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B.E. /B. Tech. (Full Time) ARREAR EXAMINATIONS NOV/DEC 2012

B.E. GEOINFORMATICS BRANCH

VI SEMESTER

GI 9353 GEOGRAPHICAL INFORMATION SYSTEM II

(REGULATIONS 2008)

Max. Marks 100 **Max. time 3 Hrs.**

Note: Answer ALL Questions

PART A (10 X 2 = 20 Marks)

1. What is viewshed analysis?
2. With neat sketches briefly write about buffering a point, line and polygon.
3. With a neat sketch, explain how the area of a polygon is calculated using the co-ordinates of its vertices.
4. Differentiate Topological and Non-topological analysis with an example for each.
5. Explain the significance of customer geolocation in business GIS with an example
6. What is the appropriate scale of preparing Land Information System for Urban and Rural area?
7. What is meant by interoperability of GIS?
8. If you are collecting temperature data, list the meta data that you will collect along with it.
9. With four examples outline the need for Customisation of GIS
10. List any four Web GIS application software available in the market.

PART B (5 X 16 = 80 Marks)

11. i. With an example, explain in detail how a Model Builder Functionality is used for repetitive spatial analysis in a GIS environment (8)
    ii. What is mobile mapping and briefly describe any two applications involving mobile mapping (8)

12.a. Discuss in detail with an example and neat sketches, various functionalities available under Arithmetic and Logical Overlaying

(OR)

12.b. With an example for each, explain in detail any two type of operations under Neighbourhood operations and Extended Neighbourhood operations.

13.a i. With neat sketches explain the spatial data and attribute data needed to develop a network data in GIS (8)
ii. How network analysis can be used to find out the shortest distance between a given origin and destination . (8)

(OR)

13.b. If a new bye pass alignment for highway is overlaid on a cadastral map, discuss in detail how
- i. line-in-polygon algorithm could be used for identifying the parcels through which the alignment passes (8)
- ii. polygon-on-polygon algorithm could be used for calculating the area of land acquisition (8)

14.a. i. Describe in detail the spatial and non-spatial data requirements of a Land Information System (8)
ii. Discuss in detail how tax mapping application can be developed using a Land Information System of a metro city (8)

(OR)

14.b. Illustrate with neat sketches discuss the various spatial analytical capabilities of GIS that are used in Crime Mapping and Business applications.

15.a. Describe in detail the various parameters with which the Data Quality of Landuse/cover map and Slope map can be described in a Geospatial dataset.

(OR)

15.b. Explain in detail the sources of error in the data input, data conversion, data analysis and data output stages in a GIS Project.