4TH SEM. / CIVIL / 2024 (S)

Th-3 LAND SURVEY-I

Full Marks: 80 Time- 3 Hrs

Answer any five Questions including Q No.1& 2
Figures in the right hand margin indicates marks

1. Answer **All** questions 2 x 10
   a. Define "transiting"?
   b. Define "height of instrument" in levelling?
   c. Define contour interval?
   d. Define isogonic & agonic lines?
   e. Define line of collimation?
   f. State Simpson's rule?
   g. What is meant by ranging of lines?
   h. Why two vernier readings are taken?
   i. Mention any four uses of transit theodolite?
   j. What is the relationship between 1hectare & 1 acre?

2. Answer **Any Six** Questions 6 x 5
   a. Explain the errors in chaining?
   b. Distinguish between Rise fall method & height of instrument method?
   c. Describe the process of measuring vertical angle by theodolite ?
   d. Write down the different characteristics of contours.
   e. Explain the various source of error in compass?
   f. What is local attraction? How it is detected?
   g Define W.C.B & Q.B in compass survey?

3 Write down the procedure of temporary adjustment of level ? 10

4 A steel tape 30m long standardised at 30^0 C with a pull of 40kg was used for measuring a based line .Find the correction per tape length if at the time for measurement the temperature was 52^0 C and pull exerted 45kg weight of steel per cubic centimetre equal 7.75 gm weight of tape 0.68 kg. E= 2.11 x 10^6 KG/CM^2 , a= 12 x 10^{-6} per ^0C. 10

5 A survey line BAC cross a river .A & C being the near and opposite bank respectively A perpendicular to AD 50m long is set at A . If the bearing of AD & DC are 35^0 45 & 280^0 30^0 respectively. Find the width of river. 10

6 What is three point problem? Explain with neat sketches and procedures of solving the problem. 10

7 What are different methods of plane tabling? Describe any one method in detail. 10