Register No.: [ ]

848

April 2024

Time - Three hours
(Maximum Marks: 100)

N.B. 1. Answer all questions under Part-A. Each question carries 3 marks.

2. Answer all the questions either (A) or (B) in Part-B. Each question carries 14 marks.

PART - A

1. What are the errors in chain surveying?
2. Write the necessity of compass surveying.
3. Write about Bench mark.
4. Write about Levelling.
5. Define transiting.
6. What is latitude and departure of the line?
7. What is the main objective of tacheometric surveying?
8. What are the uses of contour plan?
9. List out the various component parts of Total station.
10. Write the types of GPS receivers and its function.

PART - B

11. (a) (i) Explain about the classification of surveying. (7)
(ii) Explain about principles of surveying. (7)

(Or)

(b) The bearings of the sides of a traverse ABCDE are as follows. Calculate the interior angles of the traverse.

Line	FB	BB
AB	12°00'	192°00'
BC	271°30'	91°30'
CD	189°15'	9°15'
DE	124°45'	304°45'
EA	97°15'	277°15'

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12. (a) (i) Write the procedure for finding reduced level by Rise and Fall method. (7)

(ii) Compare Height of Collimation and Rise and Fall method. (7)

(Or)

(b) The following consecutive readings were taken with a dumpy level. 3.865, 3.350, 2.930, 1.950, 0.855, 3.795, 2.640, 1.540, 1.935, 0.865, 0.665. The level was shifted after the fifth and eighth readings. The first reading was taken on the B.M of R.L 150.250. Calculate the reduced level of all the points by Height of Collimation method and apply the check.

13. (a) Explain in detail about temporary adjustments of theodolite.

(Or)

(b) The following table gives the latitudes and departures of the sides of a closed traverse ABCD. Calculate the Independent co-ordinates and find the area of the traverse.

Side	Latitude in (m)		Departure in (m)	
	N	S	E	W
AB	214.80	-	124.00	-
BC	-	245.10	205.70	-
CD	-	155.90	-	90.00
DA	186.20	-	-	239.70

14. (a) The following observations were made using a tacheometer fitted with an anallactic lens, the multiplying constant being 100.The staff was held vertical. Determine the length gradient of AB. RL of O is 150.00 m

Instrument Station	Height of instrument (m)	Staff station	W.C.B	Vertical angle	Stadia reading (m)
O	1.550	A	300°30'	4°30'	1.155, 1.755, 2.355
		B	75°30'	-10°15'	1.250, 2.000, 2.750

(Or)

(b) Explain about the direct and indirect methods of contouring.

15. (a) Explain the various component parts of the Total station.

(Or)

(b) Describe the field procedure involved in the operation of GPS for observation and processing.
