PRACTICE SET
End Semester Examination, Spring- 2026

Program: DIPLOMA (MINING)
Semester: IV
Subject: MINE SURVEYING II

UNIT-I

SECTION A (10 marks)

1. Explain temporary adjustment of theodolite.
2. Explain Bowditch method of correcting closing errors? Write the assumptions made in the Bowditch method.
3. Explain the terms in brief: - a) Transiting of telescope b) Swinging c) centering d) Face left e) Changing of face.
4. Explain Traverse survey and its types of traverses, Latitude and Departure.
5. Explain the different sources of error in theodolite work. What are the personal errors?

SECTION B (20 marks)

6. Differentiate between theodolite surveying and compass surveying. What are the advantages of using a theodolite for angular measurements?
7. Draw schematic diagram of transit theodolite and explain the different Parts also draw the fundamental lines in theodolite.

UNIT II

Section A (10 marks)

8. Explain the components of simple circular curve with figure.
9. Describe the various methods of setting out of a circular curve in details.
10. Explain the designation of curve for arc and chord Lenth [20/30] meters. Obtain relation between degree and radius of curve.
11. Explain the advantages and disadvantages of triangulation surveying.
12. Explain triangulation in surveying? Describe the principle involved in Triangulation Survey?
13. Explain the types of curves also the term Super elevation with figure. Deduce the relation and limits of the super elevation as per IRC guidelines.

Section B (20 marks)

14. Two straight lines intersects at chainage of 1000.5m and angle of intersection is 60°if the radius of curve is 500m, compute all the elements of the curve.
15. Let radius of curve is 1000m, Delta=60°, chainage of PI =2000m, Determine length of curve, tangent length, Mid ordinate, length of chord, apex distance chainage of T1 and T2, degree of curve for 30m arc length.

UNIT III

Section A (10 marks)

16. Describe Correlation and classify it in details.
17. Explain procedure of setting of curve by offset from long chord
18. Obtain the components of simple circular curve with figure.
19. Explain in details Shaft plumbing method of correlation survey
20. Define the following: - a) Chainage b) Apex distance c) Mid ordinates and explain maximum centrifugal ratio.

Section B (20 marks)

21. Describe step by step the reiteration method of measuring horizontal angle by transit theodolite on ground.
22. Explain the various points to be considered while selecting triangulation stations and the criteria for Base line measurements.
23. a) Draw the neat sketch of simple circular curve showing various elements of it.
    b) Discuss the method of setting out a circular curve with two theodolite. What are its advantages and disadvantages over Rankine's method.

UNIT IV

Section A (10 marks)

24. What is GPS? Briefly explain the Components of GPS.
25. Briefly explain the components of GIS. Also list the applications of GIS.

Section B (20 marks)

26. Describe the basic working principle of the Global Positioning System. Explain the role of satellites, receivers, and signals in determining location.
27. Explain in detail the various applications of GIS in different fields.

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Disclaimer: - This is a Practice Paper. The Question in End term examination will differ from the Practice Paper. This Model paper is meant for practice only.