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**

****