

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
MCA - SEMESTER- V • EXAMINATION – WINTER - 2016

Subject Code: 650013

Date: 28/11/ 2016

Subject Name: Geographical Information System

Time: 10.30 am to 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.

- Q.1** (a) What is GIS? Define applications of GIS. Explain projections in detail with all its types. **07**
(b) What is Overlay in GIS? Explain Point in Polygon, Line in Polygon and Polygon overlay in Raster & Vector. **07**
- Q.2** (a) Explain different methods for compacting raster data in detail. **07**
(b) Write a note on Raster (or field based model) and Vector (or polygon based model) **07**
- OR**
- (b) List all Vector models. Explain TIGER & TIN model. **07**
- Q.3** (a) Explain GIS co-ordinates transformations for translation, scale change and rotation. **07**
(b) What is Map? Explain Map preparation and Digitization process. **07**
- OR**
- Q.3** (a) Classify methods of raster input with figure. **07**
(b) Explain roving window (filter). **07**
- Q.4** (a) Explain entity errors and Attribute errors. **07**
(b) What is Buffer? Explain types of buffer and methods of buffer. **07**
- OR**
- Q.4** (a) Explain α (alpha) index as measure of circuitry of linear objects and γ (Gamma) index as measure of connectivity of linear objects. **07**
(b) Explain spatial integrity and convexity to measure polygon shape. **07**
- Q.5** (a) Explain Map Design controls in GIS output. **07**
(b) Analyze Logical and Physical Data Modeling for any Geospatial Database. **07**
- OR**
- Q.5** (a) Illustrate Predictive models, Descriptive models and Prescriptive models. **07**
(b) Evaluate non-cartographic & Nontraditional Cartographic output for any GIS output. **07**
