

CURRICULUM AND SYLLABUS

B.Sc. Honours in Geography

(w.e.f 2018-2019)

UNDER CHOICE BASED CREDIT SYSTEM



KAZI NAZRUL UNIVERSITY
ASANSOL, WEST BENGAL

Kazi Nazrul University
Curriculum and Syllabus

B.Sc. Honours in Geography and B.Sc. Program in Geography
(6 Semesters Pattern)
(With effect from **2018-2019** academic session and onwards)

B.Sc. Honours in Geography
Semester 1
Geotectonic and Geomorphology

Course Code : BSCHGEOC101
Course Type: Core (Theory)

Course Details :CC- 1
Full Marks: 50(10+40)

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/Chapman & 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.
- 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.
- Tarbuck. 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.

Fundamentals of Practical Geography

Course Code: BSCHGEOC102
Course Type: Core (Practical)

Course Details: CC- 2
Full Marks: 50(30+20)

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, Dolomite, 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 (5 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 Vaidyarthi 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.

Disaster Management

Course Code : BSCHGEOGE101
Course Type: Generic Elective (Theory)

Course Details :GE- 1
Full Marks: 50(10+40)

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

Semester 2

Geomorphology and Oceanography

Course Code : BSCHGEOC201

Course Type: Core (Theory)

Course Details :CC- 3

Full Marks: 50(10+40)

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

Map Projection and Surveying

Course Code : BSCHGEOC202

Course Type: Core (Practical)

Course Details :CC- 4

Full Marks: 50(30+20)

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 (5 Marks)

Climate Change, Adaptability and Vulnerability Assessment

Course Code : BSCHGEOGE201

Course Details :GE- 2

Course Type: Generic Elective (Theory)

Full Marks: 50(10+40)

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.

**Semester 3
Climatology****Course Code: BSCHGEOC301**
Course Type: Core (Theory)**Course Details: CC-5**
Full Marks: 50(10+40)**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

Soil and Biogeography**Course Code: BSCHGEOC302**
Course Type: Core (Theory)**Course Details: CC- 6**
Full Marks: 50(10+40)**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, Ecotone, 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

Weather Data Recording and Soil Testing

Course Code : BSCHGEOC303

Course Details :CC- 7

Course Type: Core (Practical)

Full Marks: 50(30+20)

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 (5 Marks)

Remote Sensing Techniques

Course Code : BSCHGEOSEC301

Course Details :SEC- 1

Course Type: Skill Enhancement Course (Practical)

Full Marks: 50(30+20)

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 (5 Marks)

Tourism and Development

Course Code : BSCHGEOGE301

Course Details :GE- 3

Course Type: Generic Elective (Theory)

Full Marks: 50(10+40)

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).

Semester 4

Geographical Thought

Course Code : BSCHGEOC401

Course Details :CC- 8

Course Type: Core (Theory)

Full Marks: 50(10+40)

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.

Economic and Social Geography

Course Code : BSCHGEOC402

Course Details :CC- 9

Course Type: Core (Theory)

Full Marks: 50(10+40)

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.

Thematic Maps and Diagrams

Course Code : BSCHGEOC403

Course Details :CC- 10

Course Type: Core (Practical)

Full Marks: 50(30+20)

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 (5 Marks)

Rural Development

Course Code : BSCHGEOGE401

Course Details :GE- 4

Course Type: Generic Elective (Theory)

Full Marks: 50(10+40)

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 with local people and preparation of Report.

Geographical Information System

Course Code : BSCHGEOSEC401

Course Details :SEC-2

Course Type: Skill Enhancement Course (Practical)

Full Marks: 50(30+20)

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. (5 Marks)

Research Methods

Course Code : BSCHGEOSEC402

Course Details :SEC- 2

Course Type: Skill Enhancement Course (Theory)

Full Marks: 50(10+40)

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.

Semester 5 Settlement Geography

Course Code : BSCHGEOC501
Course Type: Core (Theory)

Course Details :CC- 11
Full Marks: 50(10+40)

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

Reading List

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

Statistical Techniques

Course Code : BSCHGEOC502

Course Details :CC- 12

Course Type: Core (Practical)

Full Marks: 50(30+20)

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

Population Geography

Course Code : BSCHGEODSE501

Course Details :DSE- (1/2)

Course Type: Discipline Specific Elective (Theory)

Full Marks: 50(10+40)

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.

Resource Geography

Course Code : BSCHGEODSE502

Course Details :DSE- (1 /2)

Course Type: Discipline Specific Elective (Theory)

Full Marks: 50(10+40)

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.

Urban Geography

Course Code : BSCHGEODSE503

Course Details :DSE- (1 /2)

Course Type: Discipline Specific Elective (Theory)

Full Marks: 50(10+40)

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.

Agricultural Geography

Course Code : BSCHGEODSE504

Course Details :DSE- (1/2)

Course Type: Discipline Specific Elective (Theory) Full Marks: 50(10+40)

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.

Geography of Tourism

Course Code : BSCHGEODSE505

Course Details :DSE- (1/2)

Course Type: Discipline Specific Elective (Theory) Full Marks: 50(10+40)

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

Semester 6

Regional Geography of India and West Bengal

Course Code : BSCHGEOC601

Course Details :CC- 13

Course Type: Core (Theory)

Full Marks: 50(10+40)

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).

4.2 Population growth, distribution and Human development, Problems of Flood, Drought & Ground water pollution and their management.

UNIT -5

Internal Assessment: Assignment on Regional Issues

Topographical Sheet and Weather Map Interpretation

Course Code : BSCHGEOC602

Course Details :CC- 14

Course Type: Core (Practical)

Full Marks: 50(30+20)

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. (5 Marks)

Land Use and Land Use Planning

Course Code : BSCHGEODSE601

Course Details :DSE- (3/4)

Course Type: Discipline Specific Elective (Theory)

Full Marks: 50(10+40)

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.

Political Geography

Course Code : BSCHGEODSE602

Course Details :DSE- (3/4)

Course Type: Discipline Specific Elective (Theory)

Full Marks: 50(10+40)

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

Hydrology

Course Code : BSCHGEODSE603

Course Details :DSE- (3/4)

Course Type: Discipline Specific Elective (Theory)

Full Marks: 50(10+40)

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

Social and Cultural Geography

Course Code : BSCHGEODSE604

Course Details :DSE- (3/4)

Course Type: Discipline Specific Elective (Theory)

Full Marks: 50(10+40)

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

Environmental Geography

Course Code : BSCHGEODSE605

Course Details :DSE- (3/4)

Course Type: Discipline Specific Elective (Theory)

Full Marks: 50(10+40)

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