Sub Code: NAR106

Paper Id: 181016 Roll No:

B.ARCH.

(SEM I) THEORY EXAMINATION 2019-20

SURVEYING AND LEVELLING

Time: 3 Hours *Total Marks: 50*

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION -A

Q1. Attempt all questions. All questions carry equal marks. 2x5=10

(a) Define Horizontal Equivalent.
(b) What are the different types of Benchmarks.
(c) What is Local Attraction.
(d) Write Short note on Magnetic Bearing.
(e) What are the accessories used in Plane Table Surveying.

SECTION -B

Q2. Attempt any three part of the following. 3x5 =15

(a) What are the various methods of resection? Explain resection by back sighting.
(b) Give in Tabular Form, the difference between Prismatic Compass and Surveyor's Compass.
(c) Explain the Principle of Photogrammetry.
(d) The following are bearings taken on a closed compass traverse:

Line	Fore Bearing	Back Bearing
AB	$80^{O}10'$	$259^{O}0'$
BC	$120^{O}20'$	$301^{O}50'$
CD	$170^{O}50'$	$350^{O}50'$
DE	$230^{O}10'$	$49^{O}30'$
EA	$310^{O}20'$	$130^{O}15'$

Calculate the interior and correct them for observational errors. Assuming the observed bearing of the line CD to be correct.

Q3. Attempt any one part of the following. 1x5=5

(a) Explain the Working Principal of the Total Station.
(b) State 3 Point Problem and its use.

Q4. Attempt any one part of the following. 1x5=5

(a) What are Sources of Errors in Levelling.
(b) Explain the instrument used in Chain Surveying.

Q5. Attempt any one part of the following. 1x5=5

(a) What are the factors involved in Selection of Station in Chain Surveying.
(b) What are the sources of errors in compass surveying?

Q6. Attempt any one part of the following. 1x5=5

(a) Explain clearly the measurement of horizontal and vertical angle using Theodolite.
(b) Explain with the neat sketches, The uses of the contour Maps.

Q7. Attempt any one part of the following. 1x5=5

(a) Explain Method of repetition for horizontal Angle Measurement.
(b) It was required to ascertain the elevation of two points P and Q and a line of levels was run from P to Q. The levelling was then continued to a bench mark of 83.500, The readings obtained being shown below. Obtain the R.L. of P and Q.

B.S.	I.S.	F.S.	R.L.	Remarks
1.622				P
1.874		0.354		
2.032		1.780		
	2.362			Q
0.984		1.122		
1.906		2.824		
		2.036	83.500	B.M.

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