

GUJARAT TECHNOLOGICAL UNIVERSITY**BE – SEMESTER- V EXAMINATION-SUMMER 2023****Subject Code: 3151308****Date: 28/06/2023****Subject Name: Basics of Remote Sensing & 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.

Q.1 (a) Define the term Remote Sensing. Enlist the steps of remote sensing process. **03**

(b) Differentiate between Image and Photograph. **04**

(c) Describe the phenomenon of Target Interaction of Remote Sensing Process. **07**

Q.2 (a) Explain the scale of the photograph with example. **03**

(b) Compare Active Remote Sensing and Passive Remote sensing. **04**

(c) Describe the advantages and disadvantages of the Remote Sensing. **07**

OR

(c) Explain the resolutions of sensor in detail. **07**

Q.3 (a) Describe the Filters used in Remote sensing. **03**

(b) Explain the principle of Thermal Remote Sensing. **04**

(c) Enlist the key elements of Visual Image Interpretation. Explain any FOUR in detail. **07**

OR

Q.3 (a) Define the term GPS. Enlist the applications of GPS. **03**

(b) Explain the segments of GPS. **04**

(c) Describe the Principle of GPS in detail. **07**

Q.4 (a) Explain the High oblique aerial photograph. **03**

(b) Discuss the factors that affect Spectral Measurements. **04**

(c) Discuss the significance of Ground Truth Data. **07**

OR

Q.4 (a) Explain the low oblique aerial photograph. **03**

(b) Define Almanac and Ephemeris data. **04**

(c) Explain the Global Navigation Satellite System (GNSS) is used in environmental engineering. **07**

Q.5 (a) Describe the Geographic Information System. **03**

(b) Explain the key components of the GIS. **04**

(c) Discuss the role of Remote Sensing in Environmental Impact Assessment. **07**

OR

Q.5 (a) Enlist the applications of GIS. **03**

(b) Justify the statement “GIS is an Information Infrastructure”. **04**

(c) Discuss the applications of Remote Sensing for Ocean and Coastal Monitoring. **07**
