

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-V EXAMINATION – SUMMER 2025

Subject Code:3150617

Date:13-05-2025

Subject Name:Remote Sensing and 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 Meta data, Attribute data, spacial data.	03
(b) Define Remote Sensing. Explain its advantages.	04
(c) Describe the application of RS & GIS in the area of Transportation planning with suitable example.	07
Q.2 (a) What are the disadvantages of Remote sensing?	03
(b) Explain air borne and space borne sensors.	04
(c) Explain the interaction of Electromagnetic energy with the atmosphere in detail.	07
OR	
(c) Explain the characteristics of different coordinate systems in GIS.	07
Q.3 (a) Differentiate between Active and Passive Sensor.	03
(b) Explain in brief different components of GIS.	04
(c) Write a note on image processing systems.	07
OR	
Q.3 (a) Explain microwave remote sensing.	03
(b) What are the advantages of GIS over map.	04
(c) Explain different resolutions with their significance.	07
Q.4 (a) Describe the Fundamental GIS Analysis functions.	03
(b) Explain the procedure of geo-referencing in QGIS software.	04
(c) Write a note on EMR.	07
OR	
Q.4 (a) What are the important components of ISRO Bhuvan Geo-portal?	03
(b) What are the requirements of ideal remote sensing?	04
(c) Write about the function of DBMS.	07
Q.5 (a) Write any five file formats of vector data.	03
(b) Explain any three uses of GIS in water resources engineering.	04
(c) What do you understand by 'map'? Differentiate between topographic and thematic map.	07
OR	
Q.5 (a) Write a note on imaging sensors for digital image.	03
(b) Write any five tools (softwares) used in GIS.	04
(c) Write salient features of remote sensing tool ENVI or ERDAS.	07