

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**MCA - SEMESTER-V • EXAMINATION – SUMMER 2013**

**Subject Code: 650013****Date: 20-05-2013****Subject Name: Geographical Information System****Time: 02.30 pm - 05.00 pm****Total Marks: 70****Instructions:**

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

- Q.1 (a) Answer the following questions.**
- i. What is quantizes, a fundamental method of representing geographic space? **01**
  - ii. How the map analysis package stores thematic map? **01**
  - iii. What is the significance of General Reference map? **01**
  - iv. Give the full form of: LIS, GPS **02**
  - v. Give the full form of: CCD, DMS **02**
- (b) Answer the following questions.**
- i. What is least convex hull? **01**
  - ii. Which distance is used to create causative buffer? **01**
  - iii. Define the term semivariogram. **01**
  - iv. Give example of overlay process. **02**
  - v. What is the significance of the measure Sinuosity? **02**
- Q.2 (a) What is the significance of higher level point objects? Explain various methods of computing centroid. **07****
- (b) Explain geographic information system coordinate transformation. **07****
- OR
- (b) Which are the errors pertaining in the vector data structure of GIS? **07****
- Q.3 (a) Explain any two map projections with figures. **07****
- (b) Elaborate the point distribution patterns with figures. **07****
- OR
- Q.3 (a) Explain any two raster data compacting techniques with figures. **07****
- (b) Elaborate Polar coordinate system for Geographical Information System. **07****
- Q.4 (a) What is statistical surface? Which are the approaches for sampling it? **07****
- (b) Explain the reclassification method Buffering with various types of Buffers. **07****
- OR
- Q.4 (a) What is Gravity Model? Explain it with real life example. **07****
- (b) How to calculate Perimeter and Length of Polygons? **07****
- Q.5 (a) Define Automatic Overlay Process in Raster data structure. **07****
- (b) Explain the cartographic output with example. **07****
- OR
- Q.5 (a) Give the example of cartographic model implementation and verification. **07****
- (b) Which are non-cartographic outputs available for GIS? Explain them. **07****

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