

**GUJARAT TECHNOLOGICAL UNIVERSITY****M. E. - SEMESTER – II • EXAMINATION – WINTER • 2013****Subject code: 1721311****Date: 04-01-2014****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) Explain the principles and concept of remote sensing. **07**  
(b) What is Electro-Magnetic Spectrum and give importance of Infra-red range. **07**
- Q.2** (a) What is the importance of Geo-spatial techniques? **07**  
(b) State the components of Air-Photo Interpretation and Explain them. **07**
- OR**
- (b) Explain basic concepts of GIS and GPS. **07**
- Q.3** (a) Explain database management systems in GIS. **07**  
(b) Explain: Elements of image interpretation. **07**
- OR**
- Q.3** (a) Explain Geo-processing and its importance. **07**  
(b) What are different errors in GIS data and how to resolve them? **07**
- Q.4** (a) Explain TIN and DEM giving their importance **07**  
(b) Explain Different Global Navigation Satellite Systems working around the world. **07**
- OR**
- Q.4** (a) Explain Different factors affecting GPS readings. **07**  
(b) Differentiate Raster data and Vector data. **07**
- Q.5** **Write Short on: (Any 2)** **14**
1. GPS and DGPS
  2. Geo-rectification.
  3. Errors in GIS
  4. Network Analysis
  5. Importance of Topology in GIS

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