

Total No. of Questions : 12]

SEAT No. :

P1754

[Total No. of Pages : 3

[4164] - 739

may - June 2012

B.E. (IT)

GEO INFORMATICS SYSTEMS

(2008 Pattern) (Elective - IV) (Sem. - II)

Time : 3 Hours]

[Max. Marks : 100

Instructions to the candidates:-

- 1) Answers to the two sections should be written in separate answer books.
- 2) From section - I answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6 and from Section - II answer Q.7 or Q.8, Q.9 or Q.10, Q.11 or Q.12.
- 3) Neat diagrams must be drawn wherever necessary.
- 4) Figures to the right indicate full marks.

**SECTION - I**

- Q1)** a) What are the basic characteristics of a digital image? [2]  
b) What is an image registration? [4]  
c) What are the elements of visual interpretation of the satellite images? Explain the importance of each element in brief [12]

OR

- Q2)** a) What are the different image corrections which are required before data analysis and extraction of information from the image? Explain in brief. [12]  
b) What is image enhancement? Explain in brief. [6]

- Q3)** a) Draw a block diagram of remote sensing process and explain it in brief. [10]  
b) What is IRS? What are the applications of IRS? [6]

OR

- Q4)** a) What is microwave remote sensing? Explain in brief. [4]  
b) Answer the following :  
i) In the context of remote sensing what is a band? [4]  
ii) What is an active and passive remote sensing? [4]  
iii) What is a satellite swath? [4]

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- Q5)** a) Define GIS. What are the components of GIS? What is the concept of layers in GIS? [6]  
b) What is a map projection? What is conic map projection? Explain with the help of a neat diagram. [2 + 8]

OR

- Q6)** a) Answer the following :  
i) What is a map? [1]  
ii) What is a large scale map and a small scale map? [3]  
iii) What is the way in which a map scale is represented? [2]  
iv) What is map legend? [2]  
b) Write a short note on all types of cylindrical map projections. [8]

### SECTION - II

- Q7)** a) What are the various ways and means to collect new data for a GIS application? Explain in brief [8]  
b) Elaborate various reason for the data errors in GIS. [8]

OR

- Q8)** a) What is Data cleaning process in GIS? Explain in brief [8]  
b) What are map to map and image to map transformations? Explain in brief. [8]

- Q9)** a) What is point, line and polygon in the context of GIS? Explain with suitable example. [6]  
b) What is the raster data representation in GIS? Explain in brief. [6]  
c) What is buffering and overlay? Explain with the context of vector data analysis. [6]

OR

- Q10)** a) What is vector data representation in GIS? Explain in brief. [6]  
b) What are the types of queries in GIS? Explain in brief. [6]  
c) What are neighborhood operations and zonal operations in the context of raster data? Explain with the context of raster data analysis. [6]



- Q11) a)** What is the role of GIS in urban management? Explain in brief. [8]
- b)** Take an application of transport network planning and explain how GIS can be useful for that. [8]

OR

- Q12) a)** What is the role of GIS in municipal management? Explain in brief. [8]
- b)** Take an application of enhancing mobile telecommunication and explain how GIS can be useful for that. [8]

