GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER–V(NEW) EXAMINATION – SUMMER 2022

Subject Code:3151308   **Date:13/06/2022**

Subject Name:Basics of Remote Sensing & GIS

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.**
4. **Simple and non-programmable scientific calculators are allowed.**

			MARKS
Q.1	**(a)**	Define the following terms: 1. Transmission 2. Absorption 3. Reflection	**03**
	(b)	Enlist and explain the segments of GPS.	**04**
	(c)	Describe the process of Remote Sensing in detail.	**07**
Q.2	**(a)**	Discuss the functions of GIS.	**03**
	(b)	Explain the following terms: a. Scale of Photograph b. Vantage Point	**04**
	(c)	Explain advantages and limitations of remote sensing.	**07**
		OR	
	(c)	Compare the Visual Image Interpretation and Digital Image Processing.	**07**
Q.3	**(a)**	Briefly describe the typical Image Interpretation process.	**03**
	(b)	Explain the working principle of DGPS.	**04**
	(c)	Describe the Spectral Reflectance Curve in detail.	**07**
		OR	
Q.3	**(a)**	Derive the relation amongst the wavelength, frequency and energy content of photon.	**03**
	(b)	Enlist and explain types of Filter.	**04**
	(c)	Discuss the classification of Remote Sensing in detail.	**07**
Q.4	**(a)**	Discuss the limitations of GIS.	**03**
	(b)	Define: Ground Truth Data. Discuss the requirements of the Ground Truth Data.	**04**
	(c)	Discuss applications of Thermal Imaging.	**07**
		OR	
Q.4	**(a)**	Differentiate between image and photograph.	**03**
	(b)	Enlist and explain types of Film.	**04**
	(c)	Enlist and explain any two elements of visual image interpretation in detail.	**07**
Q.5	**(a)**	Define the following terms: 1. Vantage point 2. Swath 3. Nadir view	**03**
	(b)	Define Time Synchronization. How to achieve time synchronization in GPS ?	**04**
	(c)	Discuss the application of remote sensing in ocean and coastal monitoring.	**07**
		OR	
Q.5	**(a)**	Differentiate between Vector and Raster Data.	**03**
	(b)	Describe the key components of GIS.	**04**
	(c)	Discuss the crop health monitoring from remotely sensed images.	**07**

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