Code No: 182AP **R22**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech I Year II Semester Examinations, January/February - 2024
INTRODUCTION TO MINE SURVEYING
(Mining Engineering)

Time: 3 Hours **Max. Marks: 60**

Note: This question paper contains two parts A and B.
i) **Part- A** for 10 marks, ii) **Part - B** for 50 marks.
- Part-A is a compulsory question which consists of ten sub-questions from all units carrying equal marks.
- Part-B consists of **ten questions** (numbered from 2 to 11) **carrying 10 marks each**. From each unit, there are two questions and the student should answer one of them. Hence, the student should answer five questions from Part-B.

PART- A

(10 Marks)

1.a)	What is the purpose of reconnaissance survey?	[1]
b)	What is offset survey?	[1]
c)	What is collimation?	[1]
d)	What is planimeter?	[1]
e)	What is a Azimuth?	[1]
f)	Define the term "magnetic declination".	[1]
g)	State any two uses of contours.	[1]
h)	What is trunnion axis in a vernier theodolite?	[1]
i)	What are the basic figures of triangulation survey?	[1]
j)	What is base line in triangulation survey?	[1]

PART - B

(50 Marks)

2. Describe various cumulative errors in chain surveying with suitable formulae and figure(s), wherever necessary. [10]

OR

3. Explain, with suitable diagrams, different offsets commonly adopted in chain surveying. [10]

4. Explain how you make corrections to staff readings observed for curvature of earth and refractions. [10]

OR

5. Following table gives the perpendicular offsets taken from the centre-line of a road to a hedge.

Offset No.	0_0	0_1	0_2	0_3	0_4	0_5	0_6	0_7	0_8
Offset in 'm'	4	6	5	7	5	4	3	4	6
Distance in 'm'	0	15	30	45	60	80	100	110	120

Compute the area between the centre-line of road and hedge by applying,
a) Trapezoidal rule b) Simpson's rule [5+5]

6. Name the different systems for designation of bearings. Explain them with suitable figures and tables. [10]

OR

7. Explain the advantages and disadvantages of a dial surveying. [10]

8. Explain different characteristics of contours with suitable figures. [10]

OR

9. Describe the procedure to measure a vertical angle using theodolite with suitable diagram. [10]

10. What is a closing error in theodolite traversing? Explain Bowditch method in detail with necessary figure. [10]

OR

11. Explain the procedure to measure a "base line" in a triangulation survey with necessary figure(s). [10]

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