Seat No.: _____ Enrolment No._____

# GUJARAT TECHNOLOGICAL UNIVERSITY

**M. E. - SEMESTER – II • EXAMINATION – WINTER • 2014**

**Subject code: 1721311** **Date: 08-12-2014**

**Subject Name: Geo - Spatial Techniques**

**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.**

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|---|---|---|---|
| **Q.1** | **(a)** | Define GIS and discuss GIS as a special class of information systems. | **07** |
| | **(b)** | Explain the principle of Remote Sensing. | **07** |
| **Q.2** | **(a)** | Explain in detail the geographic mapping process | **07** |
| | **(b)** | Describe briefly properties as well as classification of map projections | **07** |
| | | **OR** | |
| | **(b)** | Compare between spatial data standards and metadata standards | **07** |
| **Q.3** | **(a)** | Discuss Geo-relational Data Model. | **07** |
| | **(b)** | Explain principle of Raster data compression. | **07** |
| | | **OR** | |
| **Q.3** | **(a)** | Describe Spatial Autocorrelation. | **07** |
| | **(b)** | Explain Applications of digital terrain model | **07** |
| **Q.4** | **(a)** | Explain buffering. | **07** |
| | **(b)** | Explain the concept of quadrant counts and nearest neighbour analysis with respect to GIS data processing | **07** |
| | | **OR** | |
| **Q.4** | **(a)** | What do you mean by data error? Explain how the data errors can be managed in GIS. | **07** |
| | **(b)** | Write short note on Image-to-Map Rectification. | **07** |
| **Q.5** | **(a)** | Explain functional segments of GPS. | **07** |
| | **(b)** | Explain the accessories and setup of GPS | **07** |
| | | **OR** | |
| **Q.5** | **(a)** | Discuss the applications of GPS in Civil Engineering | **07** |
| | **(b)** | Discuss any one case study based on GPS application | **07** |

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