

GUJARAT TECHNOLOGICAL UNIVERSITY
MCA - SEMESTER-V • EXAMINATION – WINTER • 2014

Subject Code: 650013**Date: 08-12-2014****Subject Name: Geographical Information System****Time: 10:30 am - 01:00 pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

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|-----------|-----|--|----|
| Q.1 | (a) | i. What is basic difference between CAC and GIS? | 02 |
| | | ii. State application for which CAC is more suitable than GIS | 01 |
| | | iii. Briefly explain four subsystems of GIS | 04 |
| | (b) | i. Define Meridians , Parallels , Attribute Pseudo Node and Map Scale | 04 |
| | | ii. Explain spatial measurement levels using example of line object | 03 |
| Q.2 | (a) | Explain any two methods of compacting raster data | 07 |
| | (b) | Explain vector model for surface representation | 07 |
| OR | | | |
| | (b) | Explain Hybrid and Integrated GIS data model | 07 |
| Q.3 | (a) | Explain entity errors of GIS vector data model | 07 |
| | (b) | i. Explain aggregation function for GIS vector data | 03 |
| | | ii. Explain block function for GIS raster data | 04 |
| OR | | | |
| Q.3 | (a) | Explain Euler function / number in context of measuring polygon shape | 07 |
| | (b) | Explain 2-D Cartesian transformation using example of polygon object | 07 |
| Q.4 | (a) | Draw irregular polygon and explain method of determining mean centre | 07 |
| | (b) | Describe method of measuring polygon length and perimeter | 07 |
| OR | | | |
| Q.4 | (a) | Explain importance of tiling and edge matching with respect GIS data storage | 07 |
| | (b) | Explain difference between CAD type overlay and topological vector overlay | 07 |
| Q.5 | (a) | Explain high pass and low pass filter | 07 |
| | (b) | Explain linear and non-linear interpolation for sampled point data | 07 |
| OR | | | |
| Q.5 | (a) | Explain GIS inductive and deductive modeling | 07 |
| | (b) | Explain cartographic and non-cartographic output | 07 |
