



# CBCS SCHEME

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15ENG27

## Second Semester B.Arch. Degree Examination, July/August 2022 Site Surveying and Analysis

Time: 3 hrs.

Max. Marks: 100

- Note:** 1. Answer any FIVE full questions, choosing ONE full question from each module.  
2. Draw relevant sketches.  
3. Missing data, if any, may be suitably assumed.

### Module-1

- 1 a. Distinguish between plane surveying and Geodetic surveying. (Any three). (06 Marks)  
b. Discuss briefly the classification of surveying based on i) Purpose ii) Instruments. (08 Marks)  
c. The area of the plan of an old survey plotted to a scale of 15m to 1cm now measures as 80.2 cm<sup>2</sup> as found by a planimeter. The plan is found to have shrunk, so that a line originally 10cm long now measures 9.8 cm only. Find the shrunk scale and the true area of the survey. (06 Marks)

OR

- 2 a. Enumerate the principles of surveying. Explain with neat sketches. (08 Marks)  
b. What is ranging? Explain with a neat sketch indirect ranging. (06 Marks)  
c. Explain the use of line ranger with a neat sketch. (06 Marks)

### Module-2

- 3 a. Write a note on cross staff and optical square. (10 Marks)  
b. Explain the temporary adjustment with respect to plane table surveying. (04 Marks)  
c. With a neat sketch explain intersection method of plane table survey. (06 Marks)

OR

- 4 a. Define the following terms used in levelling:  
i) Elevation  
ii) Bench Mark  
iii) Fore sight  
iv) Line of collimation. (08 Marks)  
b. Following consecutive readings were taken on points 1 to 7 along a line :  
0.785, 1.325, 2.540, 3.435, 1.370, 2.330, 1.235, 1.655.  
The instrument was shifted after the fourth reading. First reading was taken on a BM with RL = 100m. Enter the above readings in a page of a level book [Prepare a similar format in the booklet] and calculate the RL of points. Use collimation or height of instrument method. Also apply arithmetical check. (12 Marks)

### Module-3

- 5 a. Define contour. Explain characteristics of contours. (10 Marks)  
b. Explain with sketches the uses of contour maps. (10 Marks)

OR

- 6 a. Explain in detail, how is horizontal angle measured using the theodolite by (12 Marks)  
i) Method of Repetition  
ii) Method of reiteration  
b. Mention the various advantages of using a total station over other conventional instruments. (08 Marks)

**Module-4**

- 7 a. Explain the method of pacing of measurement of horizontal distances using ones own body. (06 Marks)  
b. Briefly explain the reconnaissance survey to read the terrain. (06 Marks)  
c. Using photography as a surveying method to survey 1 acre of land which is heavily contoured, explain your approach to figure out the terrain. (08 Marks)

OR

- 8 Explain how the analysis of a site (upto 1 acre) is done with respect to the following factors:  
a. Microclimate (07 Marks)  
b. Vegetation (06 Marks)  
c. Topography. (07 Marks)

**Module-5**

- 9 a. Explain briefly types of land survey maps. (10 Marks)  
b. What are the various notations to be indicated on a land survey drawing? Explain. (10 Marks)  
(Any 10 notations).

OR

- 10 a. With a neat sketch briefly explain the setting out of center lines of a building. (12 Marks)  
b. Explain the following terms used in setting out works:  
i) Reference grids  
ii) Horizontal and vertical controls. (08 Marks)

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