

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-V (NEW) EXAMINATION – SUMMER 2021****Subject Code:3151308****Date:17/09/2021****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 the following terms:	03
1. Remote Sensing	
2. Atmospheric Window	
3. Spectral Signature	
(b) Define GIS. Describe the key components of GIS.	04
(c) Describe the phenomenon of Atmospheric Interaction of Remote Sensing Process.	07
Q.2 (a) Describe the requirements of Ground Truth Data.	03
(b) Explain the affecting parameters for Ground Truthing.	04
(c) Define : Resolution of Sensor. Explain the Sensors Resolutions in details.	07
OR	
(c) Describe the Spectral Reflectance Curve with its utilities in Remote Sensing.	07
Q.3 (a) Differentiate between Image and Photograph.	03
(b) Explain the geometry for deriving scale of aerial photograph with neat diagram.	04
(c) Enlist and explain key elements of visual image interpretation.	07
OR	
Q.3 (a) Define the following Terms:	03
1. Swath	
2. Nadir View	
3. Off Nadir View	
(b) Explain types of Filter and Film in detail.	04
(c) Describe the working principle of Global Positioning System.	07
Q.4 (a) Differentiate between Temporal resolution and Revisit Time of Satellite.	03
(b) Differentiate between Global Positioning System (GPS) and Differential Global Positioning System (DGPS).	04
(c) Explain the segments of GPS in detail.	07
OR	
Q.4 (a) Define the following terms :	03
1. RADAR	
2. Datum	
3. Vantage Point	

- (b) Classify the sensors with its uses in remote sensing. **04**
- (c) Describe the application of Global Navigation Satellite System (GNSS) in Environmental Engineering . **07**
- Q.5** (a) Justify the statement : “Geographical Information System as a science and technology” **03**
- (b) Differentiate between LandUse and LandCover. Describe its application in environmental engineering. **04**
- (c) Describe the application of remote sensing in Environmental Impact Assessment Studies. **07**

OR

- Q.5** (a) Compare the thermal properties of water and land. **03**
- (b) Enlist and explain the segments of GPS. **04**
- (c) Describe the application of remote sensing in oceans and coastal monitoring. **07**
