

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/
MANAGEMENT/COMMERCIAL PRACTICE — OCTOBER, 2017

SURVEYING - I

[Time : 3 hours

(Maximum marks : 100)

PART — A

(Maximum marks : 10)

Marks

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

1. Differentiate between Plane surveying and Geodetic surveying.
2. What are the temporary adjustments to be done while setting plane table over a station point ?
3. What is Isogonic lines ?
4. Differentiate between fore sight and back sight in levelling.
5. Name the vertical distance between any two consecutive contours.

(5 × 2 = 10)

PART — B

(Maximum marks : 30)

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

1. Explain the procedure for chaining along a sloping ground.
2. What are the points to be considered while selecting survey stations ?
3. What is ranging and explain the different types of ranging ?
4. Find the back bearing of the given lines from the following fore bearings.

<i>Line</i>	<i>Magnetic bearing</i>
PQ	56°21'
QS	S28°45'E
BC	S30°50'W

5. Differentiate between profile levelling and cross sectioning.
6. Differentiate between Countour and Countour Interval.
7. Define reciprocal levelling and explain the procedure for reciprocal levelling.

(5 × 6 = 30)

PART — C

(Maximum marks : 60)

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

UNIT — I

III (a) What are the primary classifications of surveying ? 7

(b) Explain the method of Intersection in Plane Table Surveying. 8

OR

IV (a) The distance between two points measured with a 30m chain was recorded as 648m. Afterwards found that the chain was 60mm short. Find the distance between the points. 7

(b) What is local attraction and explain briefly. How this can be detected and eliminated ? 8

UNIT — II

V Below are the bearings observed in traversing with a compass. Compute the interior angles. Also apply the check.

<i>Line</i>	<i>Forebearing</i>
AB	60°30'
BC	122°0'
CD	46°0'
DE	205°30'
EA	300°0'

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OR

VI (a) Differentiate between Prismatic compass and Surveyors compass. 7

(b) Explain the advantages and disadvantages of Plane Table Surveying. 8

UNIT — III

VII (a) Explain the temporary adjustments of a level. 7

(b) Explain the methods of booking and reducing the elevation of points from the observed staff readings. And also compare the two methods. 8

OR

- VIII It required to ascertain the elevation of two points P and Q and a line of levels was run from P to Q. The levelling then continued to a benchmark of 83.500. The readings obtained as shown below. Obtain the R.L. of P and Q.

<i>B.S</i>	<i>IS</i>	<i>F.S</i>	<i>R.L</i>	<i>Remarks</i>
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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UNIT — IV

- IX (a) What are the characteristics of contours ? 7
 (b) Explain about the different types of errors in levelling. 8

OR

- X The following observations were made in a reciprocal levelling.

<i>Inst at</i>	<i>Staff readings on</i>		<i>Remarks</i>
	P	Q	
P	1.824	2.748	Distance between P and Q = 1010m
Q	0.928	1.606	R of P = 126.386

Find (i) the R.L. of Q.

- (ii) The Combined correction for curvature and refraction.

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