

# GBCS 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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