902

October 2023

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. Write any four uses of Surveying.

2. What are the types of bearing?

3. What are the component parts used in levelling instrument?

4. Define parallax.

5. What are the types of theodolite?

6. Write short notes on methods of measurement of horizontal angle.

7. What is meant by tangential tacheometry?

8. What is contour gradient?

9. List the various component parts of total station.

10. What are the types of maps?

PART – B

11. (a) Explain about construction of prismatic compass with neat diagram.

(Or)

    (b) The following bearings were observed in a closed traverse. Compute the interior angles of the traverse. Apply usual check.

Line	FB	BB
AB	107°15'	287°15'
BC	22°00'	202°00'
CD	281°30'	101°30'
DE	189°15'	9°15'
EA	124°45'	304°45'

[Turn over.....

12. (a) Describe principles of levelling. Write the procedure adopted in simple levelling.

(Or)

(b) The following consecutive readings were taken with a levelling instrument at intervals of 20m. The readings are 2.375, 1.730, 0.615, 3.450, 2.835, 2.070, 1.835, 0.985, 0.435, 1.630, 2.255 and 3.630m. The instrument was shifted after the fourth and eighth readings. The first reading was taken on a BM of RL 110.200m. Find the RLs of all the points.

13. (a) Explain about field checks in closed traverse.

(Or)

(b) The following are the lengths and bearings of the lines of a closed traverse ABCD. The length and bearing of DA have been omitted. Calculate the length and bearing of the line DA.

Line	Length(m)	Bearing
AB	75.50	30°24'
BC	180.50	110°36'
CD	60.25	210°30'
DA	–	–

14. (a) Derive the expressions to find the horizontal distance and elevation by the fixed hair stadia tacheometry with a line of sight is inclined with staff held vertical.

(Or)

(b) Explain the methods of contouring.

15. (a) Explain the field procedure for co-ordinate measurements.

(Or)

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