

2018

M.A./M.Sc.

4th Semester Examination

GEOGRAPHY

PAPER—GEO-404

CODE 29

(Special Paper)

Full Marks : 40

Time : 2 Hours

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Illustrate the answers wherever necessary.

Unit-43

(Coastal Ecology and Hazards)

[Marks : 20]

Group—A

1. Answer any one question :

1×8

- (a) Illustrate with examples, the reproductive and adaptive strategies of dune plants.

(Turn Over)

- (b) Elucidate, citing recent examples, the impact of storm hazards on reclaimed estuary.

Group—B

2. Answer any *two* questions :

2×4

- (a) Examine the relevance of coastal study in India.
- (b) Assess the roles of sea weeds in protection of coast.
- (c) Explain the mechanism of coastal erosion induced by sea level rise.
- (d) Briefly illustrate the techniques for monitoring wave properties in open coast.

Group—C

3. Answer any *two* questions :

2×2

- (a) What is environment-gradient in Mangal ?
- (b) How does turbulence favour growth of sea weeds ?
- (c) How does 'fore-bulging' develop during glaciation phase ?

- (d) What do you mean by 'vegetative cloning'?

Unit-44

(Coastal Issues and Management)

[Marks : 20]

Group—A

1. Answer any *one* question : 1×8
- (a) Discuss the role of ICZM in successful management of the West Bengal coast from 2009 to 2015 with reference to 17 point programmes.
- (b) Critically examine the environmental impact of tourism development on a mangrove dominated coast. What measures can be taken for habitat conservation of mangroves ?

Group—B

2. Answer any *two* questions : 2×4
- (a) Explain the impact of Global Warming on the coastal habitats.

- (b) Explain why the beaches and barrier coasts are magnet of attractions for coastal tourism.
- (c) Explain the ways in which dredging can affect an estuary.
- (d) Identify the possible impact of sea level rise on the urban centres along the coast.

Group—C

3. Answer any *two* questions :

2×2

- (a) What is coastal eutrophication ?
 - (b) Why dredging is essential to sustain the riverine ports.
 - (c) What do you mean by ecosystem valuation of coast ?
 - (d) Define coastal cell circulation systems.
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Special Paper**Unit-43****(Theoretical Bases of Urban Planning)****[Marks : 20]****Group—A**

1. Answer any *one* question : 1×8
- (a) Critically analyse the growth pole theory as proposed by Perroux.
- (b) Discuss the nature of planning strategies taken for regional development during first and second five year planning period.

Group—B

2. Answer any *two* questions : 2×4
- (a) Distinguish between regional planning and regional development.
- (b) Explain the 'spread' and 'backwash' effect as developed by G. Myrdal in his Cumulative Causation theory.

- (c) Elucidate the salient features of Basic need approach as postulated by Johnson.
- (d) Explain the concept of Balanced and unbalanced growth.

Group—C

3. Answer any *two* questions :

2×2

- (a) What do you understand by the metaphor 'planning from below' ?
- (b) What are the basic need of agropolitan development ?
- (c) What is meant by 'steady state growth' ?
- (d) How is the colonial past created regional disparity in India ?

Unit-44**(Planning for Regional Development)****[Marks : 20]****Group—A****1. Answer any one question :****1×8**

- (a) Explain the role of transportation in promoting regional economic development and analyse the importance of rail-road networks in raising India's regional and inter-regional trade.
- (b) Explain the role of geospatial technology in urban planning and management.

Group—B**2. Answer any two questions :****2×4**

- (a) Elucidate the tenets of Techno-centric and Eco-centric Approaches to regional development.
- (b) Explain the significance of Basic Needs Approach in rural and regional development in India.

- (c) How is industrial development of any region interrelated to agricultural prosperity ?
- (d) Explain the role of PMGSY on rural development of any region.

Group—C

3. Answer any *two* questions :

2×2

- (a) What do you mean by balanced regional development ?
 - (b) Mention the sources of high resolution satellite data used for urban planning.
 - (c) Explain the roles of liberalization and globalization on regional development of industries in India.
 - (d) Why is Urban Suitability Analysis important in urban planning.
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Special Paper

Unit-43

(RS & GIS)

[Marks : 20]

Group—A

1. Answer any *one* question : 1×8
- (a) What are the conditions that determine the spatial resolution of Side Looking Airborne Radar (SLAR) system ? Explain with suitable diagrams. 8
- (b) What do you mean by *emission* and why is it significant in studying Thermal Remote Sensing ? Explain with suitable examples. 8

Group—B

2. Answer any *two* questions : 2×4
- (a) What are the different radiometric correction techniques involve in digital image processing ? 4
- (b) How across-track scanner and pushbroom systems, in thermal remote sensing are different ? 4

- (c) How does elevation of an area determined by LIDAR technology ? 4
- (d) How contingent bonds of Hyperspectral remote sensing helps to assess resources ? Give suitable examples of different hyperspectral sensors.

Group—C

3. Answer any *two* questions : 2×2
- (a) What do you mean by Thermal cross over ? 2
- (b) What do you mean by resampling in image processing ? 2
- (c) Distinguish between high pass and low pass filters. 2
- (d) Which dataset would be suitable for demarcating flood affected area during cloudy season and why ? 2

Unit-44**(RS & GIS)****[Marks : 20]****Group—A**

1. Answer any *one* question : 1×8
- (a) How do you justify the relationship between inverse distance method and spatial auto correlation in interpolation techniques ?
- (b) What do you understand by spatial data infrastructure (SDI). Briefly discuss the role of NSDI in regional planning and disaster management in India. 4+4

Group—B

2. Answer any *two* questions : 2×4
- (a) Explain the principle of differential GPS (DGPS) functionality with neat sketch. 4
- (b) What do you mean by geo-databank and why it is necessary in GIS environment ? 4
- (c) Discuss the role of remote sensing in watershed mapping. 4

- (d) How soil and crop information can be synthesised using GIS for better farm management.

Group—C

3. Answer any *two* questions : 2×2
- (a) What is triangulation method, used for locating a point by GPS satellite ? 2
- (b) Explain Dilution of Precision (DOP). 2
- (c) What is spatial data model ? 2
- (d) What do you mean by metadata and attribute of a spatial data ? 2
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