

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER– VII (New) EXAMINATION – WINTER 2019****Subject Code: 2170606****Date: 23/11/2019****Subject Name: Application of Geoinformatics in Civil Engineering****Time: 10:30 AM TO 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.

- Q1 (a) What are the atmospheric windows? **03**
 (b) Enlist the various key components of GIS. **04**
 (c) Differentiate between raster and vector models. **07**
- Q2 (a) Explain the functions of Geographic Information System. **03**
 (b) Explain the term Digital Image. **04**
 (c) Explain: i) Spatial resolution. ii) Spectral resolution and iii) Temporal resolution. **07**
- OR
- (c) Discuss the use of remote sensing in land use and land cover mapping. **07**
- Q3 (a) Explain how does GPS works. **03**
 (b) What is Remote Sensing? Explain in brief. **04**
 (c) Differentiate between active and passive remote sensing. **07**
- OR
- Q3 (a) Define and explain flight planning. **03**
 (b) Compare aerial photograph and satellite image. **04**
 (c) Write short note on electromagnetic spectrum. **07**
- Q4 (a) What is Geospatial analysis? **03**
 (b) Draw the neat sketch of ideal remote sensing system. **04**
 (c) Discuss the use of remote sensing in disaster management. **07**
- OR
- Q4 (a) What is DGPS? Explain in brief. **03**
 (b) Write short note on Image Enhancement. **04**
 (c) Discuss spatial data and Attribute data of GIS. **07**
- Q5 (a) What is spectral reflectance curve? **03**
 (b) Explain aerial Photogrammetry in brief. **04**
 (c) What are the elements of Visual Image Interpretation? **07**
- OR
- Q5 (a) Sketch the spectral reflectance curves for vegetation and clear water. **03**
 (b) What are the different types of photos used in Photogrammetry? **04**
 (c) Write various applications of Geo informatics in Civil Engineering **07**