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PG/IIIS/GEO-304/13

**M.A./M.Sc. 3rd Semester Examination, 2013**

**GEOGRAPHY**

*( Geography and Environment Management )*

PAPER — GEO-304

*Full Marks : 40*

*Time : 2 hours*

*The figures in the right hand margin indicate marks  
Candidates are required to give their answers in their  
own words as far as practicable*

*Illustrate the answers wherever necessary*

**Write the answers to questions of each Unit  
in separate books**

**Special Paper— Coastal Geomorphology**

**OPTION-1**

**UNIT — XXXI**

*( Coastal Processes )*

**[ Marks : 20 ]**

*( Turn Over )*

( 2 )

GROUP – A

1. Answer any *one* of the following :  $8 \times 1$

- (a) Explain, with illustrations, the mechanism of wave attenuation as it enters in shallow water.
- (b) What do you understand by bioturbation ? Discuss the major agents and processes of bioturbation in a tropical macrotidal coast.

GROUP – B

2. Answer any *two* questions :  $4 \times 2$

- (a) Assess the importance of coastal study in the context of global climatic change.
- (b) Explain the scheme of coastal classification proposed by Valentin, 1951 with illustration.
- (c) Establish the relations between beach slope and breaker types.
- (d) Discuss the responses of wave refraction on coastal landforms.

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GROUP—C

3. Answer any *two* questions : 2 × 2
- (a) Enumerate the characters of 'Primary Coasts'.
  - (b) What is the significance of coastal cells in beach management?
  - (c) Briefly discuss the mode of energy dissipation in plunging breaker.
  - (d) How does a 'diurnal tide' develop?

UNIT – XXXII

( *Human Impacts and Coastal Processes* )

[ Marks : 20 ]

GROUP – A

1. Answer any *one* questions : 8 × 1
- (a) Discuss the cumulative effects of population pressure on the coastal region, and highlight the methods of estimation of population pressure with special reference the contribution of PAGE research group.

- (b) Explain the significance of sea level rise and cyclones on the coasts with special reference to deltaic West Bengal.

GROUP – B

2. Answer any *two* questions : 4 × 2

- (a) Identify the effects of fishing and fish processing on the coastal wetlands with special reference to nearshores and deltaic mangrove tracts.
- (b) Elucidate the physical and biological effects of 'Philin' cyclone recently occurred in Odisha Coast.
- (c) Discuss the tourism-environment conflicts experienced recently in the coastal region and identify some possible measures to minimize the conflicts.
- (d) Discuss the effects of land reclamation on coastal environment.

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GROUP—C

3. Answer any *two* questions : 2 × 2
- (a) What is coastal eutrophication ?
  - (b) What can be the effect of over-withdrawal of ground water in the coastal zone ?
  - (c) What is CRZ-IV ?
  - (d) Mention the primary effects of Indian Ocean Tsunami of 2004.

Special Paper— *Urban Geography and Regional Planning*

UNIT — XXXI

( *Foundation of Urban Geography* )

[ *Marks : 20* ]

GROUP — A

1. Answer any *one* of the following : 8 × 1
- (a) Critically discuss the *Garden City concept* as proposed by E. Howard.

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- (b) What are the pre-conditions to urban formation? Give an account of the patterns of early urbanisation.

GROUP – B

2. Answer any *two* questions : 4 × 2

(a) Explain the present trend of urbanization in India since 1991.

(b) How is the ancient form of urban planning different from the Oriental ?

(c) Establish the relationship between *urban morphology* and *urban ecology*.

(d) Discuss the role of class I cities on the urbanisation pattern of India.

GROUP – C

3. Answer any *two* questions : 2 × 2

(a) What do you mean by *counter-urbanization* ?

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- (b) Differentiate *Slum* form *squatter*.
- (c) What are gateway cities ?
- (d) Distinguish between the term *urbanism* and *urbanization*.

UNIT – XXXII

( *Contemporary Urban Issues* )

[ *Marks : 20* ]

GROUP – A

1. Answer any *one* of the following : 8 × 1

- (a) Bring out the important causes and impacts of urban crime, explaining why crime has emerged as a critical urban issue in recent times ?
- (b) Elucidate the ways in which urban landscape analysis can be performed with the application of Remote Sensing Technologies.

GROUP – B

2. Answer any *two* questions : 4 × 2
- (a) What are the major problems of the urban population engaged in the informal sector of the economy ?
  - (b) Differentiate between *basic* and *non-basic* urban functions with adequate examples.
  - (c) Explain the problems associated with urban sprawl.
  - (d) Identify the major impacts of air pollution in urban areas with examples.

GROUP – C

3. Answer any *two* questions : 2 × 2
- (a) What is the significance of *Mass Transit System* ?
  - (b) Define 'juvenile' in the context of urban India.



- (c) What is meant by *urban heat Island* ?  
(d) What is the JNNURM ?

UNIT – XXXI

( *Physical Basis of Remote Sensing* )

[ *Marks : 20* ]

GROUP – A

1. Answer any *one* of the following : 8 × 1
- (a) Briefly discuss about the remote sensing data storage, dissemination and processing.
- (b) Explain the different types of sensors used in Remote Sensing with examples. Why 'Black Body' concept is important in Remote Sensing.

GROUP – B

2. Answer any *two* questions : 4 × 2
- (a) Write down the difference between black body and real body with suitable diagrams.

- (b) A satellite is orbiting Earth in a uniform circular orbit at a height of 630 km from the surface of the earth. Determine the velocity of the satellite. (where, the radius of the earth and its mass assuming to be 6370 km and  $5.98 \times 10^{24}$  kg respectively as well as the gravity constant is  $6.67 \times 10^{-11}$  Nm<sup>2</sup>/kg<sup>2</sup>).
- (c) Explain the spectral signatures of five (5) major cover types with suitable sketches.
- (d) Explain 'High brightness' and 'Low brightness' colour triangles with suitable sketches.

GROUP – C

3. Answer any *two* questions : 2 × 2
- (a) What is the difference between PSLV and GSLV?
- (b) Distinguish between selective scattering and non-selective scattering.
- (c) What are the determinants of radiant temperature ?
- (d) Write down the importance of centrifugal force during satellite launch operation.

Special Paper— *Remote Sensing and GIS*

UNIT – XXXII

( *Photogrammetry and Satellite Systems* )

[ Marks : 20 ]

GROUP – A

1. Answer any *one* of the following : 8 × 1

- (a) Write down the importance of characteristics curve to study the radiometric resolution and spatial resolution of different Aerial photographic films.
- (b) Briefly explain with illustrations the concept of relief displacement and image parallax in Aerial photographic operations.

GROUP – B

2. Answer any *two* questions : 4 × 2

- (a) Write a short note on the importance of different filters used in aerial photography.
- (b) How do you determine the resolution of aerial photograph ?

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- (c) How and why orthoimages are created ?
- (d) Write down the conditions for the stereoscopic vision of aerial photographs.

GROUP—C

3. Answer any *two* questions : 2 × 2

- (a) What do you mean by photographic Overlap?
  - (b) Why most of the meteorological satellite systems provide Coarse resolution data ?
  - (c) What is tilt in aerial photograph ?
  - (d) What is strip photography ?
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