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

GEOINFORMATIC ENGINEERING BRANCH

FIFTH SEMESTER

GI 374 GEOGRAPHIC INFORMATION SYSTEM - I

(Regulation 2004)

10

Time : 3 Hours

Maximum Marks: 100

Answer ALL questions

PART A – (10 X 2 = 20 marks)

1. List the advantages of Open Source software?
2. Differentiate Information from Data.
3. What are the functions of Database Management System?
4. Define E-R Diagram.
5. What are factors that influence size of grid cell in a raster dataset?
6. Write the significance of Euler Equation.
7. How ODBC improve attribute data integration with spatial data?
8. What are the parameters used for specify the quality of digitizer?
9. List various interpolation techniques used for generating DEM.
10. What is Viewshed Analysis?

PART B – (5 X 16 = 80 marks)

- 11(a) (i) Explain various methods of Vectorization used for vector data input. Write their advantages over other methods. 10
- (ii) Discuss different Raster File Formats used in GIS 6
- 12(a) (i) Differentiate Gridded DEM from TIN 8
- (ii) Explain different topographic parameters that can be extracted from DEM. 8
- (OR)
- (b) (i) Describe different applications of DEM in Engineering Surveys 6
- (ii) What is Laser Terrain Mapping? Explain its advantages over others methods of DEM generation. 10
- 13(a) What is the necessity for map projection? Explain different types of map projections with a mention of their applicability. 16

(OR)

- (b) (i) Explain various Hardware used in GIS. 10
- (ii) What is Generalisation? Write the advantages and disadvantages of generalization. 6
- 14(a) Explain different database structures with a mention of their advantages over others. 16

(OR)

- (b) (i) Why databases are to be normalized? 4
- (ii) Describe different levels of measurement used for aspatial data with examples. 12
- 15(a) What are methods used for raster data coding? Explain the utility of each techniques with the help of a synthetic data. 16

(OR)

- (b) (i) Explain Arc-Node data Structure with a neat diagram. 8
- (ii) Compare and Contrast Raster and Vector data structures 8