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Second Semester B.Arch. Degree Examination, Aug./Sept. 2020 Site Surveying & Analysis

Time: 3 hrs.

Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. Assume data wherever necessary.

Module-1

- 1 a. What is Surveying? (02 Marks)
b. Briefly explain the classification of survey based on :
i) Nature of the field survey
ii) object of survey
iii) instruments used in survey (18 Marks)

OR

- 2 a. Explain briefly the fundamental principles of surveying. (08 Marks)
b. i) What are the various instruments for chaining? (02 Marks)
ii) What are the various types of commonly used chains? (02 Marks)
iii) Draw a typical 5m long metric chain. (08 Marks)

Module-2

- 3 a. What is Ranging? What are the methods of Ranging? (05 Marks)
b. Explain the indirect method of Ranging with a neat diagram. (15 Marks)

OR

- 4 a. What are the instruments used in plane table surveying? (03 Marks)
b. Mention the methods/systems of plane tabling. (02 Marks)
c. Explain the Intersection/Graphic triangulation method of plane tabling with required sketch. (15 Marks)

Module-3

- 5 a. Define the following terms :
i) Leveling
ii) Level surface
iii) Datum
iv) Elevation
v) Bench mark. (10 Marks)
b. Draw the diagram of a Dumpy level and label its parts. (10 Marks)

OR

- 6 a. The following consecutive levels/readings were taken with a level and 5m leveling staff on continuously sloping ground at a common interval of 20m ; 0.385 ; 1.030 ; 1.925 ; 2.825 ; 3.730 ; 4.685, 0.625 ; 2.005 ; 3.110 ; 4.485. The reduced levels of the first point was 208.125m Rule out a page of a level field book and enter the above readings. Calculate the reduced levels of the points by Rise and fall method and also gradient of the line joining the first and the last point. (10 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.

- b. Define the terms :
- i) Station
 - ii) Height of instrument
 - iii) Back sighting
 - iv) Foresighting
 - v) Intermediate station.

(10 Marks)

Module-4

- 7 a. Explain the characteristics of contours. (10 Marks)
- b. Define the following terminologies with respect to surveying with theodolite.
- i) Vertical Axis
 - ii) Transiting
 - iii) Centering
 - iv) Swinging the telescope
 - v) Axis of the level tube.

(10 Marks)

OR

- 8 a. Define the following terminologies, with sketches :
- i) Contour
 - ii) Contour interval
 - iii) Uniform slope
 - iv) Vertical Clift
- b. List the uses of contour maps with sketches.

(12 Marks)

(08 Marks)

Module-5

- 9 a. Draw and label any 10(ten) of the conventional symbols used in survey maps. (10 Marks)
- b. i) What is Reconnaissance survey? (10 Marks)
- ii) What is photogrammetry? (10 Marks)

OR

- 10 a. Explain the process of setting out centre line of a building. (10 Marks)
- b. Write short notes on :
- i) Reference grids
 - ii) Control for setting out.

(10 Marks)

(10 Marks)
