

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- SEMESTER-V EXAMINATION – WINTER 2025****Subject Code:3150617****Date:17-11-2025****Subject Name:Remote Sensing and 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) Draw a neat sketch of electromagnetic spectrum.	03
	(b) Differentiate between active and passive remote sensing.	04
	(c) Write a note on remote sensing data products.	07
Q.2	(a) Differentiate between analogue image and digital image.	03
	(b) Write a note on image classification.	04
	(c) Explain the interaction of EMR with the earth's surface.	07
	OR	
	(c) Explain various data formats of digital image.	07
Q.3	(a) English various equipments used in digital image processing and explain anyone in detail.	03
	(b) Explain various components of GIS.	04
	(c) Explain the fundamentals of GIS data quality and management.	07
	OR	
Q.3	(a) Explain why geo-referencing is required in GIS.	03
	(b) Describe briefly the classification of map projections.	04
	(c) Explain the procedure of data input and output in GIS.	07
Q.4	(a) Explain the use of reference coordination system in GIS.	03
	(b) Differentiate between vector data model and raster data model in GIS.	04
	(c) Explain the concept of buffering and neighborhood in GIS analysis.	07
	OR	
Q.4	(a) Discuss the important characteristics of map coordinate systems.	03
	(b) Discuss the capabilities and limitations of Map Window GIS.	04
	(c) Describe the fundamentals of GIS analysis functions.	07
Q.5	(a) Briefly explain the importance of overlaying in GIS.	03
	(b) Enlist various softwares used for image interpretation and explain the salient features of anyone.	04
	(c) Explain the procedure of georeferencing in QGIS software.	07
	OR	
Q.5	(a) Write a note on attribute data management.	03
	(b) Write the usefulness of GIS in civil engineering.	04
	(c) Explain the role of GIS and RS in Watershed management.	07
