

TED (10)-3002

Reg. No.....

(REVISION-2010)

Signature

SECOND SEMESTER DIPLOMA EXAMINATION IN ENGINEERING/
TECHNOLOGY—OCTOBER, 2011

SURVEYING—I

(Common for CE, AR, QS, WR, EM)

[Time: 3 hours

(Maximum marks : 100)

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PART—A

Marks

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

1. Which instrument is used to centering the plane table over a point, occupied by the plane table, when the plotted position of that point is already known ?
2. Name the tape which is made of varnished strip of water proof linen interwoven with small brass, copper or bronze wires.
3. The whole circle bearing system also known as.
4. What is the purpose of levelling ?
5. What are the various methods of locating contours ?

(5x2=10)

PART—B

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

1. Describe the method, how will you continue chaining past of a pond.
2. What are the different sources of errors in plane tabling ?
3. Explain the different types of variation in declination.
4. Write situations when compass survey can be preferred over chain survey.
5. R.L of a factory floor is 100.000 m. staff reading on floor is 1.385 m. and staff reading when staff is held inverted with bottom touching the tie beam of the roof truss is 3.645. Find the height of the tie beam above the floor.
6. Describe in detail how you would proceed in the field for profile levelling.
7. Explain in detail how you would locate a grade contour in the field.

(5x6=30)

PART—C

(Answer *one* full question from each unit. Each question carries 15 marks)

UNIT - I

- III (a) Explain with neat diagrams the construction and working of the optical square. 8
- (b) Set out clearly the precautions a surveyor should observe in booking the field work of a chain survey. 7

OR

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[P.T.O.]

- IV (a) Explain various methods for determining the width of a river. Marks
8
 (b) Describe briefly the use of various accessories of plane table. 7

UNIT - II

- V (a) Derive rules to calculate reduced bearing from whole circle bearing for all the quadrants. 8
 (b) The following bearings were observed with compass :

AB	74°0'	BA	254°0'
BC	91°0'	CB	271°0'
CD	166°0'	DC	343°0'
DE	177°0'	ED	0°0'
EA	189°0'	AE	9°0'

Where do you suspect the local attraction ? Find the correct bearings. 7

OR

- VI (a) What is back bearing and what are the advantages of observing it in traverse ? 5
 (b) The following are the bearings were observed in traversing with compass in place, where local attraction was suspected :

Line	F.B.	B.B
AB	38°30'	210°15'
BC	100°45'	278°30'
CD	25°45'	207°15'
DE	325°15'	145°15'

Find the corrected fore and back bearings and the true bearing of each of the lines given that the magnetic declination was 10°W. 10

UNIT - III

- VII A page of a level book was defaced so that the only legible figures were
 (a) Consecutive entries in the column of reduced levels : 55.565 (B.M), 54.985 (CP), 55.170, 56.265, 53.670, 53.940 (C.P), 52.180, 52.015, 51.480 (CP), 53.145, 54.065.
 (b) Entries in the back sight column : 1.545, 2.310, 0.105, 3.360 in order from the top of the page.
 Reconstruct the page as booked and check your work. 15

OR

- VIII (a) Draw the neat sketch of dumpy level and mark the various parts in it. 8
 (b) Find the correction for curvature and for refraction for a distance of
 (i) 1200 metres (ii) 2.48 km. 7

UNIT - IV

- IX (a) Explain with sketches the use of contour maps. 8
 (b) The line of collimation of telescope not parallel to the axis of the bubble tube in a dumpy level. Explain the procedure to bring the line of collimation of telescope parallel to the axis of the bubble tube. 7

OR

- X Explain in detail how you would prepare longitudinal and cross sectioning drawing from field notes. 15