

# *The University of Burdwan*



## Syllabus

### For

## B.A. /B.Sc. 3-Year (General) Degree Course in Geography

*w.e.f. 2011-12 onward*

**REVISED IN 2010** : TO BE EFFECTIVE FROM THE ACADEMIC SESSION 2011-2012 AND REALLOCATION OF PAPERS FOR PART I, PART II & PART III AS PER THE RESOLUTIONS ADOPTED IN THE MEETING OF THE U.G. BOARD OF STUDIES IN GEOGRAPHY HELD ON 29.07.2010 AT RAJBATI, THE UNIVERSITY OF BURDWAN

# B.A. /B.Sc. Course in Geography

## Papers for General Course

### Section I: Course Structure and Examination Pattern

Examination Pattern	Type	Paper	Title of the Paper	Marks	Exam Time
Part- I	Theoretical	I	Physical Geography	100	3 hours
Part- II	Theoretical	II	Geographical Thought, Economic and Social Geography	100	3 hours
	Practical	III	Cartographic Techniques in Geography	100	5 hours
Part -III	Theoretical	IVA	Geography of India	60	3 hours
	Practical	IVB	Analytical Techniques in Geography	40	3 hours

## **Section 2: Syllabus with Details of Marks Division**

### **Part-I**

#### **PAPER-I**

##### **PHYSICAL GEOGRAPHY**

**Full Marks: 100**

**Examination Time: 3 Hours**

*Number of lectures to be delivered for each Unit 20*

#### **1.0 GEOTECTONICS**

**[20 MARKS]**

- 1.1 Geological Time-scale and Geological History of the Earth
- 1.2 Internal Structure of the Earth
- 1.3 Continental Drift: Evidences and Mechanisms
- 1.4 Origin of Fold Mountains with special reference to Plate Tectonics

#### **2.0 GEOMORPHOLOGY**

**[20 MARKS]**

- 2.1 Processes of Denudation: Weathering, Erosion and Mass-wasting
- 2.2 Fluvial Processes and Landforms
- 2.3 Theories of Landscape Evolution (Concepts of Davis and Hack)
- 2.4 Glacial and Aeolian Processes and Landforms

#### **3.0 CLIMATOLOGY**

**[20 MARKS]**

- 3.1 Thermal Structure, Chemical Composition and Layering of Atmosphere; Horizontal distribution of Temperature
- 3.2 Origin and Classification of Air masses and their Characteristics
- 3.3 Forms of Precipitation and Types of Rainfall
- 3.4 Koppen's Classification of Climate of the World and India

#### **4.0 SOIL GEOGRAPHY**

**[20 MARKS]**

- 4.1 Definition of Soil, Physical and Chemical Properties of Soil with special reference to Texture, Colour and pH
- 4.2 Soil Forming Factors, Soil Types: Zonal, Azonal and Intrazonal
- 4.3 Soil Formation: Podsolisation and Laterisation
- 4.4 Causes of Soil Erosion; Methods of Soil Conservation

#### **5.0 BIOGEOGRAPHY**

**[20 MARKS]**

- 5.1 Definition of Biosphere and Biogeography, Meaning of Ecology, Ecosystem, Environment, Ecotone, Communities, Habitats and Biotopes
- 5.2 Impact of climate and soil on distribution of plants and animals
- 5.3 Biomes: Tropical Rainforest and Temperate Grassland
- 5.4 Problems of deforestation and conservation of forest

***N.B. : Pattern of setting question papers along with distribution of marks has been incorporated in the section-IV of this syllabus.***

## Part-II

### PAPER-II

#### GEOGRAPHICAL THOUGHT, ECONOMIC AND SOCIAL GEOGRAPHY

Full Marks: 100

Examination Time: 3Hours

*Number of lectures to be delivered for each Unit 20*

#### **1.0 GEOGRAPHICAL THOUGHT**

**[20 MARKS]**

- 1.1 Definition, Scope and Content of Geography
- 1.2 Contributions of Humboldt and Ritter to the Discipline of Geography
- 1.3 Concepts of Determinism and Possibilism
- 1.4 Concept of Region and *Method* of Regionalisation

#### **2.0 ECONOMIC GEOGRAPHY**

**[20 MARKS]**

- 2.1 Agriculture in Tropical Region: Intensive Subsistence Agriculture (Rice) and Plantation Agriculture (Tea)
- 2.2 Agriculture in Extra-Tropical Regions: Mixed Farming (NW Europe) and Mediterranean Agriculture
- 2.3 Major Industrial Regions of the World: Industrial Characteristics of the Great Lakes and Asansol – Durgapur Regions
- 2.4 Growth and Development of Iron and Steel Industry in USA and Cotton Textile Industries in India.

#### **3.0 POPULATION GEOGRAPHY**

**[20 MARKS]**

- 3.1 Growth, Distribution and Density of Population on the World
- 3.2 Concepts of Optimum Population, Overpopulation and Under-Population
- 3.3 Types of Population Migration with reference to India
- 3.4 Population Explosion and Food Crisis

#### **4.0 HABITAT, SOCIETY AND ECONOMY**

**[20 MARKS]**

- 4.1 Major Racial Groups and their World Distribution
- 4.2 Major Linguistic Groups of India and their Distribution
- 4.3 Pygmies and Bushmen of Africa
- 4.4 Bhils and Santals of India

#### **5.0 SETTLEMENT GEOGRAPHY**

**[20 MARKS]**

- 5.1 Criteria of Classification of Settlements into Rural and Urban types in India
- 5.2 Types and Patterns of Rural Settlements and Factors responsible for their Growth
- 5.3 Definition and Characteristics of Urban Agglomeration, Metropolis and Megalopolis
- 5.4 Functional Classification of Towns

**N.B. :** *Pattern of setting question papers along with distribution of marks has been incorporated in the section-IV of this syllabus.*

# PAPER-III (PRACTICAL)

## CARTOGRAPHY TECHNIQUES IN GEOGRAPHY

Full Marks: 100

Examination Time: 5 hours

*Number of periods to be assigned for Unit 1, 2, 3 and 4 – 10 each, Unit 5 - 15.*

### **1.0 SCALE AND CARTOGRAMS**

**[20 MARKS]**

- 1.1 Linear and Comparative Scales
- 1.2 Proportional Diagrams: Circles and Squares
- 1.3 Composite Bar Diagrams and Age-Sex Pyramids
- 1.4 Taylor's Climograph

### **2.0 MAPPING TECHNIQUES AND MAP PROJECTION**

**[20 MARKS]**

- 2.1 Isopleth Method: Rainfall Distribution and Temperature Zones
- 2.2 Choropleth Method: Population Density and Cropping Intensity (Based on Ratio between Net Sown Area and Gross Cropped Area)
- 2.3 Drawing of Graticule on Cylindrical Equal Area Projection
- 2.4 Drawing of Graticule on Simple Conical Projection with One Standard Parallel

### **3.0 MAP INTERPRETATION**

**[20 MARKS]**

- 3.1 Interpretation of Relief and Drainage from Topographical Maps
- 3.2 Interpretation of Communication and Settlement from Topographical Maps
- 3.3 Relationship between Physical and Cultural Features in Plateau and Plain Regions on the basis of Topographical Maps Published by Survey of India
- 3.4 Interpretation of Daily Weather Maps Published by India Meteorological Department

### **4.0 SURVEYING**

**[20 MARKS]**

- 4.1 Definition and Classification of Surveying
- 4.2 Plane Table Survey by Radial Method
- 4.3 Open and Closed Traverse Survey by Prismatic Compass
- 4.4 Drawing of Profile by Dumpy / Precision Level

### **5.0 FIELD REPORT AND LABORATORY NOTEBOOK**

#### **5.1 FIELD REPORT ON EITHER A RURAL MOUZA OR AT LEAST ONE WARD OF AN URBAN AREA (TO BE CONDUCTED DURING FIELD EXCURSION).**

**[WRITTEN REPORT: 6 MARKS + VIVA-VOCE ON FIELD REPORT: 4 MARKS = 10 MARKS]**

#### **5.1.1 Guidelines for Field Report on Rural Mouza**

The following methods are to be followed before the preparation of field report:

- (a) Plot-to-plot Land Use Survey
- (b) Collection of Socio-Economic and Physical Data
- (c) Classification and Tabulation of Data
- (d) Preparation of Land Use Map on Cadastral Plan
- (e) Preparation of Maps and Diagrams showing Physiography, Drainage, Soil, Forest, Settlement, Irrigation, Cropping Pattern, Demographic Characteristics *etc.*
- (f) Interrelation and Analysis of Data, Maps and Diagrams

The Report is to be prepared under the following sections:

- (a) Introduction: Objective, Extent and Space Relations, Sources of Information, Methodology *etc.*
- (b) Physical Components: Lithology, Drainage, Surface Condition, Slope, Climate, Soil Vegetation, *etc.*
- (c) Population: Number, Sex Ratio, Literacy, Occupational Structure, Ethnic and Religious Composition, Language, Mobility, Media Exposure, Per Capita Income *etc.*

- (d) Settlement: Number of Houses, Building Materials, Number and Size of Rooms, Amenities *etc.*
- (e) Agriculture: Soil Properties, Irrigational Facilities, General Landuse, Cropping Intensity, Crop-Combination, use of Fertilisers, Production and Marketing *etc.*
- (f) Other Economic Activities: Fishing, Horticulture, Brick-Klin Industries
- (g) Problems, Prospects, Suggestions and Conclusion
- (h) Bibliography

### **5.1.2 Guidelines for Field Report on Urban Area (at least one ward)**

The following Methods are to be followed before the Preparation of Field Report:

- (a) Plot-to-Plot Land Use Survey
- (b) Collection of Socio-Economic Data
- (c) Classification and Tabulation of Data
- (d) Preparation of Urban Land Use Map on Cadastral Plan
- (e) Preparation of Maps and Diagrams showing Urban Morphology, Drainage and Sewage Networks, Communication Networks, Traffic Flow and Travel-Time, Demographic Characteristics, Cultural and Economic Zonation *etc.*
- (f) Interrelation and Analysis of Data, Maps and Diagrams

The Report is to be Prepared under the following Sections:

- (a) Introduction: Objective, Extent and Space Relations, Sources of Information, Methodology *etc.*
- (b) Physical Components: Surface Conditions, Slope, Drainage, Climate, *etc.*
- (c) Demography: Spatial Analyses of Population Density, FMR, Literacy, Occupational Structure, Ethnic and Religious Composition, Language, Mobility, Media Exposure, *etc.*
- (d) Town Morphology: Activity Zones, Sectors of Land Use, Linkages between Different Zones and Sectors
- (e) Economy: Economic Individuality of the Town, Production and Marketing Patterns, Spatial Differences in Occupation and Per Capita Income Characteristics *etc.*
- (f) Urban Waste and its Management: Types of Wastes Generated, Network of Drains, Efficiency of Waste Removal and Sewage Treatment, Peoples' Perception of Pollution Problems
- (g) Bibliography

### **5.3 Field Report is to be Hand-Written**

5.4 Text of the Report should not Exceed 1,500 words

5.5 Maps and Diagrams Excluding Photo-Plates should not Exceed 15

### **6.0 LABORATORY NOTEBOOK AND VIVA-VOCE**

**[6+4 = 10]**

**N.B. : *Pattern of setting question papers along with distribution of marks has been incorporated in the section-IV of this syllabus.***

## **Part-III**

### **PAPER-IV**

#### **GEOGRAPHY OF INDIA AND ANALYTICAL TECHNIQUES IN GEOGRAPHY**

##### **Group-A (Theoretical)**

##### **GEOGRAPHY OF INDIA**

**Full Marks: 60**

**Examination Time: 3 Hours**

*Number of lectures to be delivered for each Unit: 20*

##### **1.0 PHYSICAL ASPECTS**

**[20 MARKS]**

- 1.1 Structure and Relief & their Interrelationship
- 1.2 Characteristics of River Systems of Peninsular and Extra-Peninsular India
- 1.3 Climatic Characteristics: Seasonality, Unevenness and Unreliability of Rainfall
- 1.4 Distribution of Natural Vegetation, Soil and their Interrelationship

##### **2.0 SOCIO-ECONOMIC ASPECTS**

**[20 MARKS]**

- 2.1 Distribution and Production of Principal Crops (Rice, Wheat, Cotton and Tea)
- 2.2 Power Resources: Coal, Petroleum and Hydroelectricity
- 2.3 Locational Factors and Growth of Iron and Steel and Aluminium Industries
- 2.4 Population Growth and Distribution, Population Problems, Trends of Urbanisation

##### **3.0 REGIONAL ASPECTS**

**[20 MARKS]**

- 3.1 Kashmir Himalaya
- 3.2 Deccan Trap
- 3.3 Bengal Delta
- 3.4 Marusthali

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## **PAPER-IV**

### **GEOGRAPHY OF INDIA AND ANALYTICAL TECHNIQUES IN GEOGRAPHY**

#### **Group-B (Practical)**

#### **ANALYTICAL TECHNIQUES IN GEOGRAPHY**

**Full Marks: 40**

**Examination Time: 3 hours**

*Number of periods to be assigned for Unit 1 - 8; Unit 2 - 10*

#### **1.0 STATISTICAL TECHNIQUES**

**[15 MARKS]**

- 1.1 Methods of Collection, Classification and Tabulation of Data
- 1.2 Frequency Distribution: Graphical Representation and Interpretation of Histogram, Frequency Polygon, Curves and Ogives
- 1.3 Measures of Central Tendency: Mean, Median and Mode
- 1.4 Simple Correlation: Scatter Diagram and Fitting of Trend-Line by Eye-Estimation

#### **2.0 LABORATORY WORK**

**[20 MARKS]**

- 2.1 Reading of Barometer, Hygrometer and Maximum and Minimum Thermometer
- 2.2 Determination of Soil Texture by Feel Method and Soil pH by Soil Kit
- 2.3 Measurement of Area by Graphical Method and Length by Rotameter
- 2.4 Megascopic Identification of Common Minerals and Rocks & their Characteristics: Quartz, Mica, Feldspar, Bauxite, Haematite, Granite, Basalt, Conglomerate, Sandstone, Shale, Gneiss, Schist, Phyllite and Marble

#### **3.0 LABORATORY NOTEBOOK AND VIVA-VOCE**

**[3+2 = 5]**

**N.B. :** *Pattern of setting question papers along with distribution of marks has been incorporated in the section-IV of this syllabus.*



## **Section 3: References**

### **Paper – I: Physical Geography**

- Biswas, T.D. and Mukherjee, S.K., 1987, *Textbook of Soil Science*, Tata-McGraw-Hill.
- Brady, N.C., and Weil, R.R., 1996, *The Nature and Properties of Soil*, 11<sup>th</sup> edition, Longman, London.
- Das. P.K., 1995, *Monsoons*, 2<sup>nd</sup> edition. National Book Trust, New Delhi.
- Dash, M.C., 2001, *Fundamentals of Ecology*, 2<sup>nd</sup> edition Tata McGraw-Hill, New Delhi.
- De. N.K., and Chattopadhyay, S., *Jib Bhugol*. Sribhumi Publishing Co.
- De, N.K. *Mritikka Bhugol*. West Bengal State Book Board.
- Kale, V.S. and Gupta, A. 2001, Introduction to Geomorphology, Orient Longman Ltd., Hyderabad.
- Lal. D.S. 1993. *Climatology*, 3<sup>rd</sup> edition, Chaitanya Pub. House, New Delhi.
- Lutgens. F.K., and Tarbuck. E.J., 1998, *The Atmosphere: An Introduction to Meteorology*, 7<sup>th</sup> edition, Prince-Hall. Inc. Upper Saddle River.
- Mukhopadhyay, S.C., and Das. R.K., 2000, *Bhumiruper Udbhab O Prakiti*, Volumes 1 & 2, West Bengal State Book Board.
- Saha, P., *Adhunik Jalabauddidya*, West Bengal State Book Board.
- Sharma P.D., 1996, *Ecology and Environment*, 7<sup>th</sup> edition, Rastogi Publications. Mirat.
- Singh. S., *Geomorphology*: Prayag Pustak Bhavan, Allahabad.

### **Paper – II: Geographical Thought, Economic and Social Geography**

- Adhikari, S. 1992., *Geographical Thought*. Chaitanya Pub. House. Allahabad.
- Bandyopadhyay. T., and Mallik, G., *Arthanaitik Sampad Samiksha*, Chhaya Prakashani.
- Bhattacharyya, A and Bhattacharyya, B. *Samaj Bijaniya Bhugol*, West Bengal State Book Board.
- Chandna, R. C. *Population*, Kalyani Publishers, New Delhi
- Chattopadhyay, A. *Sampad Samiksha/ Arthanaitik Bhugol O Sampad Shastrer Parichay*, T.D. Publications.
- De Blij, H.J. and Murphy, A.B. 2002, *Human Geography: Culture, Society and Space*, 7<sup>th</sup> edition, John Wiley & Sons. New York.
- Ghosh, S. 1998, *Introduction to Settlement Geography*, Orient Longamn Ltd., Calcutta.
- Guha, J.L. and Chattoraj, P.R. 1998, *A New Approach to Economic Geography*, A Study of Resources, 15<sup>th</sup> edition, World Press, Calcutta.
- Hartshorn, T.A. and Alexander, J.W. 1998, *Economic Geography*, 3<sup>rd</sup> edition, Prentice-Hall India Ltd., New Delhi.
- Hussain, M. 1994, *Human Geography*, Rawat Publ Co., New Delhi.
- Hussain, M. 1995, Evolution of Geographical thought, 3re edition, Rawat Pub. Co., New Delhi.
- Lahiri-Dutt, K. *Bhugol Chintar Bikash*, World Press.
- Leong, G.C. and Morgan, G.C. 1982, *Human and Economic Geography*, 2<sup>nd</sup> edition, Oxford University Press, Oxford.

### **Paper – III (Practical): Cartographic Techniques in Geography**

- Kanetkar, T. P. Kulkarni. S. V. 1988, *Surveying and Levelling*, Part-I, Pune Vidyarthi Griha Prakashan, Pune.
- Monkhouse F.J. and Wilkinson, H.R. 1971, *Maps and Diagrams: Their Compilation and Construction*. B.I. Publications Private Limited. New Delhi.
- Sarkar A. 1997, *Practical Geography: A Systematic Approach*, Orient Longman. Ltd. Hyderabad.
- Singh R.L. and Singh R.P.B. 1991, *Elements of Pracial Geography*, Kalyani Pub. New Delhi.
- Venkatramiah, C. 1996, *A Textbook of Surveying*. Universities Press: Orient Longman Ltd. Hyderabad.

## **Paper – IV: Geography of India and Analytical Techniques in Geography**

### **Group- A (Theoretical): Geography of India**

- Khullar, D.R. 1999, *A Comprehensive Geography of India*, Kalyani Publishers, New Delhi.
- Mamoria, C.B. 1996, *Economic and Commercial geography of India*, Revised edition, Shivalal Aggarwala and Co. Agra.
- Sen, P.K. and Prasad. N. 2002, *An Introduction to Geomorphology of India*, Allied Publishers, Delhi
- Sharma, T.C. and Coutinho, O. 1998, *Economic and Commercial Geography of India*. 3<sup>rd</sup> edition, Vikash Pub. House Pvt. Ltd. New Delhi.
- Singh R.L. (editor) 1971, *India: A Regional Geography*, National Geographical Society of India. UBS Pub. Distributors Ltd. New Delhi.
- Spate. O.H.K. and Learmonth. A.T.A. 1967, *India and Pakistan*, 3<sup>rd</sup> edition, Munshiram Monoharlal Pub. Pvt. Ltd. New Delhi.

### **Group- B (Practical): Analytical Techniques in Geography**

- Alvi. Z. 1995, *Statistical Geography: Methods and applications*, Rawat Pub. New Delhi.
- Monkhouse F.J. and Wilinson, H.R., 1971, *Maps and Diagrams: Their Compilation and Construction*, B.I.
- Pal S.K. 1999, *Statistics for Geoscientists*, Concept publishing Company. New Delhi
- 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.

## Section 4: Question Pattern

### GENERAL COURSE

#### **Theoretical Papers (Paper I, Paper II):**

**Full Marks: 100**

*Pattern of setting questions:* In **SECTION A** which carries 16 marks, altogether 15 questions (**Short Answer Type**) each of 2 marks from 5 Units, having three questions from each Unit are to be set. 8 questions are to be answered, selecting at least one from each Unit. In **SECTION B** which carries 36 marks, question number 1 (**Short Type**) with an optional question shall be compulsory of 6 marks. 10 other questions (**Short Type**), each of 6 marks from 5 Units, having 2 questions from each Unit are to be set. Question number 1 and 5 other questions, selecting one from each Unit are to be answered. 6 marks shall have a break-up of either 4+2 or 4+1+1 or 5+1. In **SECTION C** which carries 48 marks, altogether 10 questions (**Broad Type**), each of 12 marks from 5 Units, having two questions from each Unit are to be set. 4 questions are to be answered; selecting one from four of the five Units. 12 marks shall have a break-up of 10+2.

#### **Theoretical Paper (Paper IV, Group A):**

**Full Marks: 60**

*Pattern of setting questions:* In **SECTION A** which carries 6 marks, altogether 6 questions (**Short Answer Type**) each of 2 marks from 3 Units, having two questions from each Unit are to be set. 3 questions are to be answered, selecting at least one from each Unit. In **SECTION B** which carries 18 marks, questions (**Short Type**), each of 6 marks from 3 Units, having 2 questions from each Unit are to be set. 3 questions, selecting one from each Unit are to be answered. 6 marks shall have a break-up of either 4+2 or 4+1+1 or 5+1. In **SECTION C** which carries 36 marks, altogether 6 questions (**Broad Type**), each of 12 marks from 3 Units, having two questions from each Unit are to be set. 3 questions are to be answered; selecting one from each Unit. 12 marks shall have a break-up of 10+2.

#### **Practical Paper (Paper III):**

**Full Marks: 100**

*Pattern of setting questions:* • *Units 1.0—4.0:* Four compulsory questions are to be set from each Unit; each Question is to have at least two parts. • *Unit 5:* Evaluation of Practical Notebook: 6 marks. Viva-voce: 4 marks.

#### **Practical Paper (Paper IV, Group B):**

**Full Marks: 40**

*Pattern of setting questions:* • *Units 1.0—4.0:* Two compulsory questions are to be set from each Unit; each Question is to have at least two parts. • *Unit 3:* Evaluation of Practical Notebook: 3 marks. Viva-voce: 2 marks.