

[5254]-199

**B.E. (Information Technology)**

**GEO INFORMATICS SYSTEM**

**(2008 Pattern) (Elective - IV) (Semester - II)**

*Time : 3 Hours]*

*[Max. Marks : 100*

*Instructions to the candidates:*

- 1) *Answers to the two sections should be written in separate books.*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Figures to the right indicate full marks.*
- 4) *Assume suitable data, if necessary.*

**SECTION - I**

**Q1)** a) Explain the process of image enhancement in digital image processing. Explain with example the importance of preprocessing. [8]

b) Explain any four basic elements of image interpretation. [8]

OR

**Q2)** a) Explain visual image interpretation. Explain all basic elements of image interpretation with example. [8]

b) What are the different types of errors? Explain all methods used for correcting errors from digital images. [8]

**Q3)** a) Explain SAR and SLAR with suitable diagram. [9]

b) What are the different types of sensor parameters? Describe them. [9]

OR

**Q4)** a) Explain remote sensing and its types. Explain in detail the steps involved in remote sensing with example. [9]

b) Explain in detail the RADAR principle with equation. State the use of RADARs in remote sensing. [9]

**Q5)** a) Explain in detail the architecture of GIS. On which factors geographic integration of information can be done? [8]

b) What is map projection and its types? Explain the type's maps which can be produced by using GIS? [8]

OR

**P.T.O.**

- Q6) a)** Explain fundamental operations of GIS and theoretical framework of GIS along with diagram. [8]
- b) Explain what is the M's of GIS? List and explain reasons for using computer in the process of making map. [8]

### **SECTION - II**

- Q7) a)** What is the significance of GIS data modeling? Explain the stages in creating GIS data model with suitable diagram. [8]
- b) Explain spatial data model. Consider any spatial information and represent its features using types of spatial data model. [8]

OR

- Q8) a)** What do you mean by Geospatial database? Explain the importance of digital database? [8]
- b) What are the common errors in GIS databases? How can they be prevented or corrected? [8]

- Q9) a)** Classify the data involved in GIS? Explain the representation of Raster and Vector data model with suitable example? [8]
- b) What is overlay analysis? Describe the process of digital terrain modeling. [8]

OR

- Q10)a)** What are the types of raster GIS models? Describe any two. [8]
- b) Explain Binary and Index Model with suitable example. [8]

- Q11)a)** What is the role of GIS in municipal management? Explain in detail? [9]
- b) Explain in detail objectives of design of GIS. How this will ensure the effectiveness of GIS? [9]

OR

- Q12)a)** Describe the software scenario in GIS focusing on functionalities, products and developers. [9]
- b) What is the role of GIS in urban management? Explain in detail. [9]

