



**Syllabus Of
Geography
B.Sc. (Hons.)
Course Code: EGO**

NETAJI SUBHAS OPEN UNIVERSITY

1, Woodburn Park, Kolkata-700 020

Tel.: 2283-5157

TeleFax: 033-2283 5082



Course Structure for The Bachelor's Degree Programme (BDP) in Geography

1. **Compulsory Subjects : Foundation Course**
 - (a) Humanities and Social Science (FHS) 8 Credits
 - (b) Science and Technology (FST) 8 Credits
 - (c) Bengali (FBG) 4 Credits
 - (d) English (FEG) 4 Credits**24 Credits**

 2. **Elective Subjects : Honours Courses**
 - Course 01 : Concepts of Physical Geography and Geotectonics 4 Credits
 - Course 02 : Landform Processes 4 Credits
 - Course 03 : Climatology 4 Credits
 - Course 04 : Practical Geography - I 8 Credits
 - Course 05 : Soil and Biogeography 4 Credits
 - Course 06 : Geography of Resources 4 Credits
 - Course 07 : Geography of Economic Activities 4 Credits
 - Course 08 : Practical Geography - 2 8 Credits
 - Course 09 : Geography of Settlement 4 Credits
 - Course 10 : Geography of Population 4 Credits
 - Course 11 : Evolution of Geographical Thought 4 Credits
 - Course 12 : Practical Geography - 3 8 Credits
 - Course 13 : Environmental Geography 2 Credits
 - Course 14 : Special paper (Agricultural Geography and Regional Planning) 2 Credits**64 Credits**

 3. **Subsidiary Course :**
One subsidiary Course 24 Credits

 4. **Application Oriented Course (Any one)**
 - (a) Basic Accounting (AOC-01) 8 Credits
 - (b) Food Processing (AOC-02)
 - (c) Household Chemistry (AOC-03)

 5. **Environmental Studies** 4 Credits
- Total Credits for the Course = (24+64+24+8+4) = 124 Credits or 1550 Marks.
- Evaluation System :
- Internal Assessment : 30%
- Term-end Examinations 70%

Course 01 : Concepts of Physical Geography and Geotectonics

Block 1 :

1. Earthquake and Internal Structure of Earth
2. Volcano and Vulcanicity
3. Epeirogeny and Orogeny
4. Continental Drift and Plate Tectonics

**Block 2 :**

5. Earth's Crust
6. Rocks : Origin and Classification
7. Folds, Faults and their influence on Landforms

References : Block 1 & 2

- Chorley, R. J. Schumm, S. A. and Sugden, D.E. 1984 : Geomorphology.
- Bloom, A. L. 1992 : Geomorphology–Systemic Analysis of Late Cenozoic Landforms
- Selby, M. J. 1991 : Earth's Changing Surface.
- Ollier, C. D. 1981 : Tectonics and Landforms.
- Sparks, B. W. 1960 : Geomorphology.
- Singh, S : Geomorphology.
- Ghosh, S. K : Gathan samparkiya bhubidya

Course 02 : Landform Processes**Block 1 :**

1. Weathering and Mass Wasting – Factors, Types, Influence on Landforms
2. Cyclic and Non-Cyclic Concept – Davis, Penck and Hack
3. Geomorphic Processes and Resultant Landforms : fluvial
4. Geomorphic Processes and Resultant Landforms : glacial
5. Geomorphic Processes and Resultant Landforms : Aeolian
6. Geomorphic Processes and Resultant Landforms : coastal/marine
7. Geomorphic Processes and Resultant Landforms : karst
8. Evolution of Slopes ; Theories of Slope Development

Block 2 :

9. Hydrological Cycle : Run off, Components and Importance
10. Groundwater -- Factors, Underground Circulation of water
11. Topography of Ocean Floor
12. Continental Shelf and Continental Slope
13. Marine Deposition and Marine Resources

References : Block 1 & 2

- Thornbury, W. D. 1954 : Principles of Geomorphology.
- Strahler, A. N. and Strahler, A. H. 1984 : Elements of Physical Geography.
- Dayal, P. 1996 : Text of Geomorphology.
- Kale, V. and Gupta, A. 2001 : Elements of Geomorphology.
- Morisowa, M. 1968 : Streams, Their Dynamics and Morphology.
- Todd, D. K. 1959 : Ground Water Hydrology.
- Chorley, R. J. 1969 : Water, Earth and Man.



- Chorley, R. J. 1969 : Introduction of fluvial processes.
- Chow, V. T., Maidment, D. R. and Mays, L.W. 1988 : Applied Hydrology.
- Ollier, C. D. 1975 : Weathering.

Course 03 : Climatology

Block 01 :

1. Atmosphere : Nature, Composition, Layering ; Importance of Ozone Layer, Greenhouse Effect
2. Insolation : Factors affecting ; Heat Budget of Earth
3. Horizontal and Vertical Distribution of Temperature ; Inversion of Temperature
4. Global Pressure Belts ; Wind Systems ; Relations of Wind and Pressure ; Tricellular Model
5. Jet Stream and Air Mass

Block 2 :

6. Condensation : Processes and Forms ; Evaporation
7. Precipitation : Mechanism and Form
8. Tropical and Mid-Latitude Cyclone ; Genesis and Characteristics
9. Monsoon, Thunderstorm
10. Climatic Classification

References : Block 1 & 2

- Barry, R. G. and Chorley, R. J. 1985 : Atmosphere, Weather and Climate.
- Blair, T. A. and Fite, R. C. 1965 : Weather Elements : A Text in Elementary Meteorology
- Critchfield, H. J. 1966 : General Climatology.
- Lutgesn, F. K and Tarbuck, E. J. 1979 : The Atmosphere.
- Must, F. F. 1988 : Weather Systems.
- Trewartha, G. T. 1968 : An Introduction to Climatology.
- Saha, P. K. and Bhattacharya, P. K. 1994 : Adhunic Jalavayavidya.
- Lal, D. S. : Climatology

Course 04 : Practical Geography–1

1. Scale : Linear, Vernier & Diagonal
2. Prismatic Compass Survey
3. Levelling Survey
4. Theodolite Surveying
5. Map Projection : Basic concepts and Subject



6. Stereographic, Simple Conical and Bonne's Projection
7. Sinusoidal, Polyconic and Cylindrical Equal Area Projection
8. Practical Geographic Techniques
9. Isopleth, Choropleth, Dot and Sphere
10. Climatic Cartograms

References :

- Monkhouse, F. J. 1971 : Maps and Diagrams.
- Singh, R. L. and Singh, R. P. B. 1992 : Elements of Practical Geography.
- Kanetkar, T. P. and Kulkarni, S. V. 1972 : Surveying and Levelling.
- Misra, R. P. and Ramesh, A. 1986 : Fundamentals of Cartography.
- Ishtiaque : Practical Geography.
- Bandopadhyay, T. and Sil, A. 1988 : Byabaharic Bhugol Parichaya.

Course 05 : Soil and Biogeography

Block 1 : Soil Geography

1. Soil Formation : Factors and Processes
2. Development of Local Soil Profile ; Laterite, Podzol, Chernozem
3. Physical Properties of Soil
4. Chemical Properties of Soil
5. Soil Classification – Dokuchaiev, Marbut, USDA, Indian

Block 2 : Biogeography

6. Concept of Biogeography ; Biome – Tropical – Grassland – Taiga – Tundra
7. Components of Ecosystem ; Community – Interrelationship between different Organisms of a community
8. Trophic Level–Food Chain, Energy Flow, Ecological Pyramid
9. Factors of Plant Growth
10. Biogeochemical Cycles, Conservation

References : Block 1

- Biswas, T. D. and Mukherjee, S. K. 1987 : Text Book of Soil Science.
- Bunting, A. 1965 : Geography of Soil.
- Foth, H. D. and Schaefer, J. W. 1980 : Soil Geography and Land Use.
- Joffe, J. S. 1965 : ABC of Soil.
- Mukhopadhyaya, A. K. 1984 : Mritika Vigyan
- De, N. K. and Sarkar, M. K. 1994 : Mritika Bhuniya

References : Block 2

- Odum, F. P. 1971 : Fundamentals of Ecology.
- Kormondy, E. J. 1991 : Concepts of Ecology.
- Simmons : Ecology of Natural Resources.



- Chapman : Ecology
- Robinson, H. 1982 : Biogeography.

Course 06 : Geography of Resources

Block 1 :

1. Concept of Resources
2. Characteristics of Resource, Fundamental Theory of Resource
3. Nature and Resource
4. Man and Resource
5. Nonconventional Resource
6. Culture and Resource

Block 2 :

7. Resource Utilisation–Processes, Technology and Environmental
8. Resource Utilisation–Forest, Animal, Fish, Oceanic
9. Resource Utilisation–Agriculture, Human
10. Resource Utilisation–Minerals, Energy
11. Depletion of Resource, Resource Conservation, Sustainable Development

References : Block 1 & 2

- Berry, B. J. L., Conklin, E. C. and Ray, M. D. 1976 : The Geography of Economic Systems.
- Hartshorne, T. A. and Alexander, J. W. 1988 : Economic Geography.
- Sen, A. 1990 : Jibanjatra 'O' Arthoniti.
- Wheeler, J. O. 1986 : Economic Geography.
- Simmons, I. G. 1981 : The Ecology of Natural Resources.
- Leong, G. C. and Morgan, G. C. (1975) : Human and Economic Geography.
- Memoria, C. B. 1984 : Economic and Commercial Geography of India.
- Guha, J. L. and Chattaraj, P. R. 1992 : Human and Economic Geography.
- Chatterjee A. 2001 : Arthanaitik Bhugol.

Course 07 : Geography of Economic Activities

Block 1 :

1. Land Use : Concepts – Von Thunen, Graham, Stamp and Lewis
2. Agriculture : Types, Characteristics
3. Industry : Location Theories, Weber, Hoover, Losch
4. Major Industry : Iron & Steel, Problems and Prospects



Block 2 :

5. Major Industry : Cotton, Textile, Problems and Prospects
6. Major Industry : Petrochemicals, Problems and Prospects
7. Industrial Regions : Great Lakes ; Ruhr
8. Industrial Regions : Tokyo–Yokohama ; Hooghly

References : Block 1 & 2

- Broek and Webb : Geography of Mankind.
- Miller, E. 1962 : A Geography of Manufacturing.
- Jhingan, M. L. 1978 : Economics of Development and Planning.
- Smith, D. N. 1971 : Industrial Locations–An Economic Geographical Analysis
- Alexandersson, G. 1971 : Geography of Manufacturing.
- Thomas, R. S. : Geography of Economic Activities.

Course 08 : Practical Geography – 2

1. Nature of statistical data : Discrete, continuous, parametric, Non-parametric, Use of percentage
2. Sampling : Simple, Random, Classification – testing of data, Stratified, Tabulation
3. Frequency Distribution : Histogram, Polygon, Ogive, Normal distribution, Measures of skewness
4. Measures of Central Tendency : Mean ; Median ; Mode ; Partition values–Quartiles, Percentiles.
5. Measures of dispersion–Mean deviation ; Quartile deviation, Standard deviation
6. Time Series Analysis : Simple Bivariate Regression (from absolute number) ; Test of significance
7. Interpretation of topographical map : Plateau (1 map) ; Plains (1 map)
8. Interpretation of Indian daily weather map.
9. Morphometric techniques : 1. Profiles : Superimposed, projected, composite, 2. Stream order, 3. Relative Relief, 4. Drainage Frequency, 5. Drainage Density, 6. Dissection Index.

References :

- Cole, J. P. and King C.A.M. (1968) : Quantitative Geography.
- Das, N. G. : Statistics.
- Sarkar Ashish : Practical Geography : A Systematic Analysis.
- Silk, J. (1979) : Statistical Concept in Geography.
- Singh, R. L., Practical Geography.
- Platt. John I. : Selected Exercises on Geological Maps (Part-I).



- Mahmood, A. (1993) : Statistical Methods in Geographical Studies.
- Croxton, F. F., Cowden, D. J. and Klein, S. (1973) : Applied General Statistics.

Course 09 : Geography of Settlement

Block 1 :

1. Study of Settlement – Significance ; Definition of Settlement, Settlement as Indicators of Models of Life and History.
2. Aspects of Settlement Study – Site, Situation, Size, Pattern, Function, House Type, Lay out, Morphology and Spatial Distribution.
3. Rural Settlement – Definition and Census Categories, Locational Factors, Size Variation, Patterns, Functions, Morphology (House Types, Building Materials, Street Pattern, etc.)

Block 2 :

4. Urban Settlements–Origin and Development, Physical and Ecological Definitions of City ; Functional classification of Towns and Cities. Christaller’s Theory of Central Place Hierarchy ; Urban Morphology ; Problems of Urban Growth–decline and possible solutions.
5. Rural–Urban Differentiation : Spatial and Functional Differences ; Problems relating to Definition of Rural and Urban areas ; Concept of Urban Sprawl, Urban Fringe, Umland, Conurbation, Metropolis, Metropolitan area, Metropolitan Region.
6. Models of City Structure : Concentric Zone, Sector, Multiple Nuclei ; City as a Social Organism – Reflection, Culture, Economy, Technology, Behaviour of Society ; Indicators of Social Organism.

References :

- Carter, H. (1972) : The Study of Urban Geography.
- Chapman, K. (1979) : People, Pattern and Process–An Introduction to Human Geography.
- Daniel, P. and Hopkins, M. (1979. 1989) : A Geography of Settlement.
- G. Dickinson, R. E. (1964) : City and Region.
- Hudson, F. S. (1976) : Geography of Settlement.
- Johnston, R. J. (1984) : Urban Geography.

Course 10 : Geography of Population

Block 1 :

1. Component and structure of population dynamics ; Interdisciplinary nature of population studies



2. Population Growth : trends and patterns ; measures of fertility and mortality ; patterns and causes of fertility and mortality declines ; world distribution of population ; measures and factors of variation of population density and distribution.
3. Theories, problems and policies : Theories of population growth, population problems in relation to development ; resources and environment ; population policies – pro and anti natalist

Block 2 :

4. Population Structure and Composition ; Basic Pattern, causes and consequences – urban and rural : Age structure, sex structure, economic composition and others – language, religion, ethnicity and literacy.
5. Migration – internal and international ; nature and types of migration–temporal and spatial dimensions ; theories of migration
6. Basic characteristics of population in India ; Growth structure (Age-Sex), composition (rural-urban) – their temporal and spatial changes ; distribution and density.

References :

- Beaujeau Garnier (1976) : Methods and perspectives in Geography.
- Broek and Webb, Geography of Mankind
- Zacharia : Elements of Demography
- Bhende, A. A. and Kanetkar, T. 1978 : Principles of population studies
- Clarke J. I. 1971 : Population Geography.
- Zelinsky, W. 1966 : A Prologue to Population Geography.

Course 11 : Evolution of Geographical Thought

Block 1 :

1. Definition of Geography ; Man-Environment Relation, Regional Differentiation, Location
2. Development of Geographical Thoughts : Encyclopaedism, Positivism, Quantitative Revolution, Radical Geography.
3. Concepts : Determinism, Possibilism, Structuralism and Materialism
4. Approaches : Regional approach, Cultural Landscape approach, Ecological approach, Resource approach.

Block 2 :

5. Origin, Growth and Divergence of Cultural Systems ; Development and Spread of Technology ; Convergence and Diffusion of Culture
6. Changing Cultural Patterns of the World



7. Concept of Space : Absolute and Relative Space.

References :

- Adhikari, S. (1992) : Fundamentals of Geographical Thought.
- Harvey, D. (1969) : Explanations in Geography
- Hartshorne, R. (1939) : The Nature of Geography.
- Hussain, M. (1988) : Evolution of Geographical Thought.
- Peet, R. (Ed) (1977) : Radical Geography.
- Spencer, J. E. and Thomas, W. L. (1969) : Cultural Geography.

Course 12 : Practical Geography - 3

1. Field Report
2. Construction of Station Model.
3. Identification of Rocks and Minerals.
4. Geological Map
5. Basic Concept of Remote Sensing
6. Interpretation of Aerial Photographs.

References :

- Sarkar Ashish : Practical Geography : A Systematic Analysis
- Singh, R. L. : Practical Geography.
- Platt. John I. : Selected Exercises upon Geological Maps (Part-1).
- Nag, P. : Thematic Cartography and Remote Sensing, Concept.
- Lillesand : Remote Sensing.

Course 13 : Environmental Geography

Block 1 :

1. Scope and Basic Concepts : Meaning of Environment and associated Terminology (Habitat, Human Ecology, Human Ecosystem, Phenomenal Environment, Environmental Perception,) ; Geographer's approach to Environment ; Concept of Holistic Environment.
2. Components of Physical Environment ; Components of Socio-Economic Environments (Income, education, health, nutrition security, social stability, shelter)
3. Environmental degradation and hazards – their consequences : flood, drought, soil degradation, wastes and pollution ; social effects, extreme events.



Block 2 :

4. Major Contemporary Environment Issues – Global Scenario
5. Environment Conservation Vs. Economic Development ; Social Systems and Environmental Problems.
6. Environmental Approach to Management : Basic Principles of ‘Space Ship Earth’ ; Ecosystem Balance ; Recycling of Materials ; Population Control ; Renewable Energy ; Afforestation, Biodiversity ; Social Adjustments.

References :

- Briggsetal : Fundamentals of Physical environment.
- Chorley & Bennett R. J. : Environmental Systems.
- Singh Savinder : Environmental Geography.
- Saxena H. M. : Environmental Geography.
- Survey of Environment : Hindu, Chennai, published annually.
- Anderson : Ecology for Environmental Science.

Course 14 : Special Paper (Agricultural Geography and Regional Planning)

Block 1 : Agricultural Geography

1. Nature, scope and content of Agricultural Geography ; Development of Agricultural Geography.
2. Sinclair’s model of peri-urban land use ; Factors controlling agricultural land use ; principles of land use planning.
3. Concept, techniques and delineation of Agricultural Regions ; Agricultural regions of India ; Impact of technology on agriculture and environment with special reference to India ; Agricultural problems in India and possible remedies ; Recent trends in agriculture in India.

References :

- Dhillon, J. S. ; Agricultural Geography.
- Singh Jasbir : Agricultural Geography
- Boesch, H. : Geography of World Economy.
- Morgan, W. B. and Manton, R. J. C. 1971 : Agricultural Geography.
- Courtney, P. : Plantation Agriculture.

Block 2 : Regional Planning

1. a Concept of regions, types of planning
b Basic principles of regional planning
c Locational theories of Weber, Losch and Christaller ; Growth Pole theory of regional growth



2. a Definition of towns, classification – physical, functional and social
b Metropolis and metropolitan concept, problems, planning and delineation
c Rural – urban linkages (sectoral and spatial) – physical, commodity, human and informational linkage
3. a. Rural development programmes – case studies from India
b. Role of agriculture and industry in regional development
c. Regional imbalances

References :

- Chand, M. Puri, V. K. 1988. Regional Planning in India.
- Bhat, L. S. 1973 Regional Planning in India
- Kuklinski, A. R. ed 1972 Growth poles and growth centres in regional planning, Paris, The Hague
- Hall, Peter, 1974, Urban and regional planning
- Misra, R. P. 1969. Regional Planning, Concept, Techniques, Policies, The University of Mysore Press, Mysore.
- Mitra, Ashok, Levels of regional development in India, Census of India, 1971.
- Misra, R. P., Sunderam and Rao (1974), Regional Planning in India – a strategy, Viking, Delhi
- Sengupta and Sdasyuk, G. Economic Regionalisation of India, Census of India, 1961
- Carter, H. 1981, The study of urban geography

Examination system (Subject to Change)

1st Semester - FBG, FEG, E-1 & E - 4*

2nd Semester - FHS, E - 2, E - 3 & E - 5

3rd Semester - FST, E - 6 & E - 8*

4th Semester - E - 7, E - 9, E - 10 & S - 1

5th Semester - E - 11, E - 12* & S - 2

6th Semester - E - (13 & 14), S - 3, AOC & ENVS

*** Practical Courses**