

GUJARAT TECHNOLOGICAL UNIVERSITY
M. E. - SEMESTER – II • EXAMINATION – SUMMER • 2013

Subject code: 1721311**Date: 07-06-2013****Subject Name: Geo-Spatial Techniques****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.

- Q.1** (a) Draw a neat sketch of EMR and indicate UV, Visible and IR portion. Also explain the atmospheric windows used in remote sensing. **07**
- (b) Explain the process of spatial data input and editing using digitizer and scanner. **07**
- Q.2** (a) Describe in detail the remote sensing and GIS application in urban growth analysis. **07**
- (b) What are the advantages of using computers for image interpretation? Explain the terms ó Vector and Raster overlay concepts. **07**
- OR**
- (b) Write a note about digital image data formats **07**
- Q.3** (a) Explain the concept of Quadrant counts, and nearest neighbour analysis in GIS data processing. **07**
- (b) Describe the steps involved in the modeling process. **07**
- OR**
- Q.3** (a) Discuss briefly components of Geographic Data Quality. **07**
- (b) Describe Spatial Autocorrelation. **07**
- Q.4** (a) Explain the methods of computation of the 3D location of GPS receiver **07**
- (b) Write a note on Database Management Systems **07**
- OR**
- Q.4** (a) Define GIS and discuss its principles and applications. **07**
- (b) What do you mean by surface modeling? Explain the generation of Digital terrain model. **07**
- Q.5** (a) Explain the orbital characteristics of Satellites **07**
- (b) Discuss the applications of GPS in civil engineering **07**
- OR**
- Q.5** (a) Write the procedure of (i) Creating point, line, polygon layers (ii) Attaching Raster based and Vector based data with map. **07**
- (b) Describe the comparison between raster data system and vector data System **07**
