

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.

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|------------|-----|---|-----------|
| 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 |
