

Department of Geography

Faculty of Natural Sciences

JAMIA MILLIA ISLAMIA NEW DELHI – 110 025

(A Central University by an Act of Parliament)



B.Sc. (Pass) Geography

Syllabus (w.e.f. 2012-2013)

Course Structure of B.Sc. (Pass) Geography

Semester-I

Theory Papers

Paper	Title	Credits
GEB-101	Geomorphology	4
GEB-102	Climatology	4

Practical

GEB-104	Introduction to Cartography	2
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Semester-II

Theory Papers

GEB-201	Principles of Ecology	4
GEB-203	Hydrology and Water Resources	4

Practical

GEB-204	Representation of Physical Data	2
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Semester-III

Theory Papers

GEB-301	Man and Environment	4
GEB-303	Regional Geography of India	4

Practical

GEB-304	Statistical Techniques in Geography	2
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Semester-IV

Theory Papers

GEB-402	Evolution of Geographical Thought	4
GEB-403	Fundamentals of RS/GIS/GPS	4

Practical

GEB-404	Representation of Socio-Economic Data	2
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Semester-V

Theory Papers

GEB-501	Economic Geography	4
GEB-504	Geography of Population	4

Practical

GEB-505	Photo and Image Interpretation	2
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Semester-VI

Theory Papers

GEB-602	Urban Geography	4
GEB-605	Disaster Management	4

Practical

GEB-608	Socio-Economic Survey	2
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Paper (GEB-101)
GEOMORPHOLOGY
Credit: 4

Unit-I: Fundamentals/Basics of Geomorphology

The nature and scope of Geomorphology; Constitution of earth's interior; Geological Time Scale; Continental Drift, Plate Tectonics.

Unit-II: Geomorphic Structure and Processes

Forces of earth crust and earth movements; Folds and Faults; Rocks: Formation and Types; Volcanoes and Earthquakes; Weathering: Normal cycle of Erosion by Davis & Penck.

Unit-III :Evolution of Landscape

Fluvial, Glacial, Aeolian, Karst and Coastal.

Unit-IV :Applied Geomorphology

Relevance of Geomorphological studies in Environment Management, Settlement and Industries.

Books Recommended:

1. Dayal, P.,1990. Text-Book of Geomorphology, Shukla Book Depot, Patna.
2. Goble R.E, Peterson. J.F. Trapasso,L.M.(2009) Physical Geography Brooks/ Cole Cengage Learning.
3. Hussain, M., 1976. Arziyat ke Bunyadi Tasawwurat, (Urdu), Translation of Fundamentals of Geology, V. Obrochey, Taraqqi Urdu Board, New Delhi
4. Hussain, M., 2009. Fundamentals of Physical Geography, Rawat Publications, Jaipur.
5. Kale, V. and Gupta, A., 2004. Elements of Geomorphology, Oxford University press, Calcutta.
6. Singh, S. 1976, Bhu-Akriti Vigyan, Tara Publishers, Varanasi
7. Skinner. B.J. and Porter Stephen.C. 2000; John Wiley and Sons, Inc.
8. Strahaler, A.H., 2008:. Modern Physical Geography (4th Edition); Wiley-India
9. Thornbury, W.D., 1991. Principles of Geomorphology, Wiley Eastern Ltd., New Delhi
10. Worcester, P.C., 1969, Text Book of Geomorphology, East West Press, New Delhi.

Paper (GEB-102)

CLIMATOLOGY

Credit: 4

Unit-I: The Atmosphere

Nature and scope of climatology, Composition and structure of the atmosphere; Insolation and its factor; heat Budget; Horizontal and vertical Distribution of temperature.

Unit-II: Atmospheric Moisture

Atmospheric Evaporation; Humidity; Condensation, Precipitation, types of rainfall, Hydrological Cycle.

Unit-III: Atmospheric Disturbances

Atmospheric pressure and winds, Air Masses and Fronts; Cyclones and anti cyclones, Tropical and Temperate cyclones; Thunderstorms: Type and Distributions.

Unit-IV: Regional and Applied Climatology

Koppen's Classification of Climates, Global Warming; Air Pollution, Climatic Change and its impact on the earth.

Books Recommended:

1. Barry, R.G. and Chorley P.J 1982. Atmosphere Weather and climate, Fletcher & Son Ltd., Norwich.
2. Critchfield, J.H.: General Climatology
3. Das, P.K.: Monsoon
4. Fein, J.S. and Stephens, P.N.: Monsoon
5. India Met. Deptt: Climatological Tables of observation in India
6. Lal, D.S.: 2009, Climatology; Sharda Pustak Bhawan, Allahabad.
7. Lydolph, P.E.: The Climate of the Earth
8. Menon, P.A.: Our Weather
9. Robinson, P.J. and Henderson S.: Contemporary Climatology
10. Thompson, R.D. and Perry: Applied Climatology, Principles and Practice.

Practical (GEB –104)

INTRODUCTION TO CARTOGRAPHY

Credit: 2

UNIT-I: MAP INTRODUCTION

Map: Definition, Significance, Classification and Usefulness

UNIT-II: SCALES

Definition of scale; Methods of scale representation on a map; drawing of plane, comparative and diagonal scales; Calculation of radii of small circles on the globe, calculation of R.F. from arcs of meridians and parallels.

UNIT-III: ELEMENTS OF GLOBE

Globe V/s Map: Concept of small and great circle; Parallels of latitude and meridian of Longitude, graticule of parallels and meridians, locating points on the globe.

UNIT-IV: MAP PROJECTIONS

Definition, general Principles and Classification of map projection; Graphical Construction of Cylindrical Projections: Mercator's, and equal area; Conical projections; Polyconic, Bonnes, One standard two standard parallels. Zenithal: Gnomonic, Stereographic and Ortho graphic projections.

Books Recommended:

1. M.Ishtyaq, (1994) Practical Geography, Manak Publisher
2. Mahmood .A. (2000) Statistical Methods in Geographical Studies, Rajesh Publications
Ansari Road, New Delhi-2.
3. Sharma, J.P. 2010, Practical Geography, Rastogi Publication, Meerut.

Paper-(GEB-201)

PRINCIPLES OF ECOLOGY

Credit: 4

Unit-I: Introduction

Definition, Scope, Evolution and development; Difference between Ecology and Human Ecology; Environmentalism; Conservation Ethics.

Unit-II: Human and Environment Interaction

Human Adaptation and Modification: Environmental Adaptation Types, Aquatic, Desert and Soil adaptations; Resources and Technologies.

Unit-III: Bio-Geochemical and Nutrient cycles

Nitrogen Cycle, Carbon Cycle, Phosphorous Cycle, Sulphur Cycle, Aresenic Cycle, Water Cycle, Human Population Size and Growth; carrying Capacity of Earth: Biophysical, Human.

Unit-IV: Ecosystem

Ecosystem: Kinds of Ecosystem, Types, physical, Chemical structure and functions; Genetic Energy flow within the Ecosystem, Y- Shaped Model of Energy Flow, Food- Chain and Tropic Levels and Ecological.

Books Recommended:

1. Odum, E.P. (1971), Fundamental of Ecology, 3rd ed., Saunders, Philadelphia.
2. Dieter Steiner and Marcus (eds.) (1993) Human Ecology; New York: Routledge,.
3. George A. Theodorson (ed.) (1961) Studies in Human Ecology, New York: Harper & Row
4. Quinn, J.A. (1971) Human Ecology (2nd edition), New York: Hamden Conn..
5. Mills, D.H. (1972), An Introduction to Fresh Water Ecology, Liver and Boyd, Edinburgh
6. Patten, B.C. (1974), The zero state and ecosystem stability, Proc. 1st. Internat. Cong. Ecol., The Hague, Netherlands.
7. Svensson, B.H. and Soderlund, R. (Eds.) (1976), Nitrogen, Phosphorus And Sulphur Global Cycles, Ecol. Bull. (Stockholm).
8. Krebs, C.J. (1972), Ecology, Harper and Row, New York.
9. Odum, E.P. (1968), The strategy of ecosystem development, Science,
10. Boremann, F.H. and Likens, G.E. (1967), Nutrient cycling, Science

Paper (GEB – 203)

HYDROLOGY AND WATER RESOURCES

Credit: 4

Unit-I: Introduction

Definition and Scope of Hydrology, Hydrological cycle, Structure and properties of water, Earth's water resources and water as a cyclic resource.

Unit-II: Surface water

Surface water: sources and factors affecting quality and quantity; Precipitation: forms and estimation; Runoff: sources, and factors affecting runoff; Evaporation: factors and measurement; Transpiration: significance and factors; Evapotranspiration.

Unit-III: Ground Water

Ground water: Characteristics of stream flow, porosity and permeability, infiltration, Ground water: storage, aquifers, movement and discharge.

Unit-IV: Water Management

Interface between surface and Ground Water; Environmental influences on water resources; urban water supply; water management; water harvesting; water pollution and measures to control.

Books Recommended:

1. Sing, V.P., (1992), Elementary Hydrology, Prentice Hall Inc., Upper Saddle River, N.J.
2. Ward A.D. and Elliot, W.J., (1995), Environmental Hydrology, Lewis Publishers, New York.
3. Maidment, D.R. (Ed.), (1993), Handbook of Hydrology, McGraw, New York.
4. Reddy, P.J., (1986), A Text Book of Hydrology, Lakshmi Publications, New Delhi.
5. Viessman, W.G. and Lewis, G.L., (1996) Introduction to Hydrology, Harper Collin, New York.
6. Garg, S.K., (2000), Hydrology and Water Resource, Khanna Publishers, New Delhi.
7. Todd, D.K., (2004), Groundwater Hydrology, John Wiley & Sons Inc
8. Andrew D. Ward and Stanley Trimble, (2004), 2nd Ed., Environmental Hydrology, Lewis Publishers.
9. Subramaniam V., (2002), Text Book of Environmental Science, Narosa Publishing House, Delhi.

Practical-(GEB-204)

REPRESENTATION OF PHYSICAL DATA

Credit: 2

Unit-I: Representation of Relief-I

- a) Methods of depicting relief feature:-contour; Hachures, hill shading and layer tinting.
- b) Drawing of Profiles: Composite, serial and Projected

Unit-II: Representation of Relief-II

- a): Representation of waterfall, spur, saddle, escarpment, valley with their contours. b): Determination of slope, Gradient
- c): Interpretation of topographical maps and Geological Maps.

Unit-III: Representation of Climatic Data

- a): Representation of climatic data through Bar graph, linegraphs,
- b): Representation of climatic data through isotherms, isobars, & Isohytes. c): drawing of climographs, Hythergraphs and wind roses.

Unit-IV: Study of Weather Charts/Maps

- a): Study of weather symbols given on a weather map of India. b): Interpretation of a weather chart of India.
- c): Pertaining to different season.

Books Recommended:

1. Dickinson.G.C. 1968: Statistical Mapping and Presentation of Statistics. Arnold, London
2. Lawrence. G.R.P,1971 : Cartographic Methods, Methuen , London
3. Monkhouse. F.J and Wilkinson.H.R.1972: Maps and Diagrams. Methuen , London
4. Misra. R.P.1969: Fundamentals of Cartography, Prasaranga. University of Mysore, Mysore.
5. Raisz.E. 1962: Principles of Cartography, McGraw Hill, New York.
6. Robinson.A.H.1978: Elements of Cartography, John Wiley, New York.

Paper-(GEB-301)

MAN AND ENVIRONMENT

Credit: 4

Unit-I: Man and Environment

Man-environment relationship and its social relevance; Elements of physical and cultural environment; Approaches: Environmental determinism, possibilism and Modern environmentalism.

Unit-II: Population and Human Settlements

World population growth; population distribution and its determinants; Type and patterns of human settlements: Urban and Rural; Trends and Patterns of World urbanization and Migration.

Unit-III: Human Adaptation to Environment

Man in eco-system; Ecological adaptation; Biom-Climatic regions of the World; Human adaptation in equatorial, monsoon, hot desert and tundra regions.

Unit-IV: Environmental Crisis and Management

Environment as a resource system; Technology and resources; environmental crisis-nature and management of deforestation, flood and droughts, Land degradation/deforestation and their management.

Books Recommended:

1. Ahmad, Q.S. (1963) Major Natural Regions, S.Chand Publisher, Delhi.
2. Amit Harichandran .M.A. Chaudhry-2010, Global vision Pub.House, New Delhi 11002.
3. Kaushik, S.D. (1970) Manav Bhoogol, Rastogi & Co., Meerut.
4. Hoyt, J.B. (1973) Man and the earth, Prentice Hall, New Jersey.
5. Husain, Majid (2010) Human Geography, Rawat Publication, Jaipur.
6. Husain, Majid (2010) Manav Bhoogol, Rawat Publication, Jaipur.

Paper-(GEB-303)

REGIONAL GEOGRAPHY OF INDIA

Credit: 4

Unit-I: Physical and Human Landscape

Physiography, Climate, Drainage, Vegetation, Soil, Population and Regionalization Schemes.

Unit-II: Upper Ganga Plain/Rajasthan Desert

Physiography, Climate, Drainage, Vegetation, Agriculture, Industries, Population.

Unit-III: Chotanagpur Plateau/ Deccan Plateau

Physiography, Climate, Drainage, Vegetation, Agriculture, Industries, Population.

Unit-IV: Regionalization

Regionalization and Major Regions Of India Based On Factors Of Regionalization.

Books Recommended:

1. Deshpande C.D.1992 , India-A Regional Interpretation , Northern Book centre, New Delhi.1992.
4. Govt.of India-Reference Annual, 2001 Pub.div; New Delhi.
5. Govt. Of India: National Atlas of India Natmo Publication, Calcutta.
6. Hussain.M. 2009,Geography of India, Tata Mc Graw-Hill companies Book.
7. Kalpana Raja Ram, 2007, Geography of India, Spectrum Books, New Delhi.
10. Mitra, A. 1967. Levels of Regional Development of India, Census of India, Vol.I, Part I-A (i) and (ii) New Delhi,
12. Shekhar.S.(edt.)2004, Regional Planning in India, Anmol PuKalpana Raja Ram, 2007, Geography of India, Spectrum Books, New Delhi.
13. Shafi, M. 2000, Geography of South Asia, McMillan & Co; Calcutta,
14. Singh, R.L. (ed). India A Regional Geography, National Geographical Society,India

Practical-(GEB-304)

STATISTICAL TECHNIQUES IN GEOGRAPHY

Credit: 2

Unit-I: Introduction to Statistics

Population and Sample; Nature of Statistical data: discrete, Continuous, Measures of Data: Quantitative and Qualitative Data.

Unit-II: Frequency Distribution

Histogram, Frequency polygon, Ogive Curve, Normal and Skewed.

Unit-III: Measures of Central Tendency

Mean, Median, Mode; Measures of Dispersion: Mean deviation, Quartile Deviation, Standard Deviation; Coefficient of variation.

Unit-IV: Measures of Association

Spearman's Rank Correlation; Simple Linear Regression.

Books Recommended:

1. Alvi,Z; 1995. Statistical Geography, Rawat Publication, Jaipur.
2. Mahmood,A; 1986. Statistical Methods in Geographical Studies, Rajesh Publications, New Delhi.
3. Goon, A.M; Gupta, M.K. & Dasgupta, B. 1992: Fundamentals of Statistics, Volume I, The World Press Pvt.Ltd, Kolkata.
4. Gregory, S.1985. Statistical Methods and the Geographers, Longman, London.
5. Peter A. Rogerson; 2006, statistical methods for Geography, Sage Publication, Asia Pacific LTd. Singapore.
6. Johnson. R.A. Bhattacharyya. G.K. (2009). Statistics: Principles and Methods, John Wiley and Sons, USA.
7. Micheal C.J. (2005). Statistics: An Introduction. R, John Wiley and Sons, USA.

Paper-(GEB-402)

EVOLUTION OF GEOGRAPHICAL THOUGHT

Credit: 4

Unit-I

Geography in classical age: Contributions of Greek and Roman scholars with special references to the works of Herodotus, Eratosthenes, Hecateus, Strabo and Ptolemy.

Unit-II

Dark Age in Europe and its impact on the development of Geography. Contributions of Arab Scholars with special reference to the works of Al-Masudi, Al-Biruni, Ibn-e-Batuta and Ibn-e-Khaldun.

Unit-III

The revival of scientific geography with special reference to the work of Varenus and Kant. Contributions of Humbolt and Ritter. Darwin's impact on geography.

Unit-IV

Contributions of Ratzel, Vidal de la blache, Richthofen and Hartshorne; The Quantitative Revolution in Geography; Post Quantitative Revolution trends: Welfare, Radical, Post Modernization.etc.)

Books Recommend

1. Deckinsonre (1969) The Maker's of Modern Geography Routledge and Kegen Paul, London.
2. Hartshorne (1939) The Nature of Geography. Association of American Geographers Lancaster Pennsylvania.
3. Hartshorne (1959) Perspective on the Nature of Geography, R and McNally Company, Chicago.
4. Harvey, D. (1989) The condition of Post Modernity: An Enquiry into the Origins of Cultural Change, Blackwell, Oxford.
5. Husain, M. (2002) Evolution of Geographic Thought (also in hindi) Rawat Publication's Jaipur.
6. Sing, J. (1988) Bhaugolik Chenta ka karam vikas Gyanodaya Gorakhpur.
7. Peet, R. (1998) Modern Geographical Thought Blackwell, Oxford.

Paper-(GEB-403)

FUNDAMENTALS OF REMOTE SENSING/GIS/GPS

Credit: 4

Unit –I: Basics of Remote Sensing

Energy Sources and Radiation Principles; Energy Interaction In Atmosphere and with Earth Surface Features; Remote Sensing Platforms and Sensors.

Unit-II: Basics of Photogrammetry and Image Interpretation

Basic Geometric Characteristics of Aerial Photographs; Classification of Aerial Photographs, Ground Coverage of Aerial Photographs; Elements of Image Interpretation.

Unit-III: Concepts of Geographic Information System

Scope and Components of GIS; Data Models-Raster and Vector; Spatial Analysis-Overlay, Proximity and Buffer; 3-D GIS, GIS Application in Geographical Studies.

Unit-IV: Global Positioning System

Basic Concepts And Segments of GPS Positioning; Sources of Errors In GPS Observation; GPS Applications.

Books Recommended:

1. Lillisand, T.M. and M.K. Ralph (2011) Remote Sensing and Image Interpretation, New York, John Wiley & Sons,Inc.
2. Campbell,J.B.(1996) Introduction to Remote Sensing, London, Tylor and Francis, Second Edition.
3. Curran P. (1985) principles of Remote Sensing, London, Longman.
4. Sabins, J.F.F.9 (1997) Remote Sensing: Principles and Interpretation, New York, SanFrancisco, W.H. Freeman and Co.
5. Jenson, JR (2011) Remote Sensing of Environment, New Delhi,McGraw Hill.

Practical-(GEB-404)

REPRESENTATION OF SOCIO-ECONOMIC DATA

Credit: 2

Unit I: Elementary Statistical Methods

Measures of Central Tendency: mean, median and mode; Measures of dispersion; quartile deviation and standard deviation.

Unit Ii: Measures of Relationship

Measure of Association: Karl Pearson's and Rank correlation method, Product-moment correlate coefficient; Measure of functional relationship: Simple regression.

Unit Iii: Representation of Population and Social Data

Population distribution: Rural (dots) Urban (spheres); population growth (line graph); Age and sex pyramid; literacy (Choropleth- Standard deviation method); Distribution of tribal population (polybar diagram).

Unit Iv: Representation Of Economic and Transport Data

Land utilization (proportional divided circles); Distribution of crops (simple bar, compound bar and polybar diagram) and Distribution of major industries (geometric symbols).

Books Recommended:

1. Alvi, Z., 1995. Statistical Geography, Rawat publishers, Jaipur.2. Mahmood, A., 1986. Statistical Methods in Geographical Studies, Rajesh Pub., New Delhi.
3. Monkhouse, F. J. and Wilkinson, H. R., 1963. Maps and Diagrams, Methuen, London.
4. Singh, R. L. and Dutt, P. K., 1970. Elements of Practical Geography, Students' Friends, Allahabad.
5. Singh, R. L. and Singh, R., 1973. Manchitra avam Prayogatmak Bhoogol, Central Book Depot, Allahabad.

Paper-(GEB-501)

ECONOMIC GEOGRAPHY

Credit: 4

Unit-I: Introduction

Subject matter and Scope of Economic geography; Classification of Economic activities; Economic Resources: Concept and classification of Economic Resources

Unit-II: Primary Activities

Major Primary activities: Classification and distribution of major crops; Rice, Wheat and Tea; Land use and Agricultural location models: L.D stamp and J.H. Von Thunen.

Unit-III: Secondary Activities

Distribution and Production of Iron ore, coal, petroleum; Factors of Industrial location; Distribution and potential growth of Iron and Steel industry, Cotton Textiles Industry; Weber's theory of industrial location.

Unit-IV: Tertiary Activities

Trade: Determinants and strategies; International trade with references to GATT and WTO; Transport: Concept Of distance, accessibility and connectivity.

Books Recommended:

1. William P. Anderson, 2012. Economic Geography, Routledge, Canada
2. Singh and Dhillon, J.S. 2004, Agricultural Geography, Tata Mc Graw Hill, India, New Delhi.
3. Guha, J.L. and Chattarj, P.R. 1989: A New Approach to Economic Geography: A Study of Resources, World Press, Kolkata.
4. Hartshorn, T.A. and Alexander, J.W. 1988: Economic Geography, Prentice Hall, India, New Delhi.
5. Jhingan, M.L. 1978: Economics of Development and Planning, Vikas Publishing house, New Delhi.
6. Jones, C.F. and Darkenwald, G.G. 1954, Economic Geography, Macmillan, New York.
7. Leong, G.C. and Morgan, G.C. 1975: Human and Economic Geography, Oxford University Press, Hong Kong.

Paper-(GEB-504)

GEOGRAPHY OF POPULATION

Credit: 4

Unit-I: Introduction to Population Geography

Subject matter and scope of Population geography, Demography and population Geography; Sources of Population Data: Census, Vital Statistics and National Sample Survey; Approaches in population Geography.

Unit-II: Population Distribution and Growth

Population Growth and change: Trends of Population Growth in the World; World Pattern of population distribution; factors affecting population distribution; Population Dynamics: Fertility, Mortality and Migration, Theories of Population growth: Malthusian theory, Theory of Demographic Transition;

Unit-III: Population Composition

Age and Sex Composition; Rural and Urban Composition; Economic Composition Literacy and Education; Religion/Caste/ Race etc.

Unit-IV: Population Problems and Policies-India

Declining Sex Ratio, Gender issues: Ageing, crime against Women, Human Trafficking, Child Abuse; HIV/AIDS; Population Policy of India.

Books Recommended:

1. Chandana,R.C.(2008): Geography of Population: Concepts, Determinants and Patterns,7th Edition, Kalyani Publishers, New Delhi.
2. Clarke,J.I.(1972):Population Geography, Second Edition,Pergamon Press Ltd; Oxford.
3. Clarke,J.I. (Ed.)(1984):Geography and Population: Approaches,Pergamon Press Ltd; Oxford.
4. Demco,G.J; Rose, H.M.Schnell,G.A. (1970):Population Geography,McGraw Hill Book Co; New York.
5. Jones, H.R.(1990): Population Geography,Sage.
6. Jones, H.R. (2000): Population Geography, 3rd Edition, Paul Chapman, London.
7. Peters,G.L. and Larkin R.P (1979): population Georaphy-Problems,Concepts and Prospects, Kendall Hunt Publication Co.
8. Swain, A.K.P.C. (2008): A Text Book of Population Studies, Kalyani Publishers, New Delhi.
9. Mahendra K. Premi, Dipendra Nath Das (2011) Population of India, B.R. Publishing Corporation, Delhi.

Practical-(GEB-505)

PHOTO AND IMAGE INTERPRETATION

Credit: 2

Unit-I: Basics of Remote Sensing

Electromagnetic radiation; Stages of remote sensing; Resolutions; Aerial photographs: types, border information and geometry; Difference between maps and aerial photographs; visual image interpretation: elements, instruments.

Unit-II: Photogrammetry

Numerical problems on aerial Photogrammetry; Types and determination of photoscale; Determination of height of objects using single vertical aerial photograph; Zeiss test; Construction of instrument base, photo base and stereomodel.

Unit-III: Interpretation of Aerial Photographs

Detection of defined objects; Preparation of image interpretations keys; Interpretation of stereograms: fluvial and industrial; Interpretation of stereopairs.

Unit-IV: Interpretation of Satellite Imageries

Satellite Imageries: referencing, types, border information; Feature identification from multi-band imageries; Interpretation of Fcc for land cover/ landuse mapping: salt affected areas, ravenous lands, Chandigarh and Delhi.

Books Recommended:

1. Dickinson, G.C; 1979. Maps and Air Photographs, Arnold Heinemann, New Delhi.
2. Lillesand, T. and Feifer, 1979. Remote Sensing and Image Interpretation, John Wiley, New York.
3. NRSA, 1998. IRS- IA, Data User Handbook, National Remote Sensing Agency, Hyderabad.
4. NRSA, 1995. IRS-IC, Data User handbook, National Remote Sensing Agency, Hyyderabad.
5. Patel, A.N. and Singh, S. 1992. Remote Sensing: Principles and Applications, Scientific Publishers, Jodhpur.

Paper-(GEB-602)
URBAN GEOGRAPHY
Credit: 4

Unit-I: Basic Concepts

Urban Geography: Definition, Nature and Scope; Evolution of Towns: Ancient, Medieval and Modern Period; Nature of Urbanization: Developed and developing countries.

Unit-II: City System

Morphology and Internal Structure of Cities: Concentric Zone Model, Sector Model, Multiple Nuclei Model; Hierarchy of Cities: Rank Size rule.

UNIT-III: Classification of Cities

Urban Function: Basic and Non Basic activities, Functional Classification of Towns: Harris, Nelson, Hierarchy of central Plans: Central Place Theory of Christaller and Losch; Growth Pole Theory of Perroux.

Unit-IV: Contemporary Issues

Contemporary Urban Issues: Urban Sprawl, Urban Poverty, Slums; Urban pollution: Air, water and Noise; Urban crimes.

Books Recommended

1. Alam, S.M., 1964. Hyderabad- Secunderabad Twin Cities. Asia Publishing House. Bombay.
2. Berry, B.J.L. and Horton F.F; 1970 Geographic Perspectives on urban systems. Prentice Hall, Englewood Cliffs, New Jersey.
3. Carter, H; 1976. The Study of Urban Geography, Edward Arnold Publishers, London.
4. Hall, T; 2001. Urban geography. Routledge, London.
5. Kundu, A; 1992. Urban Development and Urban Research in India. Khanna publication.
6. Ramchandran. R; 1988. Urbanization and Urban System in India, New Delhi, Oxford Publication.
7. Singh R.B; (ed.) 2000. Urban sustainable in the context of Global Change, Oxford & IBN Pub. New Delhi.
8. Krishan, Gopal: Nagar Bhugol, Punjab State University Text Book board, Chandigarh, 1974.
9. Singh, B; 2008. Urban Geography, Rajesh Publication, New Delhi.

Paper-(GEB-605)

DISASTER MANAGEMENT

Credit: 4

Unit-I: Introduction

Disaster: Definition and significance; Difference between Hazard and Disaster; Disasters: Nature, Types and Magnitude; Earthquakes, Cyclones, Tsunamis, Floods, Droughts, Landslides, Wars and Industrial Disasters.

Unit-II: Risk and Preparedness

Concept of Risk and Vulnerability, Reduction of Risk, Techniques of Risk Assessment, People's Participation in Risk Assessment, National And Global cooperation in Risk Assessment; Disaster Preparedness; Concept and Nature; Community Based Planning, Role of Various Agencies and Government Organizations.

Unit-III: Planning and Management

Integral Development Planning for Disaster Management, Pre-Disaster Planning and management; Early Warning and Prediction System; Post- Disaster Management: Rescue, Relief, Rehabilitation; Public Awareness, Stress Management, Role of National and International Agencies in Disaster Management.

Unit-IV: National Perspective

Disaster Prone Areas of India; Seismic Zones, Areas prone to Floods and Droughts, Landslides and Avalanches, Areas prone to Cyclones and Coastal Hazards, Industrial Disaster Areas, National Disaster Policy of India.

Books Recommended

1. Bryant Edwards (2005): Natural Hazards, Cambridge University Press, U.K.
2. Carter, W. Nick, 1991: Disaster Management, Asian Development Bank, Manila.
3. Central Water Commission, 1987, Flood Atlas of India, CWC, New Delhi.
4. Central Water Commission, 1989, Manual of Flood Forecasting, New Delhi.
5. Government of India, 1997, Vulnerability Atlas of India, New Delhi
6. Sahni, Pardeep et.al. (eds.) 2002, Disaster Mitigation Experiences and Reflections
Prentice Hall of India, New Delhi.

Practical-(GEB-608)

SOCIO-ECONOMIC SURVEY

Credit: 2

UNIT I:

Study And Interpretation of Topographical Sheets Of Selected Regions on Different Scales.

UNIT II:

Collect the social and economic data of its village/ town from various sources.

UNIT III:

Conduct a socio-economic survey of the households of the selected village.

UNIT IV:

Based on socio-economic data of the households, prepare a critical field-survey report. Photographs and sketches, in addition to maps and diagrams, may supplement the report.

Books Recommended:

1. Gregory,S, 1980. Statistical methods and the Geographer, Longman, London.
2. Mahmood, A. 1986. Statistical Methods in Geographical Studies, Rajesh Pub., New Delhi.
3. Ibrahim, R., 1992. Socio-Economic Profile of Mewat, Radha Publishers, New Delhi.
4. Robinson, A.H. 1978. Elements of Cartography, John Wiley , New York.
5. Raisz, E. 1962. Principles of Cartography, Mc Graw Hill, New York.
6. Burt J.E. Barber. G.E. Rigby D.L. (2009). Elementary Statistics for Geographers, Guilford Press, New York.

The students have to visit a village/town to conduct socio-Economic survey. Each student will be required to submit a survey report to be evaluated by external and internal examiner.