

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VII • EXAMINATION – WINTER • 2014****Subject Code: 170606****Date: 29-11-2014****Subject Name: Applications of Geo-informatics in Civil Engineering****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 an ideal remote sensing system with the help of a neat sketch and discuss multi-concept of remote sensing. **07**
- (b)** Discuss four M's for which geographic information is used and explain vector data structure and raster data structure in GIS. **07**
- Q.2 (a)** Discuss flight planning for aerial photogrammetry and state the reasons for overlaps in photogrammetry. **07**
- (b)** What is GPS? Discuss applications and advantages of GPS. **07**
- OR**
- (b)** What is spectral reflectance curve? State its utility in remote sensing and draw spectral reflectance curve for bare soil and water. **07**
- Q.3 (a)** Discuss applications and importance of high resolution and SeaWiFS sensors. **07**
- (b)** What do you mean by image interpretation? Discuss elements of visual image interpretation. **07**
- OR**
- Q.3 (a)** Explain the wave model of electromagnetic energy used for remote sensing with the help of a neat sketch. **07**
- (b)** Explain step by step process of image processing in remote sensing. **07**
- Q.4 (a)** What do you mean by geospatial analysis? Why is it required? And describe vector overlay with examples. **07**
- (b)** What do you understand by electromagnetic spectrum? And State the wave length regions along with their uses for remote sensing application. **07**
- OR**
- Q.4 (a)** Explain various network analysis techniques in GIS. **07**
- (b)** What do you understand by digital image? Explain linear contrast enhancement of remotely sensed data. **07**
- Q.5 (a)** Discuss application of remote sensing in land use and land cover mapping. **07**
- (b)** What are the advantages and limitations of remote sensing? **07**
- OR**
- Q.5 (a)** Discuss the use of remote sensing in disaster management. **07**
- (b)** Write short note on image classification. **07**
