



C20-MNG-405

**7464**

**BOARD DIPLOMA EXAMINATION, (C-20)**

**OCTOBER/NOVEMBER—2023**

**DMNG – FOURTH SEMESTER EXAMINATION**

**MINE SURVEYING—II**

*Time : 3 Hours ]*

*[ Total Marks : 80*

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**PART—A**

3×10=30

- Instructions :** (1) Answer **all** questions.  
(2) Each question carries **three** marks.  
(3) Answers should be brief and straight to the point and shall not exceed five simple sentences.

1. List the fundamental lines of transit theodolite.
2. Define the terms (a) swinging face left and (b) telescope normal.
3. List any six elements of simple curve.
4. Define the terms (a) reverse curve and (b) super elevation.
5. State the purpose of correlation.
6. Define the term triangulation survey.
7. List any three merits and demerits of tacheometric survey.
8. Define the terms (a) true dip and (b) strike.
9. List the parts of total station.
10. State the various applications of remote sensing.

**PART—B**

8×5=40

- Instructions :** (1) Answer **all** questions.  
(2) Each question carries **eight** marks.  
(3) Answers should be comprehensive and criterion for valuation is the content but not the length of the answer.

11. (a) Explain the continuous Azimuth method of traverse with a sketch.

**(OR)**

(b) Plot the following survey by co-ordinates and calculate the length and bearing of the closing line

Line	Meridian Bearing	Distance in m
AB	34°	400
BC	305°	250
CD	275°30'	310
DE	225°	260
EF	148°30'	395

12. (a) Explain the method of setting out curve by chord and angle method in an underground.

**(OR)**

(b) Explain the method of setting out curve by chord and offset method on surface.

13. (a) Describe the method of correlation by co-planning or exact alignment method.

**(OR)**

(b) Explain different triangulation schemes with sketches.

14. (a) Three boreholes A, B and C supplied the following information of a coal seam :

Line	Bearing	Gradient
AB	S40°W	1 in 5
AC	S35°E	1 in 3

Calculate the direction and gradient of the true dip of the coal seam.

**(OR)**

- (b) Two drives commence from a common starting point. One rises at an angle of 3° going N50°W, the other dips 5° going S30°W. What is the direction and grade of the true dip?

15. (a) Explain the procedure for measurement of distance and angle between the given points using total station.

**(OR)**

- (b) Explain the working principle of electromagnetic distance measuring system.

### **PART—C**

10×1=10

- Instructions :** (1) Answer the following question.  
(2) The question carries **ten** marks.  
(3) Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer.

16. A staff is held at a distance of 30 m and 90 m from the axis of a theodolite fitted with stadia hairs and the staff intercept by level sights are 0.30 m and 0.90 m respectively. Determine the constants of the instrument and calculate the horizontal distance of the staff when the staff intercept is 1.53 m on a vertical staff and angle of inclination is 10°18'. What is the vertical difference between the instrument station and staff station if height of the instrument is 1.14 m and the reading of the middle cross hair is 1.53 m?

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