

Code No: 117GY

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B. Tech IV Year I Semester Examinations, November/December - 2016****REMOTE SENSING AND GIS****(Civil Engineering)****Time: 3 Hours****Max. Marks: 75****Note:** This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

**PART- A****(25 Marks)**

- 1.a) What is Image parallax? [2]
- b) Differentiate vertical and tilted photographs. [3]
- c) What is false color composite? [2]
- d) What are the advantages and limitations of Remote Sensing? [3]
- e) What is Geospatial data? [2]
- f) What are the different operations performed in GIS? [3]
- g) What is coverage and nodes? [2]
- h) What are the advantages of vector data over raster data? [3]
- i) What is Scanning? [2]
- j) Explain about IMGRID model. [3]

**PART-B****(50 Marks)**

- 2.a) How will you calculate scale of a vertical photograph? [5+5]
  - b) Discuss stereoscopic neat model.
- OR**
- 3.a) Explain the basic geometric characteristics of a Aerial Photographs. [5+5]
  - b) Explain how will you measure height of an object using aerial photograph.
- 4.a) Illustrate the principal divisions of EM energy along with their wavelength ranges.
  - b) Explain different types of resolutions involved in Remote Sensing? Give examples. [5+5]
- OR**
- 5.a) What are the different methods of data collection in Remote Sensing? Explain. [5+5]
  - b) Describe interaction of radiation with the earth surface features.
- 6.a) What are the sub systems of GIS? Discuss the advantage of analysis sub system.
  - b) Explain the process of joining spatial data with attribute data in GIS. [5+5]
- OR**
- 7.a) What are the commonly used map projections in GIS? Explain the advantages. [5+5]
  - b) Describe the UTM Grid system.

8.a) What is topology? Describe with sketches, types of topology established based on entities. [5+5]

b) Discuss Spaghetti vector data model.

**OR**

9.a) Explain GBF/DIME vector model.

b) Explain brief about TIGER vector model.

c) Discuss POLYVRT vector model. [4+2+4]

10.a) Explain how will you store physical features in raster format with examples.

b) Explain run length encoding and raster chain method of data compression. [5+5]

**OR**

11.a) What are the different methods of data input in GIS?

b) Discuss the various types of errors occur during digitization with sketches. [5+5]

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