

Enrolment No./Seat No_____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-V (NEW) EXAMINATION – SUMMER 2024

Subject Code:3150617

Date:16-05-2024

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.

- Q.1**
- (a) What is Remote Sensing? **03**
 - (b) “RS & GIS - The IT of Civil Engineering” Explain. **04**
 - (c) Discuss Application of Remote Sensing and GIS in Town planning with suitable example. **07**

- Q.2**
- (a) Write various file formats for Raster data and Vector data. **03**
 - (b) Differentiate between Active remote sensing and Passive Remote sensing. **04**
 - (c) Discuss the Role of Spectral Reflectance Curves in Remote Sensing with Neat Sketch, including Spectral Reflectance of Soil, Water and Vegetation. **07**

OR

- (c) What is resolution of a sensor? Write about different sensors in accordance to remote sensing. **07**
- Q.3**
- (a) Explain error in GIS data. **03**
 - (b) What are the advantages and limitations of raster and vector data model? **04**
 - (c) Describe elements of visual image interpretation. **07**

OR

- Q.3**
- (a) Explain in Detail: Electromagnetic Radiation. **03**
 - (b) Classify and explain various sensors in detail. **04**
 - (c) Describe about Digital image processing. **07**

- Q.4**
- (a) Enlist Input and Output Devices in GIS. **03**
 - (b) Explain the characteristics of different coordinate systems in GIS. **04**
 - (c) Enlist various GIS and Remote sensing software packages and explain one from both in detail. **07**

OR

- Q.4**
- (a) What is a projection? Explain the different types of map Projections. **03**
 - (b) Explain how spatial data and attribute data integrated to make a GIS. **04**
 - (c) What are the different components of GIS? Explain in brief. **07**

- Q.5**
- (a) List out various GIS spatial data sources from internet. **03**
 - (b) Explain procedure of georeferencing in any GIS Software. **04**
 - (c) Describe the application of GIS in flood hazard management with suitable example **07**

OR

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| Q.5 | (a) | What are the important components of ISRO Bhuvan Geo-portal? | 03 |
| | (b) | Describe characteristics of Raster data and Vector data. | 04 |
| | (c) | Discuss Application of Remote Sensing and GIS in water resources management with suitable example. | 07 |
