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PG/IVS/GEO-404/16

MA/M.Sc. 4th Semester Examination, 2016

GEOGRAPHY

PAPER – GEO-404 (Unit-43 & 44)

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 answer scripts

UNIT – 43

(Coastal Ecology and Hazards)

[Marks : 20]

GROUP – A

1. Answer any *one* question : 8 × 1
 - (a) Discuss the techniques of monitoring geomorphic processes operative in dune-fringed deltaic coast.

(Turn Over)

(2)

- (b) Explain with illustration, the reproduction strategies of dune building plants.

GROUP – B

2. Answer any *two* questions : 4 × 2
- (a) How do sea weeds adapt to stresses from waves and tides ?
- (b) Assess the impacts of sea level change on mangrove.
- (c) Why does underground productivity in dune vegetation become higher than above ground productivity after certain duration ?
- (d) Compare the ecological roles of sea weeds with that of the mangroves.

GROUP – C

3. Answer any *two* questions : 2 × 2
- (a) How do ebb surges generate ?

(3)

- (b) What are the important environmental stresses on dune vegetation in basinal stack ?
- (c) What is the role of pneumatophores ?
- (d) How does the salinisation of aquifer occur by sea level rise ?

UNIT – 44

(*Coastal Issues and Management*)

[*Marks : 20*]

GROUP – A

1. Answer any *one* question : 8 × 1
- (a) Explain the causes and impacts of coral bleaching and coastal eutrophication in connection with the necessity of coastal habitat conservation.
 - (b) What is the role of environmental regulations to protect the over development of coastal

(4)

tourism in the mangrove dominated coasts
and coral fringed coasts ?

GROUP – B

2. Answer any *two* questions : 4 × 2

- (a) Briefly explain the significance of coastal cell circulation systems in coastal morphodynamics.
- (b) Briefly explain why ecosystem valuation is necessary for effective management of coast.
- (c) Identify the assessment method of multi-factor CVI for the low-lying coastal belt.
- (d) Highlight the concept and significance of ICZM in managing the coastal change.

GROUP – C

3. Answer any *two* questions : 2 × 2

- (a) What is the method of estimating of coastal population pressure ?

(5)

- (b) How can coastal urbanization linked with sea level rise ?
- (c) What is "beach nourishment" ?
- (d) Assess the utility of the new dredging techniques.

UNIT – 43

(*Theoretical Bases of Regional Planning*)

[Marks : 20]

GROUP – A

1. Answer any *one* question : 8 × 1
- (a) Explain the alternatives to urban industrial growth pole strategy on put forward by E. A. J. Johnson.
 - (b) Critically discuss the theory spatial structure of underdevelopment as proposed by David Slater.

(6)

GROUP – B

2. Answer any *two* questions : 4 × 2
- (a) Differentiate between Balanced growth from unbalanced growth.
 - (b) Bring out the nature of conflicts and their impact in forest-society interface with special reference to Paschim Medinipur.
 - (c) What are the major determinants of market size as proposed by R. Nurkse ?
 - (d) Elaborate Boudeville's notion on Regional growth pole and its zone of influence.

GROUP – C

3. Answer any *two* questions : 2 × 2
- (a) What is meant by "Agglomeration economics" ?
 - (b) State the major principles of regional planning in India.

(7)

- (c) What are the reasons of chronic flood occurrences in Purba Medinipur ?
- (d) What are the different forms of social deprivation ?

UNIT – 44

(*Planning for Regional Development*)

[Marks : 20]

GROUP – A

1. Answer any *one* question : 8 × 1
- (a) Elaborate the perspectives of Rural Planning and state the policies of rural development.
- (b) Elaborate the role of transport in promoting regional development in India.

GROUP – B

2. Answer any *two* questions : 4 × 2
- (a) Bring out the linkages between agriculture and industry in fostering regional development.

(8)

- (b) Discuss the essential features of "National Urban Livelihood Mission".
- (c) Describe the objectives of 'Vision 2020' in rural development in India.
- (d) Assess the role of GIS as a tool for regional planning decision making.

GROUP – C

3. Answer any *two* questions : 2 × 2

- (a) What do you understand by horizontal co-ordination in regional planning process ?
- (b) Highlight the essential features of VAMBAY.
- (c) What are the salient features of smart city project ?
- (d) State the salient features of 'PURA'.

(9)

UNIT – 43

(*Advanced Remote Sensing*)

[*Marks : 20*]

GROUP – A

1. Answer any *one* question : 8 × 1

(a) State the different methods of Image Processing and their utility for generation of thematic maps.

(b) How is microwave remote sensing different from multispectral optical remote sensing? Discuss the applications of microwave remote sensing in geographical research.

GROUP – B

2. Answer any *two* questions : 4 × 2

(a) Distinguish between image transformation and image classification techniques.

(10)

- (b) Briefly discuss the concept of 'spectral signature' and its importance.
- (c) What are the applications of hyper spectral remote sensing in agricultural studies ? Give some suitable example of different hyperspectral sensors.
- (d) Write a short note on the elements of visual image interpretation.

GROUP – C

3. Answer any *two* questions : 2 × 2

- (a) What is the difference between DTM and DSM derived from LIDAR data ?
- (b) What do you mean by hyperspectral cube ?
- (c) Write down the applications of Lidar.
- (d) Write a short note on spatial filtering.

UNIT – 44

(*Remote Sensing and GIS*)

[Marks : 20]

GROUP – A

1. Answer any *one* question : 8 × 1

(a) Briefly discuss about the integration of Remote Sensing and GIS highlighting the impediment, of such integrations with suitable examples.

(b) What do you understand by Spatial Data Infrastructure (SDI) ? Write down about the components and Importance of SDI.

GROUP – B

2. Answer any *two* questions : 4 × 2

(a) Write a short note on application of Web GIS and Real time GIS.

(b) Briefly explain the concept of data in GIS.

(12)

- (c) How do you prepare geomorphological maps using satellite data, GPS and GIS ?
- (d) Write down the comparative advantages and disadvantages of GPS and IRNSS.

GROUP -- C

3. Answer any *two* questions : 2 × 2
- (a) Concept of meta data.
 - (b) Write a short note on TIN.
 - (c) What do you mean by geoportal ?
 - (d) What do you mean by phenomena in GIS ?
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