Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

M.E Semester-I Examination January 2010

Sub code: 711206

Subject: Remote Sensing and its Applications

Date: 27 / 01 / 2010 **Time: 12.00 – 2.30 pm**

Total Marks: 60

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	With a sketch explain components of Remote Sensing.	**06**
	(b)	Define (i) atmospheric windows (ii) black body (iii) relief displacement.	**06**
Q.2	**(a)**	Describe spectral reflectance of vegetation, soil and water.	**06**
	(b)	Explain various types of enhancements applied for image interpretation.	**06**
		OR	
	(b)	Explain the principle of the Remote Sensing and possible areas of applications.	**06**
Q.3	**(a)**	Classify active sensors and passive sensors. And mention their applications.	**06**
	(b)	What is GPS? How it is useful in ground truth verification?	**06**
		OR	
Q.3	**(a)**	Explain the atmospheric interaction with the EMR. Give characteristics of all types of scatters.	**06**
	(b)	Differentiate Remote Sensing and Photogrammetry.	**06**
Q.4	**(a)**	Differentiate supervised and unsupervised classifications.	**06**
	(b)	Describe software and hardware components of Geographic Information System.	**06**
		OR	
Q.4	**(a)**	Draw a sketch of EMR spectrum and explain characteristics of different stretches of spectrum.	**06**
	(b)	Explain the variation of reflectance of EMR for different types of crops.	**06**
Q.5	**(a)**	Differentiate raster system and vector system of GIS.	**06**
	(b)	Explain spatial resolution and temporal resolution.	**06**
		OR	
Q.5	**(a)**	Classify satellite orbits. Differentiate geosynchronous and geostationary orbits.	**06**
	(b)	Explain spectral resolution and radiometric resolution.	**06**

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