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**Second Semester B.Arch. Degree Examination, June/July 2015**  
**Site Surveying and Analysis**

Time: 3 hrs.

Max. Marks:100

**Note: 1. Answer any FIVE full questions choosing ONE question from each Module.**  
**2. Draw relevant sketches.**

**Module – 1**

- 1** a. Explain the classification of surveying. (08 Marks)  
 b. Explain fundamental principles of surveying. (06 Marks)  
 c. The area of the plan of an old survey plotted to a scale of 10 metres to 1cm measures now as 100.2 sq.cm as found by planimeter. The plan is found to have shrunk so that a line originally 10cm long now measures 9.7cm only. Find:  
 i) The shrunk scale ; ii) True area of the survey. (06 Marks)
- 2** a. Name the different types of chains used in surveying. Explain with a neat sketch metric surveying chain. (08 Marks)  
 b. What is ranging? Explain the procedure of measuring the distance between two accessible points using direct ranging. (08 Marks)  
 c. With a neat sketch, explain the use of line ranger. (04 Marks)

**Module – 2**

- 3** a. Define the following terms used in chain survey:  
 i) Base line; ii) Check line; iii) Tie line. (03 Marks)  
 b. Explain with neat sketches, how you drop a perpendicular to the chain line from a point outside the chain line (any three methods). (09 Marks)  
 c. List and explain briefly the various accessories used in plane table surveying. (08 Marks)
- 4** a. Define the following terms used in travelling: i) Bench mark; ii) Back sight; iii) Fore sight; iv) Change point. (04 Marks)  
 b. Briefly explain the temporary adjustments of a level. (06 Marks)  
 c. The following staff readings were observed successively with a level, the instrument having been moved after second, fifth and seventh readings: 0.865, 2.105, 1.025, 1.580, 1.865, 2.230, 2.835, 2.355, 1.760 metres. Enter the above readings in a page of a level book and calculate the RL of points if the first reading was taken with a staff held on a bench mark of 560.500m. (10 Marks)

**Module – 3**

- 5** a. What is a contour? What are the uses of contours? (08 Marks)  
 b. Define the following terms:  
 i) Contour interval  
 ii) Horizontal equivalent  
 iii) Contour gradient. (06 Marks)  
 c. What are the characteristics of contour? (any six). (06 Marks)

- 6 a. Define the terms:  
 i) Transiting the telescope  
 ii) Telescope normal  
 iii) Swinging the telescope. (06 Marks)  
 b. Explain how you would measure with a theodolite, horizontal angle by repetition. (08 Marks)  
 c. What are the components of a total station? List the uses of a total station. (06 Marks)

**Module – 4**

- 7 a. Explain the method of pacing of measuring horizontal distances. (06 Marks)  
 b. Briefly explain the reconnaissance survey during the observation of a site. (06 Marks)  
 c. Differentiate between Terrestrial photogrammetry and aerial photogrammetry. (08 Marks)
- 8 a. List the various on site factors influencing site planning. (08 Marks)  
 b. Explain briefly the analysis of following natural factors:  
 i) Topography ii) Hydrology iii) Soils. (12 Marks)

**Module – 5**

- 9 a. Briefly explain type of land survey maps. (10 Marks)  
 b. Map conventional symbols used on drawings:  
 i) Cultivated land  
 ii) Metalled road  
 iii) Barbed wire fence  
 iv) Rail fence. (04 Marks)  
 c. Write a note on grid references for measurements. (06 Marks)
- 10 a. Briefly explain the following terms frequently used in setting out works:  
 i) Stake; ii) Batter-Board; iii) Post; iv) Boring rod; v) Sight rail. (10 Marks)  
 b. With a neat sketch, briefly explain the setting out of centre lines of a buildings. (10 Marks)

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