ANNA UNIVERSITY OF TECHNOLOGY, COIMBATORE

B.E. / B.TECH. DEGREE EXAMINATIONS : NOV / DEC 2011

REGULATIONS : 2008

THIRD SEMESTER : CIVIL ENGINEERING

080100012 - SURVEYING I

Time : 3 Hours   Max. Marks : 100

PART - A

(10 x 2 = 20 Marks)

ANSWER ALL QUESTIONS

1.   What is meant by Surveying?

2.   What is meant by well conditioned triangles?

3.   Define Magnetic Meridian.

4.   State two point problem.

5.   What is meant by sensitiveness of bubble tube?

6.   What is meant by Barometric leveling?

7.   State any four components of theodolite.

8.   What is meant by transiting of telescope?

9.   State the functions of transition curves.

10.   List out any four equipments used for mine surveying.

PART - B

(5 x 16 = 80 Marks)

ANSWER ALL QUESTIONS

11. (a) i)   A 20m chain was found to be 10 cm too long after chaining a distance of   10
           1500m. It was found to be 18 cm too long at the end of day's work after
           chaining a total distance of 2900m. Find the true distance if the chain was
           correct before the commencement of the work.

    ii)   Explain Plans and Maps.   6

(OR)

11. b   Explain any types of survey instruments, their care and adjustment.

12. (a) i) Bring out the difference between the prismatic and surveyors compass.   10

    ii)   What is meant by magnetic declination? Explain the different types of   6
          declinations.

(OR)

12. (b)   Explain the errors in plane tabling.

            List out all the merits and demerits of plane table surveying.

13. (a)   A railway embankment is 10m wide with side slopes 1.5 to 1. Assuming the
            ground to be level in a direction transverse to the centre line, calculate the
            volume (by trapezoidal rule and prismoidal rule) contained in a length of
            120 metres, the centre heights at 20 m intervals being in metres
            2.2, 3.7, 3.8, 4.0, 3.8, 2.8, 2.5.

(OR)

13. (b)   Explain the method of Locating the contours.

14. (a) i) Explain the measurement of horizontal angles by repetition method and   8
            reiteration method

    ii)   Explain the measurement of vertical angles.   8

(OR)

14. (b)   Describe the various cases of omitted measurements and derive the
            equation for determining the omitted measurements.

15. (a)   Explain the setting of simple curve by linear methods (any two methods)
            after determining the tangent distances.

(OR)

15. (b)   Explain the setting of tunnels. (All the four operations)

*****THE END*****