Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

ME – SEMESTER II (NEW) – • EXAMINATION – SUMMER 2016

Subject Code: 2724803 **Date: 27/05/2016**

Subject Name: Geospatial Techniques and Planning

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.**

Q.1 **(a)** Classify the map projections depending on different bases. **07**

(b) Which statistical methods are useful for spatial data interpolation? Explain with suitable example. **07**

Q.2 **(a)** Find out the area of a simple polygon from the given node coordinate data: **07**

NODE	Xi	Yi
1	2	1
2	1	4
3	3	6
4	7	6
5	8	3

(b) Enlist attribute data models. Explain any three in brief. **07**

OR

(b) Describe vector overlay with examples. **07**

Q.3 **(a)** Explain the conical and the cylindrical map projection surfaces. **07**

(b) Enlist different types of maps. Explain any two types in detail. **07**

OR

Q.3 **(a)** Write a detailed note Mercator projection system. **07**

(b) What is metadata and what are its roles in GIS? **07**

Q.4 **(a)** What do you understand by 3D visualization of GIS data? **07**

(b) What is Digital Terrain Model? Explain its applications. **07**

OR

Q.4 **(a)** Explain the concept of run-length encoding, chain encoding, block encoding and quad tree encoding. **07**

(b) Explain the methods of computation of the 3D location of GPS receiver. **07**

Q.5 **(a)** Discuss “Geographic coordinate system of earth”. **07**

(b) Describe deferent spectral bands and their application in remote sensing. **07**

OR

Q.5 **(a)** Elaborate on applications of photo interpretation. **07**

(b) Explain factors affecting GPS data quality. **07**

****