Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

M. E. - SEMESTER – I • EXAMINATION – WINTER 2012

Subject code: 711206N Date: 16-01-2013

Subject Name: Remote Sensing and Its Applications

Time: 02.30 pm – 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)**	Define remote sensing and explain the process of remote sensing.	**07**
	(b)	What is GIS? Explain components of the GIS.	**07**
Q.2	**(a)**	What is GPS? Explain the functioning of GPS with neat sketch.	**07**
	(b)	Explain the radiometric resolution and spectral resolution.	**07**
		OR	
	(b)	Explain the temporal resolution and spatial resolution.	**07**
Q.3	**(a)**	Explain Electromagnetic Energy Spectrum.	**07**
	(b)	Explain the atmospheric windows, and their importance for Remote Sensing.	**07**
		OR	
Q.3	**(a)**	Explain the merits and demerits of Remote Sensing.	**07**
	(b)	Define the relief displacement and explain its importance.	**07**
Q.4	**(a)**	What are considerations for ideal remote sensing?	**07**
	(b)	Give classifications of satellites used for remote sensing.	**07**
		OR	
Q.4	**(a)**	Define black body and concept of thermal imaging.	**07**
	(b)	What do you by ground truth verification? Why it is necessary?	**07**
Q.5	**(a)**	Explain the process of visual image interpretation.	**07**
	(b)	Explain various types of enhancements applied for digital image processing.	**07**
		OR	
Q.5	**(a)**	Explain the variation in EM reflectance of various types of waters viz. fresh water, saline water, turbid water, deep water shallow water.	**07**
	(b)	Explain variation of reflectance of EM for soil, water, vegetation, and man made structures.	**07**

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