Seat No.: _____ Enrolment No._____

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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