Reg.No. | | | | | | | | | | | |

B.E./B.Tech. (Full Time) DEGREE END SEMESTER EXAMINATIONS, NOV/DEC 2011

Geoinformatic Engineering

FIFTH SEMESTER - (Regulation 2008)

GI 9305 GEOGRAPHIC INFORMATION SYSTEM I

Time : 3 Hours Maximum Marks: 100

Answer ALL questions

PART A – (10 X 2 = 20 marks)

1. Define GIS as a Decision Support System.
2. What are different types of Users in GIS?
3. Differentiate Ratio and Interval levels of measurement.
4. What is E-R Diagram?
5. How Euler's Equation helps in Topology checking?
6. Define Tessellation.
7. Write the specifications of a typical scanner used with GIS.
8. What is ODBC?
9. List various interpolation techniques used with DEM.
10. How do you derive Aspect from DEM?

PART B – (5 X 16 = 80 marks)

11(a) (i) Differentiate Digital Cartography and GIS 4

(ii) Explain various components of GIS 12

12(a) What are the functions of a Database Management Systems? Explain different database structures with their relative advantages. 16

(OR)

(b) (i) Explain different levels of measurement for non-spatial data with examples. 12

(ii) Why do you need Normalisation of databases? 4

13(a) Explain different data compression techniques available for raster data storage. Characterize features that can be stored effectively with each technique. 16

(OR)

(b) (i) What is Arc-Node data structure? Define how topology is explicitly defined in arc-node data structure. 10

(ii) Discuss the parameters used to define the size of raster cell. 6

14(a) Explain different types of File formats available to store Raster Data in GIS. 16

(OR)

(b) (i) Describe the detailed procedure involved in creating vector data through On-screen digitization. 8

(ii) Discuss the advantages of GPS and GIS Integration? 8

15(a) Explain different applications of Digital Elevation Models. 16

(OR)

(b) (i) What is ALTM? Explain the working principle of ALTM. 8

(ii) Describe the TIN data structure used to represent Digital Elevation Models. 8