

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY GURAJADA VIZIANAGARAM
IV B. Tech I Semester Advanced Supplementary Examinations March 2025
SURVEYING AND GEOMATICS

(Open Elective)

Time: 3 hours

Max. Marks: 70

Answer any **FIVE** Questions. **ONE** Question from **Each unit**

All Questions Carry Equal Marks

UNIT-I

1. a) Explain classification of surveying. [7M]
b) Calculate reduced levels of points using H.I method and rise and fall method [7M]
for the following consecutive readings were taken with a level and 4m levelling staff as a continuously sloping ground at a common interval of 20m are 0.602, 1.334, 1.760, 2.574, 1.238, 0.714, 1.636, 2.372, 0.868, 1.824, 2.222, 1.926, 2.00. R. L of the first point was 201.24. Instrument was shifted after 5th and 9th reading.

(OR)

2. a) Illustrate characteristics of contour? [7M]
b) Explain the process of repetition method using theodolite. [7M]

UNIT-II

3. a) Calculate all elements of circular curve which has a 200m radius and 65° [7M]
deflection angle. Assume 30m length.
b) Explain elements of simple circular curve with a neat sketch. [7M]

(OR)

4. a) Derive the equations for various transition curves? [7M]
b) Illustrate classification of curves? [7M]

UNIT-III

5. a) Analyze total station in detail? [7M]
b) Illustrate Global Positioning System? [7M]

(OR)

6. a) Explain the principles of EDM. [7M]
b) Discuss the applications of GIS in civil engineering. [7M]

UNIT-IV

7. a) What is photogrammetry? Explain its basic principles. [7M]
b) Explain the working of a stereoscope and stereoscopic views. [7M]

(OR)

8. a) Explain digital photogrammetry with its applications. [7M]
b) Explain the concept of relief displacement in a vertical photograph. [7M]

UNIT-V

9. a) Illustrate different image characteristics in remote sensing? [7M]
b) Discuss the salient features of important remote sensing satellite missions. [7M]

(OR)

10. a) Describe the electromagnetic spectrum and its significance in remote sensing. [7M]
b) How do atmospheric effects influence remote sensing data? [7M]
