

# CBCS SCHEME

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18ENG27

**Second Semester B.Arch. Degree Examination, July/August 2022**

## 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. Explain the classifications of surveying in detail. (10 Marks)
- b. List the different types of chains and tapes used in surveying? With a neat sketch write a note on metric chain. (10 Marks)

**OR**

- 2 a. What is ranging? With a neat sketch explain Indirect ranging. (08 Marks)
- b. Write a note on Shrunk Scale. (04 Marks)
- c. A 20m chain was found to be 15 cm too long after chaining a distance of 1500m. It was found to be 20cm too long at the end of days work after chaining a total distance of 3200m. Find the true distance if the chain was correct before starting of work. (08 Marks)

### Module-2

- 3 a. With neat sketches explain the various obstacles in chain surveying providing atleast one solution for each obstacle. (10 Marks)
- b. Plot the following cross staff survey and calculate the total area.

			80G		100F		40E			
0	40	60	80	110	140	210	230	250	270	300
M	50A			90B		120C			50D	R

(10 Marks)

**OR**

- 4 a. List and explain the applications/use of all the accessories used in plane table surveying. (10 Marks)
- b. With a neat sketch explain the method of intersection used in plane table surveying. (10 Marks)

### Module-3

- 5 a. Define the following terms used in leveling:  
(i) Elevation (ii) Benchmark (iii) Foresight (iv) Line of collimation. (08 Marks)
- b. Following staff readings were observed with a level. The instrument was shifted after third, sixth and eighth readings. First reading was taken on a 13m of 400m.  
2.220, 1.600, 0.980, 2.080, 2.860, 1.260, 0.600, 1.980, 1.040, 2.680  
Enter the above readings in a page of level book and calculate the RL of all points. Use Rise and Fall method. Apply check. (12 Marks)

**OR**

- 6 a. Explain the temporary adjustments of a levelling instrument. (06 Marks)
- b. List the applications of levelling. (04 Marks)
- c. 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 4<sup>th</sup> reading. First reading was taken on a BM of 100m. Calculate the RL of all points using height of instrument method and apply check. (10 Marks)

**Module-4**

- 7 a. Define Contours. Explain the characteristics of contour. (10 Marks)  
b. Explain direct and indirect methods of contouring. (10 Marks)

**OR**

- 8 a. List the applications of a total station. (08 Marks)  
b. Explain the repetition method of measuring horizontal angle using a theodolite. (08 Marks)  
c. Define transiting and swinging of the telescope. (04 Marks)

**Module-5**

- 9 a. Explain briefly types of land surveying maps. (10 Marks)  
b. Explain any 10 notations used in land surveying drawings. (10 Marks)

**OR**

- 10 a. Explain Aerial and Terrestrial photogrammetry. (10 Marks)  
b. Explain the observation and analysis of a site with respect to the following site factors:  
(i) Topography  
(ii) Soil (10 Marks)

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