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**B.E DEGREE END SEMESTER EXAMINATIONS, APRIL/MAY 2014**

**AGRICULTURAL AND IRRIGATION ENGINEERING BRANCH**

**SIXTH SEMESTER**

**AI 9352 GEOGRAPHICAL INFORMATION SYSTEM**

**(REGULATIONS 2008)**

**Time: 3 Hours**

**Max. Marks : 100**

**(Answer All Questions)**

**Part – A (10 x 2 = 20 Marks)**

1. What do you understand by Scale related generalization?
2. Compare the GIS and manual methods of map handling
3. When will you prefer the Object oriented data structure?
4. Emphasize the advantages of vector data structure.
5. Illustrate the use of Spatial query for Irrigation Engineering
6. List the factors which affect the quality of DEM products.
7. What is meant by logical consistency?
8. Mention the utility of Histogram for agricultural data Output.
9. How does GIS support Agriculture and economic development?
10. Highlight the use of GIS for Irrigation Water Bank management

**Part – B (5 x 16 = 80 Marks)**

- 11 (i) How will you carry out Bio-energy Assessment using GIS based Crop Model precisely? (8)  
(ii) Explain briefly about the use of Crop-Specific maps in promoting the agribusiness (8)
- 12(a)(i) State the need for map projection and Compare the different types of projection. (8)  
(ii) Explain any two methods of spatial referencing (8)

**(OR)**

- 12 (b) Define GIS and explain the software components of GIS. (16)

13 (a) Explain briefly about the Relational database structure. Also, highlight the merits and demerits of it.

(OR)

13 (b) Enlighten the various data compaction techniques of raster data structure.

14 (a)(i) Explain the any four methods of point based interpolation. (10)

(ii) How will you carry out Location-Allocation modelling using GIS? (6)

(OR)

14(b)(i) Explain briefly about the raster overlay analysis (10)

(ii) What are DEM based Hydrologic functions performed by GIS? (6)

15 (a)(i) Discuss about the obvious sources of errors that affect the reliability of GIS database (10)

(ii) What are the different methods of checking the attribute accuracy (6)

(OR)

15 (b) Demonstrate the application of the different kind of GIS maps for mapping, monitoring and modelling the Agricultural resources and Processes (16)