

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI EXAMINATION – SUMMER 2025****Subject Code: 3164009****Date:26-05-2025****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) Write full form of the following: (i) GIS; (ii) GPS; (iii) DEM; (iv) DTM; (v) HDOP; (vi) GNSS	03
	(b) Enlist the capabilities and benefits of GIS.	04
	(c) Discuss the application of remote sensing in agriculture and forestry sector.	07
Q.2	(a) What is an ideal remote sensing system?	03
	(b) Differentiate between active and passive remote sensing.	04
	(c) Explain the elements of visual image interpretation.	07
	OR	
	(c) Differentiate spatial and spectral resolution based on applications and capabilities?	07
Q.3	(a) Define cartography.	03
	(b) Briefly describe any two types of map projections.	04
	(c) Enlist the different methods of storing raster data. Explain any one in detail.	07
	OR	
Q.3	(a) Enlist the various map elements in cartography.	03
	(b) What are the various components of GIS?	04
	(c) Citing advantages and disadvantages differentiate vector data and raster data.	07
Q.4	(a) Describe Global Positioning System.	03
	(b) Discuss about the different types of artificial satellites.	04
	(c) Discuss the use of GPS in land use/land cover mapping.	07
	OR	
Q.4	(a) What are the applications of GPS?	03
	(b) Explain the various components of GPS.	04
	(c) Describe the application of GPS in urban and regional planning.	07
Q.5	(a) Explain the principle of remote sensing.	03
	(b) Describe database management system in context of GIS.	04
	(c) Explain the factors affecting GPS accuracy.	07
	OR	
Q.5	(a) What is LiDAR used for?	03
	(b) Discuss the use of DEM.	04
	(c) Describe the three segments of a GPS.	07
