

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

M.E –IIst SEMESTER–EXAMINATION – JULY- 2012

Subject code: 1721311

Date: 14/07/2012

Subject Name: Geo-Spatial Techniques

Time: 10:30 am – 13:00 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) Define GIS and discuss its principles and applications. **07**
(b) Describe divisions of electromagnetic spectrum and explain suitability of different wavelengths groups for remote sensing. **07**
- Q.2** (a) Define a coordinate reference system and explain in detail geographic coordinate system. **07**
(b) Discuss linear coordinate transformations. **07**
- OR**
- (b) Describe interaction of electromagnetic radiation with atmosphere and explain what atmospheric windows are? **07**
- Q.3** (a) Furnish comparative description between raster data model and vector data model. **07**
(b) Explain in brief vector based GIS data processing. **07**
- OR**
- Q.3** (a) Compare geodetic and vertical datums. **07**
(b) Describe Georeferencing. **07**
- Q.4** (a) Describe different spectral bands and their application in remote sensing. **07**
(b) Explain interaction of electromagnetic radiation with the target. **07**
- OR**
- Q.4** (a) What is Digital Terrain Model? Explain its applications. **07**
Q.4 (b) Discuss Geo-relational Data Model. **07**
- Q.5** (a) Explain functional segments of GPS. **07**
(b) How does GPS work? Write applications of GPS. **07**
- OR**
- Q.5** (a) Explain factors affecting GPS data quality. **07**
(b) Discuss briefly components of Geographic Data Quality. **07**
