

GUJARAT TECHNOLOGICAL UNIVERSITY**BE – SEMESTER V • EXAMINATION – WINTER - 2012****Subject code: 150606****Date: 23-01-2013****Subject Name: Disaster Assessment using Geospatial Techniques****Time: 02:30 pm to 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.

Q.1 (a) What is resolution for sensor and pixel in image? Explain in detail spectral resolution and temporal resolution. **07**

(b) Write about three different views GIS. How spatial data and attribute data are integrated to make GIS. **07**

Q.2 (a) Explain various interaction of incident of Electromagnetic energy with the atmosphere in detail. **07**

(b) Differentiate PSLV and GSLV. Write in detail about latest ejection of satellite by ISRO. **07**

OR

(b) Write briefly the features and objectives of CARTOSAT, METSAT, and Chandrayan. **07**

Q.3 (a) Describe across track scanning and along track scanning systems to produce 2D digital image of the surface briefly. **07**

(b) Write function of GIS. Add note on advantages and limitations of GIS. **07**

OR

Q.3 (a) What do you understand by digital images? Write note on radiometric corrections of remotely sensed data. **07**

(b) What do you understand by geospatial analysis? Explain basic geospatial analysis techniques. **07**

Q.4 (a) What is Radar? Write note on range resolution and azimuth resolution of RAR. **07**

(b) What do you mean by image enhancement in digital image processing? Write in detail about contrast enhancement. **07**

OR

Q.4 (a) Write note on convolution filtering and K-T transformation for digital image processing. **07**

Q.4 (b) Write short notes on: 1. Graphic representation of GIS data **07**
2. GPS receivers

Q.5 (a) How can geospatial assessment technique be helpful for minimizing the impact of an earthquake? **07**

(b) Write short notes on: a. Functional segments of GPS **07**
b. Specific application of your branch in this course

OR

Q.5 (a) Enlist types of natural disasters, India is prone to? How can geospatial technique minimize natural disasters in general? **07**

(b) Write short notes on: **07**
(i) Viewing geometry of Radar
(ii) Advantages and disadvantages of raster model.
