CBCS SCHEME

USN | | | | | | | | | | **18CV35**

Third Semester B.E. Degree Examination, Dec.2019/Jan.2020
Basic Surveying

Time: 3 hrs.   Max. Marks: 100

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

Module-1

1 a. Define and explain plane and Geodetic surveying.   **(08 Marks)**
    b. Name and Explain important sources of Errors in surveying.   **(06 Marks)**
    c. Explain the terms Plans and Maps. Mention their application.   **(06 Marks)**

OR

2 a. A field tape, standardized at 20°C measured 1ʹ00.0056m. Determine the temperature at which it will be exactly of the nominal length of 100m. Take a = 11.2 x 10^{-6} per °C.
                                                                            (06 Marks)
    b. Name and explain the various instruments for chaining in surveying.   **(14 Marks)**

Module-2

3 a. Distinguish between prismatic and surveyor's compass.   **(08 Marks)**
    b. Name and briefly explain temporary adjustments for prismatic compass. **(06 Marks)**
    c. Define local attraction and explain the Elimation of local attraction in compass surveying.
                                                                            (06 Marks)

OR

4 a. Explain with sketches an open traverse and closed traverse.   **(06 Marks)**
    b. Determine the correct magnetic bearinas of the liner. The following bearings were observed in running a closed traverse:

Line	F.B	B.B
AB	71° 05'	250' 20'
BC	110° 20'	292°35'
CD	161° 35'	341° 45'
DE	220° 50'	40° 05'
EA	300° 50'	121' 10'

                                                                            (14 Marks)

Module-3

5 a. Define leveling and explain it.   **(04 Marks)**
    h. Describe with neat sketch parts of dumpy level.   **(16 Marks)**

OR

6 a. Explain the terms mentioning their purpose:
        i.) Station
        ii) Back sight
        iii) Turning point
        iv) Height of. Instruments.   (08 Niarks)

b. A level is set up on an extended line BA in a position 70m from A and 100m from B, reads 1.684m on a staff held at A and 2.122m on a staff held at B, the bubble having been carefully brought to the centre of its run before each reading. It is known that the reduced levels of the tops of the pegs at A and B are 89.62m and 89.222m respectively. Find:
   i)   The Collimation error.
   ii)   The Reading that would have been obtained has there been no Collimation error.
                                                                                    (12 Marks)

Module-4
7 a. Explain the working operations of plane table.   **(06 Marks)**
    b. Explain Radiation and Traversing methods of plane table surveying with sketches. **(08 Marks)**
    c. Describe with sketches two-point problem in plane table surveying.   **(06 Marks)**

OR
8 a. Explain briefly Intersection and Resection Methods of plane table surveying with sketches.
                                                                                    (10 Marks)
    b. Describe the different Errors in plane table surveying.   **(10 Marks)**

Module-5
9 a. What are the General methods of determining Areas?   **(04 Marks)**
    b. A series of offsets were taken from a Chain line to a curved boundary line at Intervals of 15 meters in the following order 0, 2.65, 3.8, 3.75, 4.65, 3.6, 4.95, 5.85m. Computer the area between the chain line, the curved boundary and the end offsets by
       i)   Average ordinate rule
       ii)   Trapezoidal rule
       iii) Simpson's rule.   **(16 Marks)**

OR
10 a. Explain with sketch planimeter.   **(07 Marks)**
     b. What are the methods of locating Contours in Surveying?   **(08 Marks)**
     c. Explain the calculation of the volume of the capacity of a reservoir with any one relationship.   **(05 Marks)**