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Total No. of Questions :5] *[Total No. of Printed Pages :4*

Roll No .....

MI - 502

B.E. V Semester

Examination, June 2015

Mining Survey - II

Time : Three Hours

Maximum Marks : 70

Note: i) Answer five questions. In each question part A, B, C is compulsory and D part has internal choice.

ii) All parts of each questions are to be attempted at one place.

iii) All questions carry equal marks, out of which part A and B (Max.50 words) carry 2 marks, part C (Max.100 words) carry 3 marks, part D (Max.400 words) carry 7 marks.

iv) Except numericals, Derivation, Design and Drawing etc.

1. a) Define Telescope normal.

   b) Define magnification power of Telescope.

   c) Explain sensitiveness of bubble tube.

   d) Find the area of the closed Traverse having following data by the co-ordinate method.

Side	Latitude	Departure
AB	+225.5	+120.5
BC	–245.0	+210.0
CD	–150.5	–110.5
DA	+170.0	–220.0

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Or

Find the area of closed traverse by DMD method / Latitude method.

Side	Latitude	Departure
AB	+225.5	+120.5
BC	–245.0	+210.0
CD	–150.5	–110.5
DA	+170.0	–220.0

2. a) Define Tacheometric surveying.

   b) Why is an anallactic lens is provided in a Tacheometer?

   c) What are the multiplying constant and addition constant of a Tacheometer?

   d) The following observations were taken with a Transit theodolite.

Instrument station	Staff station	Target	Vertical angle	Staff reading	Remark.
O	A	Lower	+4°30'	0.950	RL of instruct Axis
		Upper	+6°30'	3.250	255.500 m

Or

Explain Autoreduction Tacheometer on following basis.

a) Diagram

b) Observation procedure

3. a) Classify curves.

   b) Define Super Elevation.

   c) Write Requirements of an ideal transition curve.

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d) Calculate the length of transition curve required in order to attain a maximum super elevation of 15 cm. Assuming a rate of superelevation of 3 cm/s. The speed of vehicle is 50 mKm/h.

Or

Calculate the length of transition curve when rate of radial acceleration is 30 cm/s. Allowable speed on curve is 60 km/h and the radius of the circular curve is 2.00 m.

4. a) Define most probable error?
   b) Define Residual error.
   c) Explain Mean Square error.
   d) In carrying a line of levels across mining site.

   2.322, 2.346, 2.352, 2.306, 2.310, 2.300, 2.306, 2.326.

Or

Explain three point problem in detail.

5. a) Define mine plan.
   b) Enumerate mine plans.
   c) Draw neat sketch of planimeter.
   d) Draw symbol of following.
      i) Drift
      ii) Abandoned staple shaft
      iii) Goaf
      iv) Water dam
      v) Fire dam

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vi) Auxiliary fan
vii) Telephone

Or

i) Regulator
ii) Air crossing
iii) Survey line and station
iv) Ladder way
v) Stock pile
vi) Safety pillar
vii) Triangulation station.

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