

Post Graduate Geography
[M. Sc.]

PAPER : PGGR - 01
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PAPER : PGGR-01
GROUP : B

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HYDROLOGY

Unit 1
Unit 2
Unit 3
Unit 4

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OCEANOGRAPHY

Unit 1
Unit 2
Unit 3
Unit 4

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Sri Biraj Kanti Mondal

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Group

A

Part I : Geotectonics

UNIT 1	□ Modern Theories of Origin of the Earth	7-15
UNIT 2	□ Isostasy and Related Theories	16-27
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**Group
B
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POST GRADUATE GEOGRAPHY
[M.Sc]

PAPER : PGGR-02
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**PGGR – 02
Groups A & B
Climatology
&
Soil and Biogeography**

Group

A Climatology

Unit 1	<input type="checkbox"/> Climatology and its Relation with Meteorology	7-21
Unit 2	<input type="checkbox"/> Atmospheric Disturbances	22-41
Unit 3	<input type="checkbox"/> Global Warming-Causes and Consequences, Impact on Global Water Balance, EL Nino and La Nina/ENSO phenomena-mechanism and Impact on Biosphere	42-62
Unit 4	<input type="checkbox"/> Climate Changes-Evidences and Possible Causes, Reconstruction of Past Climates. Climate Changes through Geological Time-Quaternary Ice Age. Changes after Industrial Revolution, Theories of Climate Change.	63-79

Group

B Soil and Biogeography

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Unit 3	<input type="checkbox"/> Concepts of Ecology	110-215
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UNIT 1 □ CLIMATOLOGY AND ITS RELATION WITH METEOROLOGY

Structure

- 1.0 Introduction
- 1.1 Climatology and its relation with meteorology
- 1.2 Agro-climatology and applied climatology
- 1.3 Concept of macro and microclimate
- 1.4 Concept of climate resources and climatic hazards
- 1.5 Weather forecasting
- 1.6 Questions
- 1.7 Suggested Readings

1.0 Introduction

Climate has immense influence on almost everything on the earth's surface. Climate interlinks all the spheres namely lithosphere, hydrosphere, atmosphere, biosphere and noo-sphere (related to brain work of human beings) that are studied in geography, through a system, called climate system. Climate is a very dynamic system, and is quite sensitive to any kind of change occurring in it.

Weather and climate are two basic terms used in atmospheric sciences including climatology and meteorology, but they are defined variously. However, the elements of weather and climate are more or less the same. The commonly observed atmospheric variables constituting both weather and climate are- sunshine, atmospheric temperature, dew point temperature, pressure, cloud conditions, precipitation, wind characteristics and prevailing weather, e.g. visibility, thunder storms, cyclones etc. The basic relation between weather and climate can be stated by the fact that 'climate is the integration of weather, and weather is differentiation of climate' (G. F. Taylor), meaning a composite of weather conditions including departures of normal conditions, for over a long period of time constitutes a climate. So the difference between the two is mainly based on time. Weather can be simply defined as the over-all condition of the atmosphere of a locality in a specific time; and climate is the nature of change of weather throughout the year in that locality. Barring few extreme conditions, called departures from the normal, climate of a locality usually remain the same for a long period of time, say three to four decades, unless and until there is any sudden or rapid intervention acting adversely in that climate system, resulting in appreciable change in it. The normal time period of thirty to forty years is taken to define a climate, because of the fact that during this period an average condition of weathers can be found, although there is no appreciable change in climate itself.

POST GRADUATE GEOGRAPHY

[M. Sc]

PAPER : PGGR-03

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**Group
A**

Unit 1	<input type="checkbox"/> Scope, Content and Recent Trends in Economic Geography	7-16
Unit 2	<input type="checkbox"/> Natural Resources : Its Classification and Spatial Distribution	17-45
Unit 3	<input type="checkbox"/> Classification of Industries	46-127
Unit 4	<input type="checkbox"/> Transportation — Modes of Transport	128-161

POST GRADUATE GEOGRAPHY
[M.Sc]

PAPER : GROUP
PGGR-03 : B

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**PGGR – 03
Social and
Cultural Geography**

Group B

Unit 1	<input type="checkbox"/> Nature, Scope and Development of Social Geography	1-19
Unit 2	<input type="checkbox"/> Social Well-being and Deprivation	20-25
Unit 3	<input type="checkbox"/> Nature, Scope and Development of Cultural Geography	26-41
Unit 4	<input type="checkbox"/> Cultural Diversity	42-65

Unit 2 □ POPULATION PROBLEMS OF THE THIRD WORLD

Structure

- 2.1 Backward classes.
- 2.2 Women Development
- 2.3 Poverty
- 2.4 Gender discrimination
- 2.5 Population Policies
- 2.6 Select Readings
- 2.7 Questions

2.1 BACKWARD CLASSES

The backward classes form a very important section of Indian society, accounting for more than 30% of the total population of the country. They are, however not homogeneous category but consist of three broad divisions : the scheduled castes, the scheduled tribes and other backward classes. Of the three problems of the other backward classes [OBCs] are in many ways different from the first two. However, the condition of all the three groups is intimately linked with the basic features of traditional Indian society and nature of their problems can be understood only in terms of these features and change and continuity. (D. C. Bhattacharya : **Sociology**)

The term 'Backward Classes' broadly refers to the category of the people who have been designed as 'backward' by the Government and are entitled to get certain special benefits and privilege conferred by the Government. Andre Beteille observes that the use of the term Backward Classes is not altogether happy one because the word class denotes not only an economic category but also one which is relatively open. In reality, the Backward Classes are not classes at all but an aggregate of closed status groups.

Of the three categories of Backward Classes, the Position of the Scheduled Castes and Scheduled Tribes is defined, more or less specifically, in the Constitution of India but the Position of the OBCs is not clearly mentioned in the Constitution. Their position was not defined in specific terms until recently. The OBCs are now entitled to special facilities in education and employment. But unlike the SCs/STs, they are not given the privilege of political representation through reserved Constituencies.

POST GRADUATE : GEOGRAPHY
[M. Sc]

Paper : PGGR-04

Group : B

Writer : Prof. Ashis Sarkar

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Group B

Unit 1	<input type="checkbox"/> Point Pattern Analysis	7–14
	● Mean Centre of Population	
	● Nearest Neighbour Analysis	

Unit 2	<input type="checkbox"/> Line Pattern Analysis	15–25
	● Measures of Connectivity (alpha, beta and gamma index)	
	● Measures of accessibility from a point (de Tour Index)	

Unit 3	<input type="checkbox"/> Areal Pattern Analysis	26–42
	<input type="checkbox"/> Measures of Specialisation	
	● Dominant and Distinctive Analysis	
	● Indices of Specialisation—Location Quotient	
	<input type="checkbox"/> Pattern of Regional Inequality	
	● Lorenz Curve and Gini's Coefficient	
	● Z-score values	

Unit 4	<input type="checkbox"/> Hierarchy Analysis	43–50
	● Rank-size Distribution of Towns	
	● Dominant and Distinctive Analysis	

POST-GRADUATE GEOGRAPHY
[M. Sc]

Paper : Groups
PGGR : 05 : A & B

Course Writing

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**PGGR-05
Preparation of
Thematic Maps
&
Map Interpretation
and Field Techniques**

Group A

Unit 1	□ Concept of Thematic Mapping	7-9
Unit 2	□ Land Use Map	10-15
Unit 3	□ Density Map (Choropleth Method) on Basin Drainage Morphology	16-17
Unit 4	□ Trend Surface Map (Isopleth Method)	18-19
Unit 5	□ Environmental Mapping (Hazard and Pollution)	20-26

Group B

Unit 6	□ Map Interpretation and Field Techniques	29
Unit 7	□ Interpretation of Topographical Sheets	30-34
Unit 8	□ Interpretation of Aerial Photograph	35-41
Unit 9	□ Interpretation of Satellite Imagery	42-46
Unit 10	□ Preparation of Questionnaire Schedule	47-50

POST GRADUATE GEOGRAPHY

[M. Sc]

PAPER : GROUP

PGGR-06 : A

Course Writer

Prof. Sudipto Adhikari

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Group – A

Unit 1	<input type="checkbox"/> Dichotomies in Geography : Physical and Human, Systematic and Regional, Determinism and Possibilism	7–21
<hr/>		
Unit 2	<input type="checkbox"/> Landscape Morphology – Cultural Expression of Carl Sauer	22–25
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Unit 3	<input type="checkbox"/> Hartshorne – Schaefer Debate on Regional Differential and Spatial Organization	26–30
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Unit 4	<input type="checkbox"/> Nomothetic and Idiographic Approaches in Geography ; System and Ecological Approaches in Geography	31–43
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Unit 5	<input type="checkbox"/> Radicalism	44–48
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Unit 6	<input type="checkbox"/> Geography of Inequality and Geography of Gender	49–59
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Unit 7	<input type="checkbox"/> Post Modernism	60–66
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Unit 8	<input type="checkbox"/> Recent Trends in Geography in Methods and Contents	67–71

POST GRADUATE : GEOGRAPHY
[M. Sc.]

Paper-6 : Group B(I)
Historical Geography

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**Paper-6 : Group B(I)
Historical Geography**

Unit 1.1 □ Nature Scope and Content; Source Materials of Geography; Literature, Travel Accounts Archives and Chronicles	7-14
Unit 1.2 □ Territorial Organisation of Janapadas in Ancient India; Trade accounts of Hiuen Tsang and Ibn-e-Batuta	15-41
Unit 1.3 □ Territorial Organization of the Mughal Empire; Agriculture, Trade and Urbanisation during the Mughal Period	42-57
Unit 1.4 □ Agriculture, Industrialisation, Urbanisation and Trade in colonial economy with special reference to Eastern India; development of port oriented transport network; origin and development of Gateway Cities	58-80

POST GRADUATE GEOGRAPHY

[M. Sc.]

PAPER : GROUP

PGGR – 07 : A

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Group

A

Unit 1.1.1	<input type="checkbox"/> Geographer's Approach to Environmental Studies; Physical Components of Environment	7–14
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Unit 1.2	<input type="checkbox"/> Socio-cultural Components of Environment	15–19
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Unit 1.3	<input type="checkbox"/> Concept of Holistic Environment, Degradation, Hazards and Disaster	20–39
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Unit 1.4	<input type="checkbox"/> Global Resource Crisis and Sustainable Development	40–51
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Unit 2.1	<input type="checkbox"/> Soil, Air, Water and Noise Pollution	52–84
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Unit 2.2	<input type="checkbox"/> Conservation of Forests, Wetlands and Biodiversity	85–89
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Unit 2.3	<input type="checkbox"/> Important Protocols at the International Level	90–99
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Unit 2.4	<input type="checkbox"/> Environmental Impacts of Big Dams and Urban-Industrial Expansion	100–119
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POST GRADUATE GEOGRAPHY
[M.Sc.]

PAPER : GROUP
PGGR-7 : B

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**PGGR 7
Regional Planning
and Development**

Group B

Unit 1	❑ Concept of Region and Regional Planning	1-12
Unit 2	❑ Concept of Multilevel Planning	13-42
Unit 3	❑ Economic Base Theory & Theory of Growth Centre & Growth Pole	43-51
Unit 4	❑ Metropolitan Concept, Metropolis, Metropolitan Area & Metropolitan Regions, Mega City and Megalopolis	52-62
Unit 5	❑ Basic Principles of Regional Planning	63-106
Unit 6	❑ Indicators of Regional Development	107-139
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POST-GRADUATE GEOGRAPHY
[M. Sc]

Paper : Group
PGGR : 08 : A

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**PGGR-08
Urban Geography**

**Group
A**

Unit 1 **Concept of Urban**

Unit 2 **Urban Structure**

Unit 3 **Urban Space**

Unit 4 **Urban Internal Structure**

POST GRADUATE GEOGRAPHY

[M. Sc.]

PAPER : GROUP

PGGR – 08 : B

Special Paper – I

Course Writing

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**PGGR : 08
Advanced Geomorphology**

Group – B

Special Paper – I

Advanced Geomorphology

Unit 1	<input type="checkbox"/> Applied Geomorphology	7–45
Unit 2	<input type="checkbox"/> Case Studies of Land-forms and Landuse	46–80
Unit 3	<input type="checkbox"/> Management of Geomorphic Problems	81–113
Unit 4	<input type="checkbox"/> Management of Geomorphic Hazards	114–159



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Post-Graduate Geography [M.Sc]

Paper : PGGR 09

Group : B

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**PGGR on
Remote Sensing
&
Geographic
Information System**

Unit 1	□ Visual Image Interpretation	7-60
Unit 2	□ Digital Image Processing	61-81
Unit 3	□ GIS Data Processing	82-104

POST GRADUATE : GEOGRAPHY
[M. Sc]

Paper : PGGR 10A (Practical)

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**PGGR– 10A
Advanced
Geomorphology
(Practical)**

Unit 1	<input type="checkbox"/> Analysis of Drainage Basin Morphometry and Channel Aspects from Topographical maps	8–30
	<input type="checkbox"/> Geomorphic Mapping	31–38
	<input type="checkbox"/> Velocity, Discharge and Sediment Load Analysis	39–58

PAPER 10A

ADVANCED GEOMORPHOLOGY (PRACTICAL) 50 marks

- 1. Analysis of drainage basin morphometry and channel aspects from topographical maps 14 marks**
 - 1.1 : Computation of stream order (Strahler's method), bifurcation ratio, drainage density and constant of channel maintenance
 - 1.2 : Computation of braiding index, sinuosity index, meander wavelength and radius of curvature
 - 1.3 : Computation of river profiles
- 2. Geomorphic mapping 14 marks**
 - 2.1 : Preparation of geomorphic maps from field data using standard symbols and colours.
 - 2.2 : Preparation of overlays from topographical maps showing geomorphic features
 - 2.3 : Extraction of geomorphic features from satellite FCCs
- 3. Velocity, discharge and sediment load analysis 14 marks**
 - 3.1 : Measurement of wetted perimeter, velocity (by current meter or floats) and discharge.
 - 3.2 : Preparation and interpretation of hydrographs, unit hydrographs and rating curves
 - 3.3 : Collection and analysis of coastal or riverine sediments using (J)-graded sieves and chemical / electronic balance
 - 3.4 : Analysis of fluvial or coastal pebbles for shape and constituents.
- 4. Laboratory Notebook and Viva-voce 8 marks**

POST GRADUATE : GEOGRAPHY
[M. Sc]

Paper : PGGR 10A (Practical)

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**PGGR-10A
Advanced
Geomorphology
(Practical)**

Unit 1	<input type="checkbox"/> Analysis of Drainage Basin Morphometry and Channel Aspects from Topographical maps	8-30
Unit 2	<input type="checkbox"/> Geomorphic Mapping	31-38
Unit 3	<input type="checkbox"/> Velocity, Discharge and Sediment Load Analysis	39-58
