



**Under Graduate Syllabus  
for  
BSc (Hons) Course in Geography**

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TO BE EFFECTIVE FROM THE ACADEMIC SESSION 2015-2016



**Jadavpur University  
Kolkata 70032**

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**Section 1: Course Structure****BSc 1st Year 1st Semester : 18 Periods per Week : 150 Marks**

PAPER	SUBJECT	UNIT	MARKS	PERIODS PER WEEK
101T	Fundamental Concepts in Geography	1/2 + 1/2	25+25	3+3
102T	Elements of Physical Geography	1/2 + 1/2	25+25	3+3
103P	Basic Cartography	1/2 + 1/2	25+25	3+3

**BSc 1st Year 2nd Semester : 24 Periods per Week : 200 Marks**

PAPER	SUBJECT	UNIT	MARKS	PERIODS PER WEEK
201T	Elements of Human Geography	1/2 + 1/2	25+25	3+3
202T	Economic Geography	1/2 + 1/2	25+25	3+3
203P	Statistical Methods	1/2 + 1/2	25+25	3+3
204P	Map Interpretation	1/2 + 1/2	25+25	3+3

**BSc 2nd Year 3rd Semester : 24 Periods per Week : 150 Marks**

PAPER	SUBJECT	UNIT	MARKS	PERIODS PER WEEK
301T	Geotectonics and Geomorphology	1/2 + 1/2	25+25	3+3
302T	Climatology	1/2 + 1/2	25+25	3+3
303P	Techniques in Physical Geography	1/2 + 1/2	25+25	3+3

**BSc 2nd Year 4th Semester : 24 Periods per Week : 200 Marks**

PAPER	SUBJECT	UNIT	MARKS	PERIODS PER WEEK
401T	Soil and Biogeography	1/2 + 1/2	25+25	3+3
402T	Environmental Geography	1/2 + 1/2	25+25	3+3
403P	Remote Sensing	1/2 + 1/2	25+25	3+3
404P	Geographical Information System	1/2 + 1/2	25+25	3+3

**BSc 3rd Year 5th Semester : 30 Periods per Week : 250 Marks**

PAPER	SUBJECT	UNIT	MARKS	PERIODS PER WEEK
501T	Population and Settlement Geographies	1/2 + 1/2	25+25	3+3
502T	Social Geography	1/2 + 1/2	25+25	3+3
503T	Resource Geography	1/2 + 1/2	25+25	3+3
504P	Socio-economic Survey Techniques	1/2 + 1/2	25+25	3+3
505P	Thematic Mapping	1/2 + 1/2	25+25	3+3

**BSc 3rd Year 6th Semester : 24 Periods per Week : 250 Marks**

PAPER	SUBJECT	UNIT	MARKS	PERIODS PER WEEK
601T	Geographical Thoughts	1/2 + 1/2	25+25	3+3
602T	Regional Development and Planning	1/2 + 1/2	25+25	3+3
603T	Regional Geography of India	1/2 + 1/2	25+25	3+3
604P	Field Report	1/2 + 1/2	25+25	3+3
605P	Grand Viva	1/2	25	At the end of the semester
606P	Seminar Presentation	1/2	25	At the end of the semester

## **Section 2: Detailed Syllabus**

### **/// PAPER-101T (Theoretical): FUNDAMENTAL CONCEPTS IN GEOGRAPHY [50 Marks]**

#### 1.0: NATURE OF GEOGRAPHY AND ITS RELATIONSHIP WITH OTHER BRANCHES OF KNOWLEDGE

- 1.1 Meaning, Nature and Scope of Geography; Geographical Traditions
- 1.2 Relations of Geography with other branches of Knowledge
- 1.3 Physical Geographies: organising concepts and emerging trends
- 1.4 Human Geographies: organising concepts and emerging trends

#### 2.0: FUNDAMENTAL CONCEPTS OF GEOGRAPHY

- 2.1 Scale, Location, Space, Area, Region and Regional Concept
- 2.2 Areal Differentiation and Spatial integration, Centrality, Contiguity.
- 2.3 Dichotomy and Dualism, Unity, Synthesis, Models, Paradigms
- 2.4 System Analysis, Spatial Interaction, Spatial Pattern and Distribution, applied Geography

### **/// PAPER-102T (Theoretical): ELEMENTS OF PHYSICAL GEOGRAPHY: [50 Marks]**

#### 1.0 APPROACHES TO PHYSICAL GEOGRAPHY

- 1.1 Concept of spatial and temporal scales in Physical Geography, Relief order.
- 1.2 Physical systems: Concept and applications in geo-science
- 1.3 Principles of relative and absolute dating, Geological timescale.
- 1.4 Origin and Geological history of the earth

#### 2.0 THE EARTH SYSTEMS

- 2.1 Atmospheric systems: Energy, moisture and motion
- 2.2 Oceanic system: Water mass, tides, currents and waves
- 2.3 Terrestrial system: Origin, classification and degeneration of rocks
- 2.4 Hydrological system: Hydrological cycle, runoff cycle and river regime

### **/// PAPER-103P (Practical): BASIC CARTOGRAPHY [50 Marks]**

#### 1.0 SCALE AND MAP PROJECTION

- 1.1 Concept, use and construction of scales: Linear, Diagonal and Vernier
- 1.2 Concept of Generating Globe and Grids: Angular and Linear system of measurement
- 1.3 Concept, construction and application of Map Projections: Polar (Zenithal Stereographic), Conical (Simple Conic, one and two Standard), Cylindrical (Equal Area)
- 1.4 Concept and significance of UTM

#### 2.0 SURVEYING

- 2.1 Traverse survey using Prismatic Compass
- 2.2 Profile survey using and Prismatic Compass, Dumpy level

2.3 Determination of height by Transit Theodolite (base of the object inaccessible)

2.4 Generation of contours using Transit Theodolite

**/// PAPER-201T (Theoretical): ELEMENTS OF HUMAN GEOGRAPHY [50 Marks]**

1.0 NATURE AND PRINCIPLES OF HUMAN GEOGRAPHY

1.1 Meaning, nature and scope

1.2 Principles of Human Geography

1.3 Approaches to the study of Human Geography; Resource, Locational, Landscape, Environmental

1.4 Man-Environment Relationship, Determinism, Possibilism, Probabilism, Environmentalism

2.0 HUMAN ADAPTATIONS

2.1 Evolution of man and adaptation to Environment

2.2 Concept of Races, characteristics and their distribution

2.3 Human adaptation to environment; Eskimo, Masai, Bushman, primitive people of India (Santhal, Nagas, Gaddis)

2.4 Human Population and Environment with special reference to development – environment conflict

**/// PAPER-202T (Theoretical): ECONOMIC GEOGRAPHY [50 Marks]**

1.0 ECONOMIC GEOGRAPHY TODAY

1.1 Meaning and approaches to Economic Geography; New Economic Geography

1.2 Concepts in Economic Geography

1.3 Theories of Agricultural and Industrial location (Von Thünen, Weber, Lösch)

1.4 Transport costs and Economic distance

2.0 ECONOMIC ACTIVITIES

2.1 Principles of Economic activities; Production, exchange and consumption

2.2 Principal crops – Paddy, Wheat, Tea, Jute, Sugarcane; Major Industries: Iron and Steel, Cotton textile

2.3 Agricultural Systems: Plantation Agriculture and Mixed Farming

2.4 Trade and Transport; Transcontinental Railways and Sea-routes, Trade blocs-EEC, ASEAN

**/// PAPER-203P (Practical): STATISTICAL METHODS [50 Marks]**

1.0 APPLICATION, COLLECTION AND TREATMENT OF DATA

1.1 Importance and Significance of Statistics in Geography, Data (Variable, Attribute), Measuring Scales (Nominal, Ordinal, Weighted)

1.2 Collection of data and formation of statistical tables, Importance of cross

tabulation

1.3 Sampling; Need, Types, and Significance, Random Sampling Measures

1.4 Diagrammatic Representation of Data- Bar, Histogram, Polygon, Curve (Normal and Skewed Curve), Ogives

## 2.0 FUNDAMENTAL STATISTICAL MEASURES

2.1 Central Tendency- Mean, Median, Mode, Partition Value

2.2 Dispersion Measures; Range, Mean Deviation, Standard Deviation, Coefficient of Variation, Z - score

2.3 Regression (Linear, Geometric), Correlation (Pearson and Spearman) and Time Series Analysis (Moving Average)

2.4 Demographic (Birth rate, death rate, growth rate) and agricultural statistics (combination, diversification, intensity and growth).

## **/// PAPER-204P (Practical): MAP INTERPRETATION [50 Marks]**

### 1.0 TOPO MAP INTERPRETATION

1.1 Survey of India topographical maps: History, indexing *vis-a-vis* scale (old and open series), information on the margin of maps

1.2 Construction and interpretation of relief and river profiles and block diagrams from toposheets

1.3 Watershed analysis: Shape, relative relief, drainage density, stream ordering, hypsometric integral

1.4 Study of correlation between physical and cultural features from toposheets using transect chart; distribution of settlements *vis-a-vis* availability of resources

### 2.0 THEMATIC MAP INTERPRETATION

2.1 Preparation and interpretation of land use on cadastral map using secondary data

2.2 Construction and interpretation of sections from geological maps (uniclinal, simple fold and fault)

2.3 Identification of specific weather systems and their interpretation using suitable maps/ diagrams; Study of seasonal change of weathers from IMD weather maps: Monsoon and winter

2.4 Interpretation of bathymetric charts

## **/// PAPER-301T (Theoretical): GEOTECTONICS AND GEOMORPHOLOGY [50 Marks]**

### 1.0 GEOTECTONICS

1.1 Thermal and physical state of the Earth's interior with special reference to seismology

1.2 Isostasy: Models of Pratt and Airy; their applicability

1.3 Continental Drift Theory; Plate Tectonics: as a unified theory of global tectonics

1.4 Genetic classification of World Mountains

## 2.0 GEOMORPHOLOGY

- 2.1 Weathering and mass wasting: classification, factors and landforms
- 2.2 Fluvial processes and landforms evolution in horizontal, folded, domal and volcanic structures
- 2.3 Geomorphologic processes and landform evolution in Aeolian, Karst, Coastal and Glacial areas
- 2.4 Cyclic and non-cyclic concepts of landscape evolution (Davis, Penck, King and Hack).

## **/// PAPER-302T (Theoretical): CLIMATOLOGY [50 Marks]**

### 1.0 LAYERS AND ELEMENTS OF THE ATMOSPHERE

- 1.1 Nature, composition and layering of the atmosphere, Greenhouse effect and importance of ozone layer.
- 1.2 Insolation: controlling factors, Heat budget of the atmosphere.
- 1.3 Temperature: horizontal and vertical distribution. Inversion of temperature: types, causes and consequences.
- 1.4 Circulation in the atmosphere: Wind, jet stream, index cycle, Monsoon mechanism

### 2.0 WEATHER PHENOMENA AND CLIMATIC CLASSIFICATION

- 2.1 Condensation theories, process and forms; mechanism of precipitation: Bergeron-Findeisen theory, collision and coalescence, Forms of precipitation.
- 2.2 Air mass: typology, origin and characteristics; Fronts: warm and cold; frontogenesis and frontolysis.
- 2.3 Weather: stability and instability; barotropic and baroclinic; tropical and mid-latitude cyclones
- 2.4 Climatic classification after Köppen and Thornthwaite and Oliver

## **/// PAPER-303P (Practical): TECHNIQUES IN PHYSICAL GEOGRAPHY [50 Marks]**

### 1.0 METHODS

- 1.1 Preparation of climographs for temperate and tropical climate
- 1.2 Preparation of rating curves, hydrographs and unit hydrographs
- 1.3 Determination of radius of curvature, sinuosity index and braiding index of rivers.
- 1.4 Megascopic identification of common rocks and minerals

### 2.0 INSTRUMENTS

- 2.1 Measurement of weather parameters: Maximum & Minimum Thermometers, Hygrometer, Barometer
- 2.2 Measurement of pebble shape: Slide calliper
- 2.3 Measurement of slope and dip: Abney Level, Clinometer
- 2.4 Quality assessment of soil using field kits (pH, NPK) and water (pH, hardness)

**/// PAPER-401T (Theoretical): SOIL & BIOGEOGRAPHY [50 Marks]**

1.0 SOIL GEOGRAPHY

- 1.1 Concept of land and soil; Physical and chemical properties of soils
- 1.2 Soil forming factors and processes
- 1.3 Soil classification: Genetic and USDA scheme
- 1.4 Soil degradation and conservation

2.0 BIOGEOGRAPHY

- 2.1 Concepts of ecology, ecosystem and Biosphere, trophic structure, food chain and food web
- 2.2 Energy flow in ecosystems
- 2.3 Bio-geo-chemical cycles (carbon and nitrogen)
- 2.4 Biodiversity: hotspots, loss and conservations

**/// PAPER-402T (Theoretical): ENVIRONMENTAL GEOGRAPHY [50 Marks]**

1.0 ENVIRONMENTAL ISSUES IN GEOGRAPHY

- 1.1 Perception of Environment in different stages of civilization, geographical approach to environmental studies
- 1.2 Environmental problems: Global warming and related issues
- 1.3 Urban environmental issues; Poverty, crime and Heat Island
- 1.4 River degeneration and related issues

2.0 ENVIRONMENTAL HAZARDS AND MANAGEMENT

- 2.1 Concept of Environmental Degradation, Pollution and Hazard
- 2.2 Earthquakes: Factors, vulnerabilities, management
- 2.3 Landslides: Factors, vulnerabilities, mitigation
- 2.4 Riverbank erosion: Factors, vulnerabilities, mitigation

**/// PAPER-403P (Practical): REMOTE SENSING [50 Marks]**

1.0 VISUAL ANALYSIS OF SATELLITE IMAGES

- 1.1 Principles of Remote Sensing (RS): Types of RS satellites and sensors
- 1.2 Sensor resolutions and their applications with reference to IRS and Landsat missions, Image referencing schemes and data acquisition.
- 1.3 Principles of image interpretation. Preparation of inventories of landuse land cover (LULC) features from satellite images.
- 1.4 Preparation of landuse / land cover overlay from satellite images.

2.0 DIGITAL ANALYSIS OF SATELLITE IMAGES

- 2.1 Preparation of False Colour Composites from IRS LISS-3 and Landsat TM and OLI data.

- 2.2 Image enhancement. Preparation of reflectance libraries of LULC features
- 2.3 Image classification, post-classification analysis and class editing
- 2.4 Preparation of digital elevation models and their applications

**/// PAPER-404P (Practical): GEOGRAPHICAL INFORMATION SYSTEM [50 Marks]**

- 1.0 GEOGRAPHICAL INFORMATION SYSTEM
  - 1.1 Georeferencing of maps and images
  - 1.2 Digitisation of features and data attachment
  - 1.3 Raster to vector conversion and spatial analysis: vector overlay
  - 1.4 Preparation of thematic map
- 2.0 GLOBAL NAVIGATION SATELLITE SYSTEM (GNSS)
  - 2.1 Principles of GNSS positioning
  - 2.2 Waypoint collection
  - 2.3 Transferring of waypoints to workstation GIS and web-based GIS
  - 2.4 Area and length calculations from GNSS data

**/// PAPER-501T (Theoretical): POPULATION AND SETTLEMENT GEOGRAPHY [50 Marks]**

- 1.0 POPULATION
  - 1.1 Nature and scope of population geography, Sources and types of population data
  - 1.2 World Population: factors affecting population growth and distribution, migration types and its determinants
  - 1.3 Population dynamics; Fertility, Morbidity, Mortality, Age-Sex structure, Occupation Structure, Demographic Transition Theory, Human Development Index
  - 1.4 Concept of Population Resource Regions; Population issues; economic and social
- 2.0 SETTLEMENT GEOGRAPHY
  - 2.1 Nature and Scope of Settlement Geography
  - 2.2 Rural Settlement; Types and pattern, Size and characteristics, Rural House Types in relation to environment
  - 2.3 Urban Settlements; Types, evolution and classification of urban settlement, Hierarchy of urban settlement (With special reference to Christaller)
  - 2.4 Rural Settlement morphology and internal structure of cities

**/// PAPER-502T (Theoretical): SOCIAL GEOGRAPHY [50 Marks]**

- 1.0 EVOLUTION OF SOCIAL GEOGRAPHY
  - 1.1 Meaning and Scope of Social Geography
  - 1.2 Concept of Space, Social differentiation and stratification; social processes



- 1.3 Social Elements; Language, Religion and customs
- 1.4 Basis of Social region formation; Evolution of social cultural regions of India
- 2.0 SOCIAL WELLBEING
  - 2.1 Concept of Social Well-being, Quality of Life, Gender and Social Well-being
  - 2.2 Measures of Social Well-being; Healthcare, Education, Housing, Gender Disparity
  - 2.3 Public Policies and Social Planning; Five Year Plans and Social Policies in India (Education and Health)
  - 1.4 Social Impact Assessment (SIA)

**/// PAPER-503T (Theoretical): RESOURCE GEOGRAPHY [50 Marks]**

- 1.0 NATURE OF RESOURCES AND THEIR UTILIZATION
  - 1.1 Resource; Concept and Classification
  - 1.2 Approaches to Resource Utilization; Utilitarian, Conservational, Community based adaptive
  - 1.3 Limits to Growth and Sustainable Use of Resources
  - 1.4 Resource crisis and need for Conservation
- 2.0 LOCATION, DISTRIBUTION OF RESOURCES
  - 2.1 Metallic Mineral Resources; (Iron ore, Bauxite, copper)
  - 2.2 Non-Metallic Mineral Resources (Limestone, Mica, Gypsum)
  - 2.3 Power Resources; Conventional and Non-Conventional
  - 2.4 Contemporary Energy Crisis and Future Scenario

**/// PAPER-504P (Practical): SOCIO-ECONOMIC SURVEY TECHNIQUES [50 Marks]**

- 1.0 IMPORTANCE AND FACETS
  - 1.1 Need and Importance of Socio-economic Survey
  - 1.2 Selecting and defining a problem, Considerations and dimensions of socio-economic survey
  - 1.3 Survey design, preparation of survey schedules and questionnaires
  - 1.4 Sources of error and complication; remedial measures for the eradication of errors in data
- 2.0 METHODS OF SURVEY AND COLLECTION OF DATA
  - 2.1 Methods of Survey: Direct (participatory, interview, biographical, observation, focused group discussion) and Indirect Method
  - 2.2 Census and sample survey, sample design, characteristics of a good sample design.

- 2.3 Data Collection and Processing through questionnaire and schedule
- 2.4 Framing of Questionnaires on environmental, social and economic issues

**/// PAPER-505P (Practical): THEMATIC MAPPING [50 Marks]**

1.0 PHYSICAL ASPECTS

- 1.1 Representation of wind direction by wind rose
- 1.2 Preparation of isoanomalous temperature map
- 1.3 Preparation of slope and dissection index map
- 1.4 Detection of coastline and riverbank shift

2.0 HUMAN ASPECTS

- 2.1 Preparation of flow charts (commodity and Passenger)
- 2.2 Preparation of population Map (density and growth)
- 2.3 Preparation of dots and spheres map
- 2.4 Preparation of Residual maps (economic functions)

**/// PAPER-601T (Theoretical): GEOGRAPHICAL THOUGHT [50 Marks]**

1.0: NATURE OF PRE-MODERN GEOGRAPHY

- 1.1: Development of Geography and contributions of Greek, Chinese, and Indian geographers
- 1.2: Impact of 'Dark Age' on Geography and Arab contributions
- 1.3: Geography during the Age of 'Discovery' and 'Exploration' (Contributions of Portuguese Voyages, Columbus, Vasco da Gama, Magellan, Thomas Cook)
- 1.4: Transition from Cosmography to Scientific Geography (Contributions of Bernard Varenius and Immanuel Kant); Dualism and Dichotomies (General vs. Particular, Physical vs. Human, Regional vs. Systematic, Determinism vs. Possibilism)

2.0: FOUNDATION OF MODERN GEOGRAPHY AND RECENT TRENDS

- 2.1: Making modern Geography: contributions of Humboldt and Ritter
- 2.2: Contributions of Richthofen, Hettner and Ratzel
- 2.3: Schools of Geographical Thought: French, British and American; Recent trends in geography (post war period)
- 2.4: Evolution of Geography in India: formative periods, establishments and emerging trends

**/// PAPER-602T (Theoretical): REGIONAL DEVELOPMENT AND PLANNING [50 Marks]**

1.0 REGIONAL DEVELOPMENT

- 1.1 Meaning, Concept and Scope of Regional Development
- 1.2 Approaches to Regional Development, Theories of Regional Development

(Myrdal and Perroux)

1.3 Regional Development in India, Patterns of Imbalance

1.4 Planning for Regional Development; Role of Agriculture, Industry and Infrastructure

2.0 REGIONAL PLANNING

2.1 Concepts and Types of Regions, Meaning and objectives of Regional Planning.

2.2 Evolution of Regional Planning in India, Schemes of Regionalization (Planning Region)

2.3 Approaches and Types of Planning

2.4 Rural Development Planning Programmes and its impact

**/// PAPER-603T (Theoretical): REGIONAL GEOGRAPHY OF INDIA [50 Marks]**

1.0 INDIA

1.1 Physical set up: Geology and Physiographic Divisions, Drainage systems, Climatic conditions

1.2 Soil, Vegetation, Agricultural Regions, Green Revolution and its consequences

1.3 Multi purpose River Valley Projects, DVC, Bhakra Nangal

1.4 Regional Perspectives: Transport and Communication, Trade Composition and Recent changes

2.0 WEST BENGAL

2.1 Physiographic perspective: Land, Forest and Water

2.2 Flood and Draught: Incidence, Impact and management

2.3 Regional Problem: Darjeeling Hills and Sunderban Area

2.4 Population Growth and Human Development patterns

**/// PAPER-604T (Practical): FIELD REPORT [50 Marks]**

Maximum of two weeks

**/// PAPER-604T (Practical): GRAND VIVA [50 Marks]**

**/// PAPER-605T (Practical): SEMINAR PRESENTATION [50 Marks]**

## **Selected References**

### **Paper 101: Fundamental Concept in Geography**

- Cloke P, Crang, M. and Goodwin, M. (2013): *Introducing Human Geographies*, 3rd Edition. London, Routledge
- Dikshit, R.D. (eds) (1994) *The Art and Science of Geography : Selected Readings* , Prentice Hall India , New Delhi
- Dodds, K. (2007) *Geopolitics: A very short introduction*. Oxford, OUP.
- Dunbar, G.S, Ed (1991): *Modern Geography: An Encyclopaedic Survey*, St. James Press, Chicago
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- Gregory D and Walford R (Eds) (1988): *Horizons in Human Geography*, Macmillan, London
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- James, R. (2010): *The Cultural Landscape-An Introduction to Human Geography*, Prentice Hall of India, New Delhi
- Maslin, M. (2008): *Global Warming: A very short introduction*. Oxford, OUP.
- Matthews, J. and Herbert, D. (2008): *Geography: A very short introduction*. Oxford,
- Matthews. J.A. and Herbert. J.A. 2004, *Unifying Geography: Common Heritage, Shared Future?* Routledge. London.
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- Peet R. (1998): *Modern Geographical Thought*. Blackwell, London.
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- Hartshorne, R. (1959): *Perspective on the Nature of Geography*, McNally and Co., Chicago.
- Harvey, D. (1972): *Explanations in Geography*, Edward-Arnold, London

### **Paper 102 (Elements in Physical Geography)**

- Barry, R.G. and Chorley, R.J. (2012): *Atmosphere, Weather and Climate*, 7th Edition. London, Routledge.
- Christopherson, Robert W., (2011), *Geosystems: An Introduction to Physical Geography*, 8 Ed., Macmillan Publishing Company
- Gregory, K.J. (2010): *The Earth's Land Surface: Landforms and processes in geomorphology*. Sage, London.
- Hugget, R. J. (2009): *Physical Geography: The Key Concepts*, Taylor and Francis, USA.
- Huggett, R.J. (2004): *Fundamentals of Biogeography*, 2nd Edition. London, Routledge.
- Kent Condie (1918): *Origin of Earth: Principles of Historical Geology* , 1<sup>st</sup> edition , Prentice Hall

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- Meinzer, O.E. (1949): Hydrology, Dover Publications, Mineola, New York
- Raghunath, H.M. (2006): Hydrology: Principles, Analysis and Design, New Age International (P) Limited Publishers, New Delhi
- Reddy, P.J.R. (2005): A Textbook of Hydrology, Firewall Media, New Delhi
- Steers, J (1932): The Unstable Earth: Some recent views in Geomorphology, Methuen, London
- Thomas, D.S.G. (ed.) (2010): Arid Zone Geomorphology: Process, form and change in Drylands, 3rd edition, Wiley-Blackwell, London.
- Townsend, C.R., Begon, M and Harper, J.L. (2008): Essentials of Ecology, 3rd Edition, Malden, MA, Blackwell

**Paper 103 and Paper 303 (Basic Cartography)**

- Aitken, S. and Valentine, G. (eds), (2006): Approaches to Human Geography, Sage Publications, London
- Anson R. and Ormelling F. J., (1994): International Cartographic Association: Basic Cartographic Vol. Pregmen Press.
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#### **Paper 201 (Elements of Human Geography)**

- Pearce D. (1995): Tourism Today: A Geographical Analysis, 2nd edition, Longman Scientific & Technical, London
- Pickering K. and Owen A. A. (1997): An Introduction to Global Environmental Issues, 2nd edition Rutledge, London.
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#### **Paper 202(Economic Geography)**

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