

**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.

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