



C14-MNG-405

**4469**

**BOARD DIPLOMA EXAMINATION, (C-14)**

MARCH / APRIL - 2019

**DMNG - IV SEMESTER EXAMINATION**

**MINE SURVEYING - II**

Time : 3 Hours]

[Total Marks : 80

---

**PART - A**

**3×10=30**

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

- 1 Define the terms :
  - (a) Balancing a traverse
  - (b) Error of closure of a traverse.
- 2 Define the terms :
  - (a) Line of collimation
  - (b) Axis of bubble tube.
- 3 Given bearing of a line OA is  $120^\circ$  and length of line measured is 100m. Compute the latitude and departure of point A.
- 4 State which method of setting out curve used in underground mines ? Why ?
- 5 List different methods of correlation survey.
- 6 State the significance of correlation survey in mining.
- 7 List different methods of Tacheometric survey.

4469 ]

1

[ Contd...

- 8 Write the formula to compute the horizontal distance and vertical distance when line of sight inclined and staff held vertical.
- 9 State the relation between true dip, apparent dip and angle between them.
- 10 Two coal seams are separated by 42 m and dips at an angle of  $20^\circ$  to the horizontal. Calculate the length of cross measure drift driven horizontally to inter connect them.

**PART - B****10×5=50**

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

- 11 Explain the continuous azimuth method of traverse using theodolite.
- 12 The following are the details of a closed traverse.

Line	Bearing	Distance
AB	N $80^\circ$ E	439m
BC	Due south	488m
CD	S $60^\circ$ W	377m
DA	N $10^\circ$ W	609.5m

Calculate the area of traverse ABCD by co-ordinates.

- 13 (a) State the rules for distribution of error of closure of traverse. **5+5=10**
- (b) State the Boudich Rule of balancing the traverse.

- 14 Two road ways of a coal seam are to be connected by a circular curve. The intersection angle is  $120^\circ$  and the radius of the curve is 60 meters. **2×5=10**

*Calculate :*

- (a) The tangent distance
  - (b) The length of the curve
  - (c) Raise of the curve
  - (d) Length of long chord
  - (e) Apex distance
- 15 Explain the direct traversing method of correlation survey.
- 16 A staff was held vertically at a distance of 45m and 120m from the centre of a theodolite fitted with stadia hairs and the staff intercepts with the telescope horizontal were 0.447m and 1.193m respectively. Find out the constants of the instrument.
- 17 Two seams of coal are separated by 45m (vertical) of strata which dip at an angle of  $35^\circ$  to the horizontal. Calculate the length of the cross measure drift driven to connect them **5+5=10**
- (a) If the drift is level
  - (b) If it rises 1 in 7 towards the dip of the seams
- 18 A coal seam dips at 1 in 10. A roadway driven to the full dip meets a 25 meters down through normal fault hading at  $35^\circ$  to the vertical. The roadway is continued on the same bearing on a slope of 1 in 5. What will be the length of the roadway driven to meet the seam on the other side of the fault.