CBCS Scheme

USN | | | | | | | | | | 15MN45

# Fourth Semester B.E. Degree Examination, Dec.2017/Jan.2018
## Mine Surveying – I

Time: 3 hrs. Max. Marks: 80

**Note: Answer any FIVE full questions, choosing one full question from each module.**



### Module-1

1 a. What is the basic principle of surveying? What are the different types of tapes used in surveying? **(08 Marks)**

b. What is the difference between a plan and map? **(04 Marks)**

c. What are the errors in surveying and list out preventive measures of errors? **(04 Marks)**

**OR**

2 a. Define surveying. Explain the different classification of surveying based on the nature of field. **(08 Marks)**

b. Explain the different types of linear measurements. **(08 Marks)**

### Module-2

3 a. What is a chain surveying? Explain the principle of chain survey. **(04 Marks)**

b. To continue a survey line AB past an obstacle a line BC 200 meters long was set out perpendicular to AB, and from C angles BCD and BCE were set out at 60° and 45° respectively. Determine the length which must be chained off along CD and CE in order that ED may be in AB produced Also determine the length BE. **(08 Marks)**

c. Draw a conventional symbol Representing in surveying. **(04 Marks)**

**OR**

4 a. Draw a conventional symbol to represent a Fence ; and Railway. **(04 Marks)**

b. In parsing an obstacle in the form of a pond stations A and D, on the main line were taken on the opposite sides of the pond, on the left of AD, a line AB 200m long was laid down and a second line, AC, 250m long, was ranged on the Right of AD, the points B, D and C being in the straight line. BD and DC were then chained and found to be 125m and 150m Respectively, find the length of AD. **(08 Marks)**

c. With a sketch explain the principle of prism square. **(04 Marks)**

### Module-3

5 a. Explain Traverse survey. List the uses of prismatic compass and surveyors compass. **(08 Marks)**

b. Define Bearing. Write a short note on true meridian, Magnetic Meridian, Arbitrary Meridian. **(08 Marks)**

**OR**

6 a. Define local attraction? Explain the detection of local attraction. **(08 Marks)**

b. Enlist the various types of Errors in compass survey. **(08 Marks)**

## Module-4

7 a. Define Levelling in surveying? With a neat sketch explain the accessories of an dumpy level. **(08 Marks)**

b. The following staff readings were observed successively with a level, the instrument having been moved after third, sixth and Eighth Reading : 2.228 ; 1.606 ; 0.988 ; 2.090 ; 2.864 ; 1.262 ; 0.602 ; 1.982 ; 1.044 ; 2.684 meters enters the above readings in a page of level book and calculate the R.L of points if the first reading was taken with a staff held on a Bench mark of 432.384m. **(08 Marks)**

**OR**

8 a. Find the correction for curvature and for Refraction for a distance i) 1200 metres ii) 2.48 km. **(04 Marks)**

b. Explain the terms and abbreviations for HI, BS, FS and IS. **(04 Marks)**

c. It was Required to ascertain the elevation of two points P and Q and a line of levels was Run from P to Q. The leveling was then continued to a bench mark of 83.500 the Readings obtained being as shown below obtain the RL of P and Q. **(08 Marks)**

| BS | IS | FS | RL | Remarks |
|---|---|---|---|---|
| 1.622 | | | | P |
| 1.874 | | 0.354 | | |
| 2.032 | | 1.780 | | |
| | 2.362 | | | Q |
| 0.984 | | 1.122 | | |
| 1.906 | | 2.824 | | |
| | | 2.036 | 83.500 | B.M |

## Module-5

9 a. Explain the Radiation method of plane tabling **(08 Marks)**

b. Explain the Graphic Triangulation method of plane tabling. **(08 Marks)**

**OR**

10 a. What are the instruments Required for plane table survey? **(04 Marks)**

b. State the three point problem. **(04 Marks)**

c. Define a contour. List its characteristics. **(08 Marks)**

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