

# Department of Geography

Faculty of Natural Sciences

JAMIA MILLIA ISLAMIA  
NEW DELHI – 110 025

(A Central University by an Act of Parliament)



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B.A. Programme Geography

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Syllabus (w.e.f. 2011-2012)

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## COURSE STRUCTURE OF B.A. PROGRAMME

### **I-Semester**

<u>Theory paper</u>	Credits
Paper: I (GGB-01) Physical Basis of Geography	4
 <u>Practical</u>	
Practical I (GGB-07) Cartographic Techniques and Representation Of Physical Data	2

### **II-Semester**

<u>Theory paper</u>	
Paper II (GGB-02) Physical Geography-II	4
 <u>Practical</u>	
Practical II (GGB-08) Basic Statistics	2

### **III-Semester**

<u>Theory paper</u>	
Paper III (GGB-03) Man and Environment/Space and Society	4
 <u>Practical</u>	
Practical III (GGB-09) Cartographic Methods	2

### **IV-Semester**

<u>Theory paper</u>	
Paper IV (GGB-04) Geography of Resources and Environment	4
 <u>Practical</u>	
Practical- IV (GGB-010) Surveying	2

## **V-Semester**

### Theory paper

Paper V (GGB-05) Geography of India 4

### Practical

Practical: V (GGB-011) Interpretation of Aerial Photographs  
Satellite Imageries and GPS 2

## **VI-Semester**

### Theory paper

Paper VI (GGB-06) Remote Sensing; GPS and GIS 4

### Practical

Practical VI (GGB-012) Socio Economic Survey 2

**Paper: I (GGB-01)**

**Physical Basis of Geography**

**Credits: 4**

**UNIT-I**

Definition, nature and scope of physical geography; Origin of solar system; Earth's rotation and revolution and its effects; Interior of the earth; Wegner's theory of continental Drift; Rocks: Types, origin and composition.

**UNIT-II**

Geomorphic processes; Exogenetic processes: weathering, erosion, transportation and deposition; Endogenetic processes: Slow processes-Epeirogenic and Orogenic; Sudden processes-Earthquakes and Volcano.

**UNIT III**

Agents of geomorphic processes and resulting landforms; River, Glacier, Wind, Concept of cycle of erosion; geomorphic hazards and their managements: Tsunamis and Land slide.

**Books Recommended**

1. Dasagupta and A.N. Kapoor: 2001: Principles of Physical Geography, S.Chand and Co.New Delhi.
2. Dayal, P. 1990: Text Book of Geomorphology, Shukla Book Depot. Patna
3. Monkhouse, F.J. 1960: Principles of Physical Geography, Hodder and Stoughton, London.
4. Enayat Ahmed: 1982: Physical Geography, Kalayani Publishers, Ludhiana.
5. Savindra Singh: 1998: Physical Geography, Pravag, Pustak Bhavan, Allahabad.
6. Strahler, A.N. and Strahler, A.H. 1992: Modern Physical Geography; John Wiley and sons, New York.

7. Thornbury, W.D. 1991; Principles of Geography, Wiley Eastern Ltd. New Delhi.

**Paper II (GGB-02)**  
**Physical Geography-II**  
**(Oceanography and Climatology)**

**Credits: 4**

**UNIT-I**

Surface configuration of ocean floor, submarine relief of Atlantic and Indian ocean; Oceanic circulation; tides and currents; Ocean deposits; salinity; coral reefs and atoll; marine resources: conservation and management.

**UNIT II**

Heat balance; Atmospheric circulation: permanent winds, local winds and pressure belts; weather systems: Tropical and extra tropical cyclones, monsoons.

**UNIT III**

Hydrological cycle, Air mass and fronts; Koepans classification of climate.

**Books Recommended**

1. Chrichfield, H.T. 1966: General Climatology; Prentice Hall, New York.
2. Gerald S. 1980: General Oceanography: An Introduction; Jhon Wiley and Sons, New York.
3. Sharma R.C. and Vatal M. 1980: Oceanography for Geographers, Chaitny Publication, Allahabad.
4. Treewartha, G.T. and Horn L.A. 1980: Introduction to Climate, International Studies.

### **Paper III (GGB-03)**

#### **Man and Environment /Space and Society**

**Credits: 4**

##### **UNIT-I**

Definition, nature and scope of human geography; Branches of human geography; Dichotomy in physical and human geography; Geography as an integrated discipline; Concepts of man and environment relationship; Environmentalism/Determinism, Possibilism, Stop and go determinism; Economic activities.

##### **UNIT-II**

Growth and distribution of population in the world; Migration- causes and consequences; Population Theories – Malthus, Demographic transition; Human Development index.

##### **UNIT- III**

Human Settlement: Rural and urban settlement; Social space in rural setting; Internal structure of city; Central place theory; Human adaptation to environment -Eskimo, Bushman, Gonds, and Bhill.

##### **Books Recommended**

1. Chandna,R.C. 2000:Geography of Population,KalyaniPublishers,New Delhi.
2. Clark, J. 1972: Population Geography, Pergamon press, Oxford
3. Husain, M. 1994: Human Geography, Rawat Publication house, Jaipur
4. Norton, W. 2004: Human Geography,Oxford University Press, Canada
- 5 .SinghJ.2002: Manva Evam Arthik Bhoogol, Gyanandya Parkashan, Gorakhpur.

## **Paper IV (GGB-04)**

### **Geography of Resources and Environment**

**Credits: 4**

#### **UNIT-I**

Concept and classification of resources; Agriculture: Classification; Land classification, Agricultural productivity, concentric zone model; Industrial regions of the world; Theory of industrial location; Communication and transport.

#### **UNIT II**

Natural hazards: floods, drought, land degradation and desertification; conservation of resources.

#### **UNIT III**

Sustainable development; quality of life; Social well being; Gender development; Food security; Global warming; Climate change.

#### **Books Recommended**

1. Alaxender J.W. 1988: Economic Geography, Prentice Hall,
2. Cutter,L.1997: Renwick,H.L.1985: Exploitation, Conservation and Preservation; A Geographic Perspective and Natural Resources use, Rowman and Allanheld, New Jersey.
3. Ehrlich, P.R. and A.H.Ehrlich 1970: Population,Resource and Environment,W.H. Freeman &company, San Francisco.
4. Gautam, Alka2010: Advanced Economic Geography,Sharda pustak bhavan, Allahabad.
5. Norton, W. 2004: Human Geography,Oxford University Press, Canada.



**Paper V (GGB-05)**

**Geography of India**

**Credits: 4**

**UNIT I**

Structure, Relief and physiographic divisions; Drainage system; Soils; Natural Vegetation; Linguistic and religious groups; Growth and distribution of population; Demographic attributes; Problems of over population in India and remedial measures.

**UNIT II**

Factors of Industrial location; Industrial regions, Agricultural regions, Green Revolution.

**UNIT III**

Regional classification; Geography of Indian Desert; Concept of watershed; Indian Foreign policy; Industrial policy.

**Books Recommended**

1. Deshpande, C D, 1992: India – A Regional Interpretation, Northern Book Depot, New Delhi.
2. Hussain M.2009: "Geography of India" Tata-McGraw Hills, New Delhi.
3. Khullar, D.R. 2006: "Indian-A Comprehensive Geography" Kalyani Publishers, New Delhi.
4. Singh, R L (ed) 1971: India: A Regional Geography, National Geographical Society, India, Varanasi.
5. Spate, D H K and ATA Learmonth 1967: India and Pakistan – Land, People Economy, Methuen and Company, London.
6. Tiwari, R.C. 2006: "Geography of India" Paryag Pustak Bhavan, Allahabad.

**Paper VI (GGB-06)**

**Remote Sensing, GPS and GIS**

**Credits: 4**

**UNIT I**

Fundamentals of Aerial photography; marginal information; Types of aerial photographs; geometry of aerial photographs; Introduction to remote sensing; EMR; Interaction of EMR with atmosphere and earth surface; Image formats; Image resolution; Sensors and platforms.

**UNIT II**

Fundamentals of GPS; Segments of GPS; Errors in GPS; Applications of GPS.

**UNIT III**

Introduction to GIS; History and development of GIS; GIS components; data models: Spatial and non spatial; Attribute data management; spatial analysis; query in GIS; map designing.

**Books Recommended**

1. Dickinson, G.C. 1979: Maps and Air Photographs, Arnold-Heinemann, New Delhi.
2. Lillesand, T and R. Keifer, 1979: Remote Sensing and Image Interpretation, John Wiley, New York.
3. Lo, C.P. and Young 2003: Concepts and techniques of Geographical Information System.
4. Siddiqui, M.A. 2011: Concepts and Techniques of Geoinformatics, Sharda Pustak Bhavan, Allahabad.
5. Joseph, G. 2009: Fundamentals of Remote Sensing, University Press Pvt.Ltd. Hyderabad

**Practical I (GGB-07)**  
**Cartographic Techniques and**  
**Representation of Physical Data**

**Credits: 2**

**UNIT-I**

Introduction to Cartography; Maps: definition and classification; Introduction to Survey of India toposheets; Scale: Construction of plane, comparative and diagonal scale; Relief features: Methods of relief representation- pictorial –Mathematical and composite methods; Contours – characteristics – Profiles.

**UNIT –II**

Representation of slope: Uniform, Undulating, Concave, Convex slopes;  
Representation of relief feature: Conical hill, plateau, ridges, escarpment, gorge, 'V' shaped valley, U shaped valley, water falls.

**UNIT III**

Drawing of isotherms, Isobars, and isohyets.

**Books Recommended**

1. F.J.Monkhouse and H.R.Wilkinson (1972): Maps and Diagrams, Mothuen and Co. Ltd., London.
2. Gupta K.K and Tyagi V.C 1992 Working with maps; Survey of India Department of Science and Technology, Govt of India, Dehra Dun.
3. Mishra R.P.:1969,Fundamentals of Cartography, Prasaranga, University of Mysore, Mysore.
4. Raisz E 1948. General Cartography, Tata-MC-Graw Hill, New York.
5. Singh. R.L.1979.: Elements of Practical Geography, Kalyani Publishers, New Delhi.
6. Singh L.R. and Raghuvander Singh (1973): Map Work and Practical Geography, Central Book Depot, Allahabad.

## **Practical II (GGB-08)**

### **Basic Statistics**

**Credits: 2**

#### **UNIT-I**

Statistics- meanings, importance and limitations- sources of data- primary and secondary, development of questionnaire ; Sampling- meaning and types of sampling ; Measures of central tendency – mean, median, mode, direct and short cut methods for individual, discrete and grouped data.

#### **UNIT II**

Measures of dispersion -Mean deviation, Quartile deviation and standard deviation.

#### **UNIT III**

Coefficient of correlation, Regression analysis.

#### **Books Recommended**

1. Singh.R.L.1979: Elements of Practical Geography, Kalyani Publishers, New Delhi.
2. Mahmood, A.2002: Statistical methods in Geographical Studies, Rajeshpublications, New Delhi.
3. Zamir Alvi 1995: Statistical Geography, Methods and Applications, Rawat Publications, Jaipur.

## **Practical III (GGB-09)**

### **Cartographic Methods**

**Credits: 2**

#### **UNIT-I**

Line graphs- single, and poly graphs; Bar graphs- single and multiple bars (Both vertical and horizontal); Compound bar, pyramid graphs.

#### **UNIT II**

Climograph, hythergraph, Ergo graph; Proportionate circles; Thematic mapping, Choropleth method, Dot method.

#### **UNIT III**

Significance and use of cartograms in geography; Drawing of Value area cartogram, Wind diagram; traffic flow diagram.

#### **Books Recommended**

1. Kraak, M.J and F. Ormeling 2005: Pearson Education, New Delhi
2. Mishra R.P :1969: Fundamentals of Cartography; Prasaranga, University of Mysore, Mysore.
3. Monkhouse F.J and Wilkinson H.R.1952: Maps and Diagrams, Mathuen and Co, Ltd., London,
4. Raisz E1948: General Cartography, Tata-MC-Graw Hill, New York.
5. Robinson .H1963: Elements of Cartography, John Wiley, London.
6. Singh. R.L. 1979: Elements of Practical Geography; Kalyani Publishers, New Delhi.
7. Singh.L. R 2008: Practical Geography, Sharada Pustak Bhavan, Allahabad.

## **Practical- IV (GGB-010)**

### **Surveying**

**Credits: 2**

#### **UNIT-I**

Definition, significance and objects of surveying and levelling;  
Types of surveying Geodetic and Plane surveying; .Methods of surveying :Plane Table  
Surveying (I) Radiation Method, (ii) Intersection Method.

#### **UNIT II**

Dumpy Level (Definition of terms used in surveying) (I) Collimation Method  
(ii) Rise and Fall Method (levelling).

#### **UNIT IV**

Sextant: Measurement of Vertical and horizontal angles; Prismatic Compass: Close  
traverse and open traverse.

#### **Books Recommended**

1. Alvi,Z. 1995: Text Book of Surveying, Vikas Publishers, New Delhi.
2. Kanetkar, T.P. and Kulkarni, S.V. 1985: Surveying and Levelling,  
Poona.Vidyarthi Griha Prakashan, Pune.
3. Singh, R.L. and P.K.Dutta, 1970: Elements of Practical Geography,  
Students Friends, Allahabad
4. Sharma, J.P. 1984: Prayogik Bhugol, Rastogi and Company, Meerut

**Practical: V (GGB-011)**

**Interpretation of Aerial Photographs,**

**Satellite Imageries and GPS**

**Credits: 2**

**UNIT-I**

Stereoscopic test; setting aerial photo for stereo-vision  
Determination of photo scale and measurement of area; Identification of defined objects; Determination of height from single vertical aerial photograph; Study of stereogram.

**UNIT –II**

Satellite images; Row and path numbers; Landuse/land cover mapping, interpretation of satellite imageries of Urban areas.

**UNIT III**

GPS configuration, setting initial parameters, mobile mapping; transferring data to the computer.

**Books Recommended**

1. Gopi, S., Sathikumar,R. and N.Madhu 2007: Advanced Surveying, Pearson Education, New Delhi
2. Ramphal, K.K. 1993: Maps and Compilation: Methods and Techniques" Concept Publishing Company, New Delhi.
3. Siddiqui, M.A. 2011: Concepts and Techniques of Geoinformatics, Sharda Pustak Bhavan, Allahabad.

**Practical VI (GGB-012)**

**Socio Economic Survey**

**Credits: 2**

**UNIT-I**

Need and Significance of Socio economic survey; Methods of Socio economic survey; Preparation of Questionnaire, Methods of Sampling.

**UNIT II and UNIT III**

Conduct a field survey and prepare a report.