CBCS SCHEME

USN ⬜⬜⬜⬜⬜⬜⬜⬜⬜⬜ 18ENG27

Second Semester B.Arch. Degree Examination, Jan./Feb. 2021
Site Surveying and Analysis

Time: 3 hrs. Max. Marks: 100

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

Module-1

1 a. Define surveying and explain classification of surveying. **(10 Marks)**
b. Write a note on shrunk scale. **(05 Marks)**
c. Explain principles of surveying. **(05 Marks)**

OR

2 a. List the different types of chains used in surveying and explain any one chain in detail with a sketch. **(08 Marks)**
b. The length of a survey line was measured with a 20m chain and was found to be equal to 1200m. As a check, the length was again measured with a 25m chain and was found to be 1212m. On comparing 20m chain with test gauge, it was found to be 10cm too long. Find the actual length of 25m chain. **(08 Marks)**
c. Differentiate between plane surveying and Geodetic surveying. **(04 Marks)**

Module-2

3 a. What is ranging and explain indirect ranging with a neat sketch? **(06 Marks)**
b. Write a note on obstacles in chain surveying. **(06 Marks)**
c. Plot the following cross-staff survey of a field ABCDEFG and calculate its area. **(08 Marks)**

	750	D
	650	210 E
180 C	490	
	300	250 F
160 B	180	
	100	50G
	0	A

OR

4 a. What are the advantages and disadvantages of plane table surveying? **(06 Marks)**
b. Explain the method of intersection in plane table survey with a neat sketch. **(06 Marks)**
c. List the different cross-staff used in chain surveying and explain any one with a sketch. **(04 Marks)**
d. List and explain the accessories used in plane table surveying. **(04 Marks)**

Module-3

5 a. Define the following with respect to leveling:
   i) Bench Mark
   ii) Change point
   iii) Fore sight
   iv) Height of Instrument. **(08 Marks)**
b. Following readings were observed with a level. The instrument was sifted after 3rd, 6th and 10th readings. The first reading was taken on a BM of 200m. Enter the values in a page of level book and calculate the reduced level of all the points. Apply check.
0.865, 2.105, 1.025, 1.580, 1.865, 2.230, 2.835, 2.355, 1.760, 3.100, 1.120, 2.560, 2.885. **(12 Marks)**

OR

6 a. Explain the temporary adjustment of a leveling instrument. **(06 Marks)**

b. The following readings were taken from a leveling instrument using a 5m staff at an interval of 25m. 0.545, 1.390, 1.535, 2.985, 3.085, 4.670, 0.815, 2.030, 3.150, 4.575. The RL of first point was 65.000m. Enter the staff readings in level book and compute the RL of all points. Also plot the ground profile and calculate the depth of cutting or filling if a pipe has to be laid with a reduced level of 63.000m at start point and there onward at an upward gradient of 1 in 100? **(14 Marks)**

Module-4

7 a. What is contour? What are the uses of contour? **(06 Marks)**

b. Explain one method of direct and indirect contouring with sketch. **(06 Marks)**

c. What are the characteristics of contours? **(08 Marks)**

OR

8 a. Explain method of repetition and re-iteration used to measure horizontal angle using theodolite. **(10 Marks)**

b. What are the components of a total station? List the uses of total station. **(06 Marks)**

c. Write a note on GPS. **(04 Marks)**

Module-5

9 a. Explain in detail, how the observation and analysis of the following factors are carried out.
   i) Topography   ii) Soil   iii) Climate. **(12 Marks)**

b. Explain aerial and terrestrial photogrammetry. **(08 Marks)**

OR

10 a. Explain different types of survey maps. **(06 Marks)**

b. List and explain 6 symbols used in survey maps. **(06 Marks)**

c. With a neat sketch, briefly explain the setting out of center line of a building. **(08 Marks)**

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