Roll No. | | | | | | | | | | | | | Total No. of Pages : 02

Total No. of Questions : 08

B. Architecture (2012 & Onwards) (Sem.–3)

SURVEYING AND LEVELLING – I

Subject Code : BACH-308

M.Code : 70420

Time : 3 Hrs. **Max. Marks : 60**

INSTRUCTIONS TO CANDIDATES :

1. **Attempt SIX questions. Question no. 1 is COMPULSORY. Attempt any FIVE from the rest.**
2. **Missing data, if any may be assumed suitably.**

1. Answer the following : (2×5=10)

a) What do you understand by "working from whole to part"?

b) What are the compensating errors in chain surveying?

c) Differentiate between Plane and Geodetic survey.

d) Name various accessories of plane table.

e) What is local attraction in compass surveying?

2. a) How will you range a line between two points which are not visible to each other due to a small hillock in between? (5)

b) A 20 m chain was found to be 6 cm too long after chaining a distance of 3800 m. It was tested again at the end of day's work and found to be 9 cm too long after chaining a total distance of 7,000 m. If the chain was correct before the commencement of the work, find the true distance. (5)

3. a) Differentiate between Magnetic and True meridian. What is the included angle at B if the Fore bearing of line AB is 107° 15' and line BC is 12°? (5)

b) For a traverse, following readings were observed with a compass. Calculate the Back bearings of lines and the interior angles. Apply check. (5)

Line	Fore Bearings
AB	60° 30'
BC	122° 00'
CD	46° 00'
DE	205° 30'
EA	300°00'

4. a) Define the terms: Datum, bench mark, reduced level and a station point. (4)

   b) The RL of a point is 100m. The BS, IS & FS readings are 3.142, 3.165 & 2.640m. What is the RL of second point? (2)

   c) Explain focusing of Dumpy Level. (4)

5. a) What are the advantages and disadvantages of Plane table surveying? (5)

   b) Explain the role/functions of components of plane-table. (5)

6. What is Two-point problem? How it is solved? (10)

7. a) Define : Contour, contouring, Contour interval, horizontal equivalent. (4)

   b) What are the different methods of contouring? Describe any one of them. (6)

8. Write short notes on : (10)

   a) Hand Level

   b) Abney's Level

   c) Planimeter

9. An area was surveyed. Cross sections were taken at 50m apart on lines as given below. Points on cross sections were 20m apart. The observations were as under : (10)

CS-AA1	BB1	CC1	DD1	EE1
32	27	30	26	25
39	34	36	34	30
41	42	42	38	37
46	37	38	42	45
52	31	41	49	50

   Draw a plan on a graph paper and mark neatly the contours at 5m intervals. Take suitable scale.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.