USN | | | | | | | | | | 　　　　　　　　　　　　　18ENG27

Second Semester B.Arch. Degree Examination, Dec.2019/Jan.2020
Site Surveying & Analysis

Time: 3 hrs.　　　　　　　　　　　　　　　　　　　　　　　Max. Marks: 100

Note: 1. Answer FIVE full questions, choosing ONE full question from each module.
2. Explain with a neat sketch wherever necessary

Module-1

1　a. Define plane and Geodetic surveying. 　　　　　　　　　　　　　　(04 Marks)
　b. Explain the fundamental principle of surveying with neat sketch. 　　(10 Marks)
　c. Explain : (i)　Plan and Map
　　　　　　　　(ii)　Shrinkage factor and
　　　　　　　　(iii)　Representative fraction. 　　　　　　　　　　　　(06 Marks)

OR

2　a. What are the different types of chains used in surveying? Explain any one in detail with diagram. 　　　　　　　　　　　　　　　　　　　　　　　　(10 Marks)
　b. Explain different methods of chaining on sloping ground with diagram. 　(10 Marks)

Module-2

3　a. Discuss errors involved in chaining. 　　　　　　　　　　　　　　(10 Marks)
　b. Define ranging. Explain ranging by eye and reciprocal ranging. 　　　(10 Marks)

OR

4　a. Mention the types of instruments used to set out right angle to a chain line. Explain any two. 　　　　　　　　　　　　　　　　　　　　　　　　　(10 Marks)
　b. Explain Radiation and intersection method of plane table. 　　　　　(10 Marks)

Module-3

5　a. Briefly explain the temporary adjustments in leveling for a 3 screw head. 　(10 Marks)
　b. The following readings were observed with a dumpy level and a 5 m staff. The instrument is moved forward after the second, fourth and eighth reading, 0.875, 1.235, 2.310, 1.385, 2.930, 3.125, 4.125, 0.120, 1.875, 2.030, 3.765. The first reading was taken with the staff held upon a benchmark of elevation 102.135 m. Rule-out a page of level field book and enter the above readings. Calculate the R.L of the points by the plane of collimation method and apply the usual checks. 　　　　　　　　　　　　　　　　(10 Marks)

OR

6　a. Explain the following terms:
　　　(i)　　Height of instrument.
　　　(ii)　　Elevation.
　　　(iii)　　Reduced level.
　　　(iv)　　Turning point. 　　　　　　　　　　　　　　　　　　　　(04 Marks)
　b. The following consecutive readings were taken with a dumpy level : 0.795, 1.655, 2.890, 3.015, 0.655, 0.625, 0.955, 0.255, 1.635, 0.860 and 2.375. Instrument was shifted after 4th and 8th readings. The 1st reading on bench mark was 550.605. Calculate the RL by 'RISE AND FALL METHOD". Apply necessary check. 　　　　　　　　　　(10 Marks)
　c. What are the principles of leveling? 　　　　　　　　　　　　　　(06 Marks)

Module-4

7   a.   Explain direct method of contouring.   (10 Marks)
      b.   What is contour line? List the various characteristics of contour.   (10 Marks)

OR

8   a.   How do you measure horizontal angle by repitation method using theodolite?   (10 Marks)
      b.   What are the components of total station? List the uses of total station.   (10 Marks)

Module-5

9   Explain how site analysis is done with respect to,
      (a)   Hydrology   (b) Topography   (c) Soil
      (d)   Climate and Micro climate   (e) Influence of water bodies.   (20 Marks)

OR

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

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