

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER-V (NEW) EXAMINATION – WINTER 2024

Subject Code:3151308

Date:05-12-2024

Subject Name:Basics of Remote Sensing & GIS

Time:10:30 AM TO 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.
4. Simple and non-programmable scientific calculators are allowed.

	Marks
Q.1 (a) Define: Remote sensing	03
(b) Explain advantages and limitations of remote sensing.	04
(c) Highlight the remote sensing application in Environmental Impact Assessment.	07
Q.2 (a) Define: Atmospheric Window	03
(b) Describe the various bands of EMR used in Remote Sensing.	04
(c) Explain Remote Sensing process in detail.	07
OR	
(c) Enlist and Explain the key elements of Visual Image Interpretation with Example.	07
Q.3 (a) Explain Scale of Photograph.	03
(b) Compare Visual Image Interpretation and Digital Image Processing.	04
(c) Classify the types of Sensors.	07
OR	
Q.3 (a) Discuss application of Thermal Imaging.	03
(b) Compare the thermal properties of Water and Land.	04
(c) Explain the Geometry of Vertical Aerial Photograph with a diagram.	07
Q.4 (a) Enlist & explain the affecting parameters of Ground Truthing.	03
(b) Define: Time Synchronization. How can we achieve time synchronization ?	04
(c) Enlist & Describe functional segments of GPS.	07
OR	
Q.4 (a) Define the following terms:Global Navigation Satellite System	03
(b) Define: Ground Truth Data. Discuss the requirements of the Ground Truth Data.	04
(c) Explain the errors introduced in GPS.	07
Q.5 (a) Discuss the working principle of DGPS.	03
(b) Enlist and explain advantages and limitations of GIS.	04
(c) Discuss the remote sensing application in hydrology.	07

OR

Q.5	(a)	Discuss the role of remote sensing to monitor land-use changes.	03
	(b)	Discuss the basic principle of calculating location by GPS receiver.	04
	(c)	Enlist and Explain key Components of GIS.	07
