



c09-c-105

3015

BOARD DIPLOMA EXAMINATION, (C-09)

OCT/NOV—2017

DCE—FIRST YEAR EXAMINATION

SURVEYING—I

Time : 3 hours]

[Total Marks : 80

PART—A

3×10=30

Instructions : (1) Answer **all** questions.
(2) Each question carries **three** marks.
(3) Answers should be brief and straight to the point and shall not exceed *five* simple sentences.

1. Write two fundamental principles of surveying.
2. State the duties of surveyor and assistant surveyor.
3. Define ranging. State the methods of ranging.
4. Distinguish between main survey station and subsidiary survey station.
5. Define the terms (a) 'meridian', (b) 'bearing' and (c) 'dip'.
6. What is meant by local attraction? How do you detect?
7. Briefly explain about reciprocal levelling with neat sketch.

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[*Contd...*

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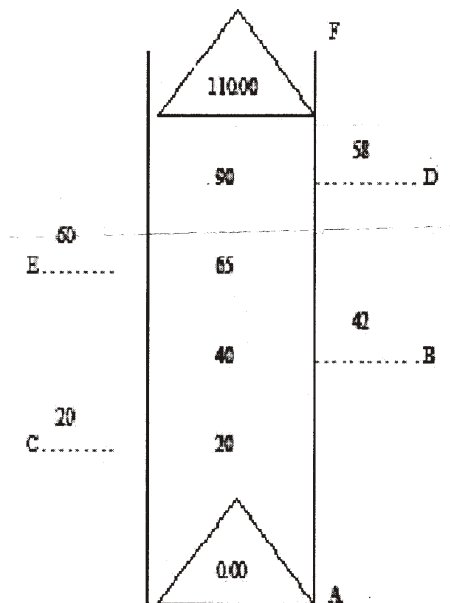
8. Define the ^{*}bench mark and state the types of bench marks.
9. Define (a) horizontal equivalent, (b) contour interval and (c) contour gradient.
10. List any three uses of Abney level.

PART—B

10×5=50

- Instructions :** (1) Answer *any five* questions.
 (2) Each question carries **ten** marks.
 (3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

11. A page of the field book of a cross-staff surveying is given below.
 Plot the required fig. and calculate the total area of the field :



All dimensions are in metres

12. (a) Explain briefly the reciprocal ranging with neat sketch.
 (b) The area of the field measured with 20 m chain was found to be 24029 m². Find the true area if the chain was found to be 10 cm short.

13. Explain with neat diagram the adjustment of closing error by graphical method and Bowditch's rule.
14. Draw a neat sketch of prismatic compass and label the components.
15. The line of sight from two stations *A* and *B* just grazes the sea level. If the height of *A* and *B* above sea level are 100 m and 150 m respectively, find the distance *AB* (diameter of earth = 12880 km).
16. Following is the page of an old level field book entered with pencil. Some of the entries got erased, and have been marked with crosses :

Station	BS	IS	FS	Rise	Fall	RL	Remarks
1	2.150					450.00	BM 1
2	1.645			0.500			
3		2.345					
4			1.965				
5	2.050		1.825		0.400		
6						451.730	BM 2 staff held against ceiling
7	-1.690			0.120			
8			2.100				
9						499.100	BM 3
	8.445						

Find the missing entries.

17. Briefly explain the procedure of temporary adjustment of dumpy level.
18. Describe the method of determining the area of the plan by using electronic planimeter.
