

B. Tech (VI Semester) Examination- 2016
Theory and application of GIS and GPS (TCE – 605)

Time: 3 Hours

Max. Marks: 100

Note: Attempt All Questions

1. Attempt any four of the following:

5X4=20

- a. What do you understand by GPS? Identify its three segments and explain the purpose of each in brief.
- b. Briefly explain about the errors and biases in GPS
- c. Name various positioning techniques used in GPS
- d. Define rectification and WGS 84 system.
- e. How GPS signal works?
- f. Describe the following:
 - i. Kinematic GPS
 - ii. Dilution of Precision

2. Attempt any four of the following:

5X4=20

- a) Explain astronomical coordinate systems.
- b) Discuss the area analysis.
- c) What is Digital Terrain Modelling
- d) What are applications of GIS in Water Resources.
- e) List out the different models used for the storage and management of attributed data.
- f) Write the types of information that can be received from GPS.

3. Attempt any two of the following:

2x10=20

- a. What are Raster and Vector data Approaches? Write a short note on scanners and digitization?
- b. What are the attributes that can provide information for hazard management of GIS?
- c. Explain the following neighbourhood functions in GIS
 - i. Buffering
 - ii. Searching and filtering

4. Attempt any two of the following:

2x10=20

- a. What are the spatial and mathematical operations on GIS data?
- b. Differentiate between static and kinematic positioning.
- c. Explain different types of map projections.

5. Attempt any two of the following:

2x10=20

- a. Write down the characteristics of aerial photographs, which make them a good data source for GIS
- b. Write short notes on:
 - i. Query based Analysis
 - ii. Rectification and Registration
- c. Explain briefly the Application of GPS & GIS in natural resources mapping and monitoring for engineering applications.