process and Evolution*, Cambridge University Press. Cambridge.

B.A Honours in Geography: CBCS
University

Syllabus: Kazi Nazrul

Core Paper 2: Discipline-2(Core 1): Marks 50

Core Paper

See the Syllabus of respective Department

AECC-1(Core): MIL-1: Marks 50

Ability-Enhancement Compulsory Course

AECC-1(Elective): Environmental Studies Marks 50

Ability-Enhancement Compulsory Course

B.A. /B.Sc. (Program) in Geography: 2nd Semester

Course Structure (CBCS)

(Climatology and Soil Geography)

Paper- Total: 40+10=50

Unit 1	10
1.1 Thermal structure and layering of atmosphere; Horizontal distribution of Temperature	
1.2 Origin (Thermal Concept and Flohn's Concept) and Characteristics of Monsoon	
Unit 2	10
2.1 Origin and characteristics of temperate and tropical cyclone	
2.2 Precipitation: Forms and Types	
Unit 3	10
3.1 Physical and chemical properties of soil: Texture, Structure and pH	
3.2 Characteristics and development of Soil profile: Laterite and Podzol	
Unit 4	10
4.1 Soil fertility and productivity: Definition, factors affecting soil fertility, soil Fertility improvement methods	
4.2 Cause of soil erosion and methods of soil conservation	
Unit 5	10
Internal Assessment: Preparation and interpretation of Daily Weather Data/ Report on Soil Fertility status of a Mouza (NPK, pH)	

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B.A. /B.Sc. (Program) in Geography: 3rd Semester

Course Structure (CBCS)

(Economic Geography)

Paper- Total: 40+10=50

Unit 1

- 1.1 Types of economic activities: Characteristics and their role in economic Development-primary, secondary and tertiary
- 1.2 Agricultural economy: Intensive subsistence farming in Asia and farming In N.W. Europe; Market gardening and orchard farming

Unit 2

- 2.1 Industrial location theory: Weber and Hoover
Agro based industry: Cotton Textile industry of India
- 2.2 Forest based industry: Paper industry of Canada

Unit 3

- 3.1 Mineral based industries: Iron and Steel industry of India. Information based
Industry in India
- 3.2 Industrial regions of India: Mumbai-Pune, Asansol-Durgapur

Unit 4

- 4.1 Role of Tourism industry in economic development in Indian context
- 4.2 Role of Trade and Transport in economic development in Indian context

Unit 5

Internal Assessment: Assignment on Industrial Sickness/
Accessibility and connectivity of an Urban Area 10

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B.A. ./B.Sc. (Program) in Geography: 3rd Semester

Course Structure (CBCS)

(Cartographic Application)

Paper-SEC 1

Total: =50

Unit 1

- 1.1 Construction of linear scale and comparative scale
- 1.2 Map Projection: Polar Zenithal Stereographic and cylindrical equal Area Projection

Unit 2

- 2.1 Population data representation by Choropleth and Isopleth method
- 2.2 Age-sex pyramid and interpretation, Taylor's Climograph

Unit 3

- 3.1 Surveying: Prismatic Compass Survey (open and closed traverse)
- 3.2 Drawing of profile by Dumpy Level

Unit 4 Internal Assessment

Preparation of flowchart based on data obtained from field/ Project report on area, production and productivity of crops of a rural Mouza

Unit 5

Viva Voce

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B.A. /B.Sc. Program in Geography

Semester 4

Core Paper C-7: Human Geography Marks: 50

Unit-I

- 1.1 Nature, scope and elements of Human Geography
- 1.2 Approaches to the study of Human Geography: Resource, Locational and Environmental

Unit-II

- 2.1 Growth, distribution and density of population of the world, Concept of optimum population
- 2.2 Migration: Types, causes & consequences

Unit-III

- 3.1 Concept of Race & Ethnicity, Distribution of major racial groups of the world
- 3.2 Human adaptation to environment: Pygmies and Santals

Unit-IV

- 4.1 Concept of Rural and Urban settlement: Types and patterns of rural settlement
- 4.2 Classification of urban settlement according to size and function

Unit-IV

Internal assessment

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Semester 4

**SEC-2: Toposheet Interpretation, Weather
Map Interpretation and Forecasting**

Marks: 50

Unit-I

Interpretation of topographical maps (plateau & plain)

- i) Principles of topographical sheet numbering as followed by survey of India
- ii. Construction of profiles: Superimposed, projected and composite, long and cross profiles along and across river
- iii. Analysis of landforms and vegetation characteristics.
- iv. Identification & Interpretation of settlement, transport and communication.
- v. Relation between physical and cultural elements.

Unit-II

Interpretation of Daily Weather Report prepared by Indian Meteorological

Department

Unit-III

Internal assignment: preparation of maps and charts from toposheets and their interpretations [At least two from the given i) Index to toposheet map, ii) Geomorphic map iii) Hierarchy of settlement]

Unit-IV

Laboratory Note Book and Viva-voce

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Semester 5

DSE- Geography of India and West Bengal Marks: 50

Unit-I

- 1.1 India: Structure and relief and their interrelationship. Drainage system of India
- 1.2 Climate and Soil: Characteristics, distribution and interrelationship

Unit-II


- 2.1 India: Agriculture - Green revolution and new agricultural policy
- 2.2 Population of India: Growth, distribution and problems

Unit-III

- 3.1 Physiographic divisions and drainage system of West Bengal
- 3.2 Climate, soil and vegetation of West Bengal.

Unit-IV

- 4.1 West Bengal: Population, growth and urbanization


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4.2 Regional problems: Mining in Asansol-Durgapur region, Environmental problems of Sunderban region

Unit-V

Internal assessment

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Semester 5

DSE- Industrial Geography Marks: 50

Unit-I

1.1 Definition, Scope and Content of Industrial Geography

1.2 Factors of industrial location: Classification of industries

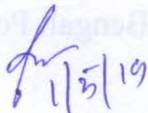
Unit-II

2.1 Industrial regions: Great Lakes, Hooghly industrial region

2.2 Mineral based industry of India: Aluminium. Forest based industry of India:

Paper

Unit-III


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3.1 Industrial region of India: Chotonagpur region

3.2 Problems and prospects of Tourism industry in West Bengal

Unit-IV

4.1 Environmental impact of industrialization.

4.2 Industrial policy of India

Unit-V

Internal assessment

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Semester 5

GE – 1(A): Disaster Management Marks: 50

Unit-I

Hazards and Disaster: Definition, concept and types

Unit-II

Disaster in India: Flood and Drought: Causes, distribution and impact

Unit-III

Disaster in India: Earthquake and Cyclone: Causes, distribution and impact

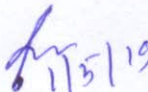
Unit-IV

Quasi-natural hazards: Uttarakhand flash flood

Manmade Disaster: Bhopal Gas Tragedy

Unit-V

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Semester 5

GE – 1(B): Climate Change Marks: 50

Unit-I

Concept and elements of weather and climate

Unit-II

Concept and theories of climate change.

Unit-III

Causes and consequences of climate change.

Unit-IV

Evidences of climate change; Green house effects: causes and consequences.

Unit-V

Internal assessment

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Semester 5

SEC – 3 (A)

Field Techniques and Survey based Project Report

Marks: 50

Unit-I

Need and techniques of Pre – field study (Collection of Maps, Images, Literature survey, Preparation of tour plan, Preparation of questionnaires)

Unit-II

Division of area under study into units (by contour, soil status, vegetation, agriculture etc)

Unit-III

Determination of soil status (p^H , Nitrogen, Organic matter) using soil kit

Unit-IV

Preparation of land use map and their interpretation

Unit-V

Internal Assignment

Preparation and interpretation of Mouza Maps (Rural) / settlement Morphology (Rural or Urban) / Market Morphology (Urban)

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Semester 5

SEC – 3 (B)

GIS Based Project Report

Marks: 50

Unit-I

Traditional and Digital Mapping, Need and Advantage of Digital Mapping

Unit-II

Basic concepts of Remote Sensing, GIS and GPS

Unit-III

Location of a place using GPS

Unit-IV

Georeferencing of scanned Maps and Images

Unit-V

Internal Assignment

Principles of preparing and Interpretation of Standard FCC from Images

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Semester 6

DSE-Environmental Geography Marks: 50

Unit-I

1.1 Definition and Scope of Environmental Geography. Fundamental concepts in environmental geography

1.2 Meaning, structure and types of environment; Components of environment

Unit-II

2.1 Biosphere as an ecosystem; Subsystems and components of biosphere and their relationship

2.2 Biogeochemical cycles: meaning, types and significance; Carbon and nitrogen cycle

Unit-III

3.1 Environmental degradation: meaning types and causes

3.2 Population growth and environmental degradation; Industrialization and environmental degradation

Unit-IV

4.1 Environmental hazards and disaster: meaning and concept; Natural disaster reduction and management

4.2 Environmental movements in India: Chipko movement, Silent valley movement, Narmada Bachao Andolon

Unit-V

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Semester 6

DSE- Applied Climatology

Marks: 50

Unit-I

- 1.1 Definition and Scope of Applied climatology. Interrelationship between climate, soil and vegetation
- 1.2 Influence of climate on physiological functions of the human beings and mortality; effects on human health

Unit-II

- 2.1 Impact of climate on agriculture, Climate and industry
- 2.2 Impact of climate on house types, food and clothing

Unit-III

- 3.1 Urbanization and Heat Island; urbanization and other weather phenomena
- 3.2 Climate and human behaviour; acclimatization

Unit-IV

- 4.1 Climate, recreation and tourism; climate and transportation
- 4.2 Influence of human activities on climate; man and the future of world climate

Unit-V

Internal assessment

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Semester 6

GE-2 (A): Geography of Tourism Marks: 50

Unit-I

Scope and Nature – Concepts and Issues, Types of Tourists (Visitor, Traveller, and Excursionist–Definition and differentiation); Tourism, recreation and leisure, their interrelationships

Unit-II

Physical and cultural factors for the development of Tourism; International and Domestic Tourism – Recent Trends

Unit-III


Type of Tourism: Nature tourism, Heritage Tourism, Medical Tourism, Pilgrimage

Unit-IV

Impact of Tourism on Economy, Environment and Society; Concept of Ecotourism; Problem and prospects of tourism in India

Unit-V

Internal assessment


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Semester 6

GE-2 (B): Rural Development Marks: 50

Unit-I

Defining Development: Inter-Dependence of Urban and Rural Sectors of the Economy; Need for Rural Development

Unit-II

Rural Economic Base: Agriculture and Allied Sectors, Seasonality and Need for Expanding Non-Farm Activities

Unit-III


Area Based Approach to Rural Development: Green Revolution, Drought Prone Area Programmes, PMGSY.

Unit-IV

Target Group Approach to Rural Development: IRDP,SJSY

Unit-V

Internal assessment


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Semester 6

SEC 4 - (A): Statistical Data Analysis Marks: 50

Unit-I

Need for Statistical Analysis in Geography; Key terminology: Universe, population, sample, variable, attribute

Unit-II

Preparation of Frequency table, Histogram and Frequency curve, Cumulative Frequency Polygon

Unit-III

Central Tendency: Mean, Median, Mode; Dispersion: Standard Deviation

Unit-IV

Bivariate Techniques: Scatter Diagram and Fitting of Trend Line (Eye Estimate)

Unit-V

Internal Assignment

Statistical Data Entry: Arrangement into ascending and descending order;

Cartograms using Excel: Bar, Pie, Line Graph

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Semester 6

SEC 4 - (B): Land Surveying by Plane Table, Dumpy Level and

Prismatic Compass

Marks: 50

Unit-I

Need and Techniques of Land Surveying

Unit-II

Preparation of Site plan by Prismatic Compass

Unit-III

Levelling by Dumpy Level

Unit-IV

Preparation of Land Use map by Plane Table Survey

Unit-V

Internal assignment

Preparation of College Campus map/ Play Ground site / Garden site of the College

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