

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-V • EXAMINATION – WINTER 2013****Subject Code: 150606****Date: 09-12-2013****Subject Name: Disaster Assessment using Geospatial Techniques****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 the different natural disasters and their effects in brief. **07**  
(b) Explain 'vector data model' and 'raster data model' in GIS? **07**
- Q.2** (a) Give the practical applications of Global Positioning System. **07**  
(b) What do you understand by spectral signature? **07**
- OR**
- (b) Define swath, explain the concept of orbital calendar. **07**
- Q.3** (a) Describe supervised classification. What are the steps involved in supervised classification? Give detailed explanation of each step. **07**  
(b) Draw a flow chart displaying the various operations involved in digital image processing. Explain image enhancement. **07**
- OR**
- Q.3** (a) Explain basic concept of Metadata? Mention its importance in GIS in detail. **07**  
(b) Describe imaging with microwave radar. **07**
- Q.4** (a) Why is it necessary to find out errors of GPS? Explain atmospheric error and satellite clock error in detail. **07**  
(b) What is Sensor? Describe Air Born and Space Born sensors. **07**
- OR**
- Q.4** (a) What is Radar? Write note on range resolution and azimuth resolution of RAR. **07**  
(b) Why analysis of Geospatial Data is required? Enumerate the methods used for the same and explain each method in short. **07**
- Q.5** (a) Enlist the terrain parameters which influence the image characteristics of a radar imagery. Explain dielectric properties. **07**  
(b) Give the basic concepts how the damage assessment of agricultural crop will be interpreted using remotely sensed data and a GIS software. **07**
- OR**
- Q.5** (a) Write salient features of remote sensing tool ENVI or ERDAS. **07**  
(b) Explain the function of DBMS. **07**

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