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PG/IIIS/GEO-304/14

M.A./M.Sc. 3rd Semester Examination, 2014

**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*

( Special Paper )

Option – I

( Coastal Geomorphology )

UNIT – XXXI

( Coastal Processes )

[ Marks : 20 ]

( Turn Over )

( 2 )

GROUP – A

1. Answer any *one* question : 8 × 1

- (a) Illustrate beach morphology with special reference to beach gradient and its determinants.
- (b) Attempt a morphodynamics-based classification of coastal landforms mentioning their variable relaxation time.

GROUP – B

2. Answer any *two* questions : 4 × 2

- (a) Explain the formation of rip currents.
- (b) Explain the generation of rotating tides with proper examples.
- (c) Elucidate the attributes of 'low energy coast'.
- (d) Explain functional interaction among dune-beach and off-shore zones.

( 3 )

GROUP – C

3. Answer any *two* questions : 2 × 2
- (a) Give definition of coastal zone.
  - (b) What is wave refraction ?
  - (c) Define 'translatory' wave.
  - (d) What is "attenuation intensity" ?

UNIT – XXXII

( *Human Impacts and Coastal Processes* )

[ *Marks : 20* ]

GROUP – A

1. Answer any *one* question : 8 × 1
- (a) Give an account of human utilisation of coasts with special reference to coastal tourism and recreation.

( 4 )

- (b) Discuss the causes of formation of Tsunami, mentioning with the adjustment of people around coastal zones of Indian Ocean nations against such marine hazard.

GROUP – B

2. Answer any *two* questions : 4 × 2

- (a) Explain the method of monitoring coastal erosion adopted by ICZMP, West Bengal.
- (b) Briefly explain why the navigational problems of Haldia Port are considered as a major environmental issue of the coastal West Bengal.
- (c) Identify the Environmental Impacts and Management of salt manufacturing process at the coastal belt.
- (d) Assess the impacts of shrimp cultivation on the coastal ecology.

( 5 )

GROUP – C

3. Answer any *two* questions : 2 × 2
- (a) What are the major problems of rapid landuse conversion along the coasts ?
  - (b) How can over fishing in the coastal areas be checked ?
  - (c) What is CRZ-IV ?
  - (d) What is mass tourism ?

UNIT – XXXI

( *Foundation of Urban Geography* )

[ Marks : 20 ]

GROUP – A

1. Answer any *one* question : 8 × 1
- (a) Examine the major features of European Urban Planning with special reference to the contribution of the Corbusier.

( 6 )

- (b) Explain how "Trigger factors, processes and outcomes" of urbanization are closely interrelated with one another.

GROUP – B

2. Answer any *two* questions : 4 × 2
- (a) State the different approaches to the study of urban Geography.
- (b) Discuss in brief the contribution of R. Unwin and B. Parker to urban planning.
- (c) What are the preconditions for industrial urbanism ?
- (d) Explain the concept of cycle of urbanisation.

GROUP – C

3. Answer any *two* questions : 2 × 2
- (a) Differentiate urbanism from urbanization.
- (b) What do you understand by urban corridor ?

( 7 )

- (c) Distinguish between urban sprawl and urban agglomeration.
- (d) Comment on the principles of sustainable urban development.

( Urban Special )

UNIT – XXXII

( *Contemporary Urban Issues* )

[ *Marks : 20* ]

GROUP – A

1. Answer any *one* question : 8 × 1
- (a) Identify the dimensions of urban transport congestion and suggest proper management strategies to combat with the situation.
  - (b) Discuss the major changes that the basic and non-basic functions of third world urban areas have recently undergone as a consequence of economic globalization.

( 8 )

GROUP – B

2. Answer any *two* questions : 4 × 2

- (a) Examine the possible strategies for mitigation of urban heat islands.
- (b) Examine the role of sanitation in improving urban environment.
- (c) How the extent of urban sprawling could be measured by using remote sensing techniques ?
- (d) Explain the process of urban renewal with proper examples.

GROUP – C

3. Answer any *two* questions : 2 × 2

- (a) How do the concepts of metropolitan area and metropolitan region differ from each other ?
- (b) Differentiate poverty from deprivation.

- (c) What are the principal causes of homelessness ?
- (d) Define leap frog sprawling.

UNIT – XXXI

( *Physical Basis of Remote Sensing* )

[ Marks : 20 ]

GROUP – A

1. Answer any *one* question : 8 × 1
- (a) How different types of image resolution properties are determined and influence the image quality ? Explain with examples.
- (b) "The atmosphere acts as a constraint as well as assists to the remote sensing operations." Explain.

GROUP – B

2. Answer any *two* questions : 4 × 2
- (a) Write down the relevance of Kepler's laws in satellite movement.

( 10 )

- (b) How the wave model and particle model of the origin of Electromagnetic Radiation (EMR) related to each other. Explain briefly.
- (c) Write a short note on the different digital data format for satellite data dissemination.
- (d) Differentiate between the kinetic temperature and radiant temperature and write down their importance in remote sensing operations.

GROUP – C

3. Answer any *two* questions : 2 × 2

- (a) What do you mean by standard data format ?
- (b) Write a short note on the concept of '*eccentricity*'.
- (c) Highlight two important points explained by Kirchhoff's law of Emissivity.
- (d) Distinguish between along track and across track scanner.

UNIT – XXXII

( *Photogrammetry and Satellite System* )

[ Marks : 20 ]

GROUP – A

1. Answer any *one* question : 8 × 1

(a) Classify aerial photographs on the basis of orientation of the camera axis. Define exposure station and photo base. How shapes size and association help in discriminating different linear features of the air photographs.

(b) How do you find out the height of any object from the aerial photograph. Mention all the methods to calculate height from the aerial photograph.

GROUP – B

2. Answer any *two* questions : 4 × 2

(a) What are the basic differences between photogrammetry and photo interpretation ?

What are the various photogrammetric activities involved in orthorectification of aerial photographs ?

- (b) What is the ground resolution for aerial photographs acquired at a height of 5000-m. with a camera having a system resolution of 30 line-pairs 1 mm and a focal length of 304 mm ?
- (c) How characteristics curve are important to learn about the aerial photograph properties.
- (d) Distinguish between whiskbroom and push-broom satellite system and their advantages and disadvantages.

GROUP – C

3. Answer any *two* questions : 2 × 2

- (a) What do you mean by vantage point ?
- (b) Distinguish between reflected energy and emitted energy.

- (c) What are the sensor characteristics of cartosat series of satellites ?
  - (d) Distinguish between Geostationary and sunsynchronous satellites.
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