

NATIONAL UNIVERSITY



Syllabus

Subject: Geography and Environment

Three Year B.Sc. Pass Course
Effective from the Session: 2013–2014

National University
Syllabus for Three Year B.Sc. Pass Course
Subject: Geography and Environment
Session: 2013-2014
Course content and marks distribution

Paper Code	Paper	Paper Title	Marks	Credits
First Year				
113201	Paper-I	Physical Geography & Environment	100	4
113203	Paper-II	Economic Geography	100	4
Second Year				
123201	Paper-III	Population and Cultural Geography	100	4
123203	Paper-IV	Geography of Bangladesh	100	4
Third Year				
133201	Paper-V	Regional Geography of South Asia (Excluding Bangladesh)	100	4
133203	Paper-VI	Geography of Human Settlements	100	4
133204	Paper-VII	Practical	100	4
		Total =	700	28

Detailed Syllabus
First Year

Paper Code	Paper	Paper Title	Marks	Credits
113201	Paper-I	Physical Geography & Environment	100	4

- a) Physical Environment (1 Question out of 2 to be answered)
- b) Geomorphology (2 Questions out of 4 to be answered)
- c) Climatology (1 Question out of 2 to be answered)
- d) Oceanography (1 Question out of 2 to be answered)

a) Physical Environment:

1. Elements and Components of Physical Environment
2. Global Cycles and Systems of the Earth's Environment
3. The Sources of Energy for the Earth's Environment
4. Major Energy Systems of Earth and Interrelation in Environmental systems
5. The Hydrologic Cycle, Water Budget, Water Resources
6. Scope and contents of Physical Geography and Environment

b) Geomorphology:

1. Size and Shape of the Earth
2. Materials of the Earth's Crust, Rocks and Minerals
3. Sculpturing of the Land Surface: Weathering, Erosion, Transportation and Deposition
4. Tectonic Processes in the Earth's Crust
5. Earthquakes and features produced in the Earth's Surface
6. Volcanoes: Types and Features in the Earth surface
7. Works of Rivers, Wind and Glacier.

c) Climatology:

1. Composition of the atmosphere
2. Elements and Factors of Weather and Climate
3. Insolation and Temperature, Horizontal and Vertical Distribution of Temperature
4. Atmospheric Pressure and Wind System
5. Humidity, Condensation and Precipitation: Formation of Clouds, Fogs, Dews, Frosts, Snows and Hails, Types and Distribution of Rainfall
6. Tropical and Temperate Cyclones
7. Study of the Climatic Types: Equatorial, Monsoon and Mediterranean

d) Oceanography:

1. Distribution of Land and Water
2. Relief of the Ocean Floors
3. Ocean Deposits
4. Salinity of the Oceans and Seas
5. Tides and Currents of the Oceans

Books Recommended:

1. Strahler A. H. and Strahler A. N. 1992: Modern Physical Geography, 4th edition, Wiley: Singapore.
2. Blij H. J. de and Muller P. O. 1996: Physical Geography of the Global Environment, Wiley: New York.
3. Singh Savindra, 2007: Climatology, Prayag pustak Bhawan: Allahabad, India.
4. Singh Savindra, 2003: Physical Geography, Prayag pustak Bhawan: Allahabad, India.
5. আহমেদ, রফিক, ২০০০: আবহাওয়া ও জলবায়ু বিজ্ঞান, ঢাকা।
6. দাস, সুভাস চন্দ্র, ২০০২: আধুনিক সমুদ্র বিজ্ঞান, ঢাকা ।

Paper Code	Paper	Paper Title	Marks	Credits
113203	Paper-II	Economic Geography	100	4

1. Introduction to Economic Geography

- a) Definition, Concept, Scope and Objective of Economic Geography
- b) Relation between Geography and Economics
- c) Classification of Economic Activities

2. Economic Geography of Production

2.1 Primary Activities

- a) Gathering, Hunting, Lumbering, Fishing, Mining and Nomadic Herding /Livestock Ranching
- b) Agriculture: General characteristics of various agricultural systems and case studies of selected commodities such as Rice, Wheat, Cotton, Jute, Sugarcane, Rubber and Tea

2.2 Secondary Activities

- a) Development and Distribution of Power and Energy Resources of the World
- b) Manufacturing; Characteristics; Physical and Socio-economic Factors for growth of Industries
- c) Major Industrial and Manufacturing regions of the world
- d) Case Studies of some Industrial Complexes: Iron and Steel Industry, Apparel Industry, Textile Industry, Dairying and Mixed Farming Industries

2.3 Tertiary Activities

- a) Transportation and Trade: Regional and International Pattern
- b) Trade and its effect on the economy of the region

2.4 Quaternary Activities: Professional, Administrative Services and Entertainment

3. National Income and Product: GDP, GNP composition and change, financial institution and their role in sectoral and overall development with respect to Bangladesh.

Books Recommended:

- 1. Coe, N., Kelly, P. and Yeung, HWC, 2012. Economic Geography: A Contemporary Introduction, 2nd edition, Wiley-Blackwell: Singapore.
- 2. Wood, A. and Roberts, SM, 2011. Economic Geography- Places, Networks, and Flow. Routledge: New York.
- 3. Alexander, JW, 1988: Economic Geography, Prentice-Hall, New Delhi.
- 4. চৌধুরী, সিই, ১৯৯৫: আর্থনীতিক ভূগোল: বিশ্ব ও বাংলাদেশ, ঢাকা বিশ্ববিদ্যালয়, ঢাকা।

Second Year

Paper Code	Paper	Paper Title	Marks	Credits
123201	Paper-III	Population and Cultural Geography	100	4

- 1. **Introduction to Population Geography:** Definition and concept, development of Population Geography, Population and Demography

2. Sources of population data:

- i) Population census
- ii) Sample survey
- iii) Registration

3. Population Distribution:

- i) Population Density
- ii) Factors Affecting Population Distribution/Determinants

4. Population Composition

- i) Biological: Size, Age, Sex
- ii) Social: Marital Status, Language, Religion, Education

5. Population Dynamics

- i) Fertility
- ii) Mortality
- iii) Migration and its Determinants
- iv)

6. Introduction to Cultural Geography: Definition, Scope and Methods

6. Evolution of Human Races and Mankind

8. Processes of Culture Change: Invention/Innovation; Diffusion and Integration
Assimilation and Acculturation

Books Recommended:

1. Jones, H.R. 1990. Population Geography, Guilford Press.
2. Clarke, J.I. 1978: Population Geography, London: Oxford Series
3. Zilensky, W. I. 1984: A Prologue to Population Geography. U.K.
4. Demko, C.J., H.M. Rose, and A.A. Schnell 1986: Population Geography: A Reader, NY.
5. Bogue, D.J. 1978: Principles of Demography. NY.
6. Spencer, J.E. & Thomas (Jr.), W. L., 1969. *Introduction to Cultural Geography* N.Y.
6. তাহা, আ. 2000. জনসংখ্যা ও জনপদ ভূগোল, রাজশাহী বিশ্ববিদ্যালয়, রাজশাহী।
7. evKx, Av n g, 2006| mvs...wZK f~‡Mvj, e½ cÖKvkbxt XvKv|

Paper Code	Paper	Paper Title	Marks	Credits
123203	Paper-IV	Geography of Bangladesh	100	4

1. Location and Boundary; Administrative divisions and geographic regions

2. The Natural Environment

- 2.1 Geological Structure & Physiography
- 2.2 Climate and Soil

2.3 River Systems

3. Natural Resource Base

3.1 Natural Vegetation and Forest

3.2 Minerals and Energy Resources

4. Economic Base

4.1 Agriculture, Fisheries and Livestock

4.2 Industry: Nature, Growth, Location and Distribution

4.3 Trade and Commerce

4.4 Transport and Communication

5. Population

5.1 Size, Growth, Age and Sex Structure

5.2 Density and distribution

5.3 Population characteristics, Problems

6. Hazards and disasters: Floods, cyclones, droughts, and river bank erosion.

Books Recommended:

1. Rashid, H. 1995 : *Geography of Bangladesh, UPL, Dhaka.*
2. Rahman, A. Atiq. et al. : *Environment and Development in Bangladesh Vol: 1-2, UPL, Dhaka.*
3. Islam, M.A. 1995 : *Environment; Land use and Natural Hazards in Bangladesh, University of Dhaka, Dhaka.*
4. Islam, N and Choudhury : *Bangladesh Bhougolic Shomikhaya, Department of S. I. 1992 (edited) Geography, University of Dhaka (in Bangla), Dhaka.*
5. Nizamuddin, K. (ed.), (2000), *Disaster in Bangladesh: Selected Readings, Disaster Research Training and Management Centre, University of Dhaka.*
6. nvmvb , Gg. l Ab"vb" t *evsjv`k cÖvK...wZK f~`Mvj l cwi`ek, evsjv GKv`Wgx, XvKv/*
7. Cgvg, we. t *evsjv`ki LwbR m`u`, evsjv GKv`Wgx, XvKv/*
8. `PŠayix, wmivRyj t *আর্থনীতিক f~`Mvj: wek' l evsjv`k, XvKv wek'we`vjq, Bmjvg, 1995 XvKv/*

Third Year

Paper Code	Paper	Paper Title	Marks	Credits
133201	Paper-V	Regional Geography of South Asia (Excluding Bangladesh)	100	4

1. Introduction to South Asia

- 1.1 Geographical Location
- 1.2 Member Countries: National Boundaries, Socio-economic Database

2. Physical Environment of South Asia

- 2.1 Physiography
- 2.2 Climate
- 2.3 Drainage Systems
- 2.4 Vegetation
- 2.5 Mineral and Energy Resources

3. Cultural Environment of South Asia

- 3.1 Population: Growth, Distribution and Characteristics
- 3.2 Economic:
 - a) Major Crops (Rice, Wheat, Cotton, Sugarcane and Tea) Productions and Distributions
 - b) Major Industry (Iron and steel, Textile power and Energy) Production and Distributions
 - c) Transportation: Roads, Railways, Waterways and Airways.
 - d) Trade and Commerce: Internal and External Trade

4. Introduction to SAARC

- 4.1 Formation of SAARC
- 4.2 Aims and Objectives
- 4.3 Major Problems in regional Co-operations

Books Recommended:

- 1. Abbasi, Bushra Afza, 1991 : *Geography of South Asia, Sang-e-Meel Publication, Lahore*
- 2. Davis, K. 1951 : *The Population of India & Pakistan, University Press, London*
- 3. Spate O.H.K & A.T.A. : *India, Pakistan and Ceylon, The Regions, Methuen & Learmonth. 1967 Co., London*
- 4. iDd , KvAv I we३३३, †gv t `wY Gwkqv, myR‡bly cÖKvkbx, XvKv / 2006

Paper Code	Paper	Paper Title	Marks	Credits
133203	Paper-VI	Geography of Human Settlements	100	4

1. Definition, Scope, types and approaches of the study of human Settlement

2. Rural Settlement:

- a) Rural Settlements: Types, Forms and Characteristics
- b) Rural Periodic Markets: Origin, Growth, Characteristics and their role in Development

3. Urban Settlements:

- a) Definition, Scope, classification (types) of Urban Settlement,

4. Origin and History of Urban Centers:

- a) Factors of Urban Growth
b) Urbanization process

5. Internal Structure of the City and Urban Land Use

- a. Concentric Zones
b. Multiple Nuclei
c. Sector Theory

6. Urban Environment

- a) Urban utility services
c) Environmental Degradation

7. Urbanization in Bangladesh:

- a. Development, Problem and Prospects
b. Rural- Urban Migration

Books Recommended:

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|---|---|
| 1. Carter, Harold, 2000 | The Study of Urban Geography, London: Edward Arnold. |
| 2. Singh, R.L. (et.al.),1998 | Geographic Dimensions of Rural Settlements |
| 3. Daniel, P.1990 | The Geography of Settlement |
| 4. evKx, Ave`yj, 2002 | $\neq c\check{S}i\ emwZt\ KvVv\neq gv,\ Rb\neq Mv\hat{o}x\ I\ cwiK\acute{I}bv\ c\ddot{O}m\frac{1}{2},$
$mye\frac{1}{2}\ c\ddot{O}Kvk,\ XvKv$ |
| 5. Bjvnx, g. l iægx,%om.i.Av. 2005 | $bMi\ f\sim\neq Mvj\text{-}mv\acute{u}^awZK\ aviv,\ XvKv:\ myR\neq bl\sim$
$c\ddot{O}Kvkbx$ |
| 6. Bmjvg, Gb. l evKx, Ave`yj, 1996 (m $\acute{u}vw`Z$) | $bMivqb\ evsjv\neq`k,\ Avievb\acute{o}vwWR\ \neq c\ddot{O}vM\ddot{O}vg,\ bMi$<br>$M\neq elYv\ \neq K\grave{}`^a,\ XvKv\ $ |

Paper Code	Paper	Paper Title	Marks	Credits
133204	Paper-VII	Practical	100	4

Section A: Maps and Element of Maps Marks- 25

Marks distribution:

Written Examination = 15,

Laboratory Book=5,

Viva-Voce=5

1. Scales: Simple, Diagonal and Comparative
2. Drawing of Contours and Profiles

3. Cartographic Representation of Geographical Data: Dot, Shade and Isopleth methods
4. Introduction to use of Geographic Information Systems (GIS), Remote Sensing (RS), Geographic positioning system (GPS)

Section B: Elementary Surveying: Marks- 25

Marks distribution:

Written Examination (Fieldwork & Drafting Map) = 15,
Laboratory Book=5,
Viva-Voice=5

1. Principles of Surveying
2. Definition of Surveying: Types of Surveying: Geodetic, Plane
3. Methods of Surveying: Chain and Tape Surveying: Equipments, Recording of field data, open and closed Traverse surveying, Drawing procedure, Advantage and disadvantages.
Plane Table Surveying: Equipments Drawing procedure, Advantage and disadvantages.

Section C. Map Projection Marks- 25

Marks distribution:

Written Examination= 15
Laboratory Book=5,
Viva-Voice=5

1. Definition and Classification of Projections.
2. Construction of the following Projections.
 - 2.1 Cylindrical Projection: Simple Cylindrical and Cylindrical Equal Area projection
 - 2.2 Simple Conical Projection with One Standard Parallel
 - 2.3 Zenithal Equal Area projections (polar case)
3. Identification, Use, Merits & Demerits of Projections.

Section D. Quantitative Techniques in Geography: Marks- 25

Marks distribution:

Written Examination=15,
Laboratory Book=5,
Viva-Voice=5

1. Use of statistics in Geography
2. Sources of Geographic Data
3. Collection and Processing of Geographic data
4. Scales of Measurement
5. Frequency Distribution and Graphical Representation
6. Measures of Central Tendency: Mean, Median and Mode
7. Measures of Dispersion and measures of Association/ Relation

Books Recommended:

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|----------------------|---|--|
| 1. Singh R.L, 1994 | : | <i>Elements of Practical Geography, India.</i> |
| 2 Singh, Gopal, 2005 | : | <i>Practical Geography, India</i> |

3. Aziz & Shahjahan : *Surveying, Dhaka.*
4. iDd, Kv. Av. 2006 t *dwjZ l e"envwiK f~‡Mvj, myR‡bly cÖKvkbx, XvKv /*
5. Bjvnx, g. 2004 t **cwimsL"vb f~‡Mvj, evsjv GKv‡Wgx, XvKv/**