

**R16**

Code No: 138GV

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**

**B. Tech IV Year II Semester Examinations, September - 2020**

**REMOTE SENSING AND GIS**

**(Common to CE, ME, ECE, MSNT)**

**Time: 2 Hours**

**Max. Marks: 75**

**Answer any Five Questions  
All Questions Carry Equal Marks**

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- 1.a) How are scale and height measurement on single vertical aerial photograph achieved?  
b) The distance from the nadir to the base of a building is 3.42 inches and to the top of the same building is 3.60 inches. The flying height above sea level was 11,400 feet and the ground elevation of the base of the building is 1,400 feet. Calculate the height of the building. [8+7]
- 2.a) Discuss the parallax measurement using fiducial line.  
b) How is flying heights calculated in aerial photography? [8+7]
- 3.a) Describe the energy interactions with soil and vegetation in remote sensing.  
b) Explain the process of remote sensing process with a neat sketch. [8+7]
- 4.a) What are sensors? Give the sensor characteristics of Indian remote sensing satellites.  
b) How are remote sensing data collected? Explain. [8+7]
- 5.a) Explain the various types of map projections. What is map projection parameters?  
b) What is datum? Explain the role of coordinate system in approximation of earth. [8+7]
- 6.a) What is geospatial data? Discuss the process of joining spatial and attribute data.  
b) What are the characteristics of cylindrical map projections? Explain the different types of cylindrical map projections. [8+7]
- 7.a) Explain the different classes and their relationship of object-based vector data model.  
b) What is topology? Explain its importance in vector data. [8+7]
- 8.a) Discuss the different types of raster data.  
b) Explain the process of digitizing and scanning. [8+7]

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