TED (15/19) – 2011
(Revision – 2015/19)

A24-1509

Reg.No……..
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DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/ COMMERCIAL PRACTICE, APRIL – 2024

SURVEYING - I

[Maximum Marks : 100] [Time : 3 hours]

PART – A
(Maximum Marks : 10)

Marks

I. Answer **all** questions in one or two sentences. Each question carries 2 marks.

1. Define orientation in plane tabling.
2. Differentiate true meridian and magnetic meridian.
3. List the types of leveling staffs.
4. Write the methods in reduction of levels.
5. Define interpolation of contour. (5x2=10)

PART – B
(Maximum Marks : 30)

II. Answer any **five** of the following questions. Each question carries 6 marks.

1. Write the points to be kept in view while booking field notes in chain survey.
2. Explain the method of stepping on slopping ground.
3. Distinguish between whole circle bearing and reduced bearing.
4. Explain the term local attraction and how it can be detected.
5. Distinguish between arbitrary bench mark and temporary bench mark.
6. List the sources of errors in leveling.
7. Write short notes on:
   (a) Profile leveling. (b) Cross sectioning (5x6=30)

PART – C
(Maximum Marks : 60)
(Answer **one full** question from each unit. Each full question carries 15 marks)

UNIT – I

III. (a) Explain various methods to overcome obstacles in chaining. (8)

(b) Explain the method of intersection in plane tabling. (7)

OR

IV. (a) Explain how the selections of stations are done in chain survey. (8)

(b) Explain the methods of orientation in plane tabling. (7)

UNIT – II

V. (a) Explain dip and declination. (7)

(b) The following are the observed fore bearing and back bearing of a closed compass traverse ABC. Calculate the included angles A, B and C.

Line	J.B	B.B
AB	40°	220°
BC	110°	290°
CA	275°	95°

(8)

OR

VI. (a) Explain the procedure for plotting compass traverse. (7)

(b) What is meant by closing error in closed compass survey? Explain how closing error is adjusted or eliminated. (8)

UNIT –III

VII. (a) State the two systems off reduction of levels. Compare their merits and demerits. (7)

(b) The following consecutive reading were taken with a dumpy level and a 4m leveling staff on a continuously sloping ground at 30m intervals.

0.680	1.455	1.855	2.330	2.885	3.380
1.055	1.860	2.265	3.540	0.835	0.94
1.530	2.250				

The R.L of starting point was 80.75. Prepare a level field book and carry out reduction by height of collimation method. Determine the gradient of the line joining first and last point. (8)

OR

VIII. (a) Define datum, explain different types of Bench Marks. (7)

(b) The following consecutive readings were taken with a dumpy levels and 4m leveling staff on a continuously sloping ground. The first reading was taken on BM of RL + 400.000m

3.555, 2.225, 1.830, 0.675, 3.445, 2.885, 1.635, 1.115, 0.775, 3.775, 2.935

Enter the readings in a tabular form and calculate the reduced levels and apply usual checks. (8)

UNIT – IV

IX. (a) Explain the methods of interpolation of contour. (8)

(b) Find the distance to the visible horizon from the top of a light house 40 m high. What is the dip of the horizon; assume the radius of the earth to be 6371km? (7)

OR

X. (a) Explain the characteristics of contour lines. (8)

(b) Explain the method to find the capacity of reservoir from contour map. (7)

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