

**R18**

Code No: 157EZ

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**

**B. Tech IV Year I Semester Examinations, February/March - 2022**

**REMOTE SENSING AND GIS**  
(Common to ME, ECE, AE, MIE)

Time: 3 Hours

Max. Marks: 75

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

---

- 1.a) Explain the interactions of Electromagnetic energy with the Atmosphere along with neat sketches.
- b) List out various IRS satellites. Explain the specification of IRS-IC Satellite. [7+8]
- 2.a) What is Electro Magnetic Spectrum? Explain the spectral properties of soil, water and vegetation using a Graph.
- b) What is Digital image processing? Explain some Image Enhancement techniques with neat sketches. [8+7]
- 3.a) Define GIS. Describe the History of the development of GIS.
- b) Write down the applications of GIS in Civil Engineering profession. Give examples. [7+8]
- 4.a) Define Map. What is the purpose of a Scale in a Map? Explain in details the types of Scales represented in Maps.
- b) Why is a Co-ordinate System used in GIS? Explain the types of Co-ordinate Systems used in GIS with examples. [8+7]
- 5.a) What is DBMS? What is the purpose of DBMS in GIS? Explain with examples.
- b) What is entity-relationship model? Explain the ER model for Agriculture and Soil using a neat sketch. [7+8]
- 6.a) Differentiate between Spatial Data, Attribute Data and Meta Data. Give examples.
- b) Differentiate the Pros and Cons of Raster Data Structure and Vectire Data Structure. [8+7]
- 7.a) Explain in detail the various Data Input Methods in GIS.
- b) What is the purpose of Topology in GIS? Explain with examples the rules of Line Topology. [8+7]
- 8.a) Using a Flowchart, explain the process of Implementing GIS.
- b) How to apply RS & GIS for Hazard Zonation Maps? Explain with a case study using flowchart. [8+7]

---ooOoo---