

**3015**  
**BOARD DIPLOMA EXAMINATION, (C-09)**  
**MARCH/APRIL - 2019**  
**\* DIPLOMA IN CIVIL ENGINEERING**  
**SURVEYING-I**  
**FIRST YEAR EXAMINATION**

**Time: 3 Hours**

**Total Marks: 80**

**PART - A (10 x 3 = 30 Marks)**

*Note 1: Answer all questions and each question carries 3 marks*

*2: Answers should be brief and straight to the point and shall not exceed 5 simple sentences*

1. State and explain the primary divisions of surveying.
2. List precaution to be taken while entering the field book.
3. Name the six instruments used in chain surveying.
4. Rule out a sample page of a field book in chain surveying.
5. Find the true bearing of the line with the following observed magnetic bearings and declinations.
  - 1) Magnetic bearing =  $135^{\circ} 30'$
  - 2) Declination =  $5^{\circ} 15' W$
6. Name six instrumental errors in compass surveying.
7. How do you carry out alignment of canals with the help of contour maps.
8. Define the terms
  - (a) Back sight (b) Fore sight (c) Intermediate sight
9. If a leveling staff is placed at a distance of 800m from the instrument find.
  - a) correction for curvature (Cc) b) correction for refraction (Cr).
10. State the applications and uses of electronic planimeter?

**PART - B (5 x 10 = 50 Marks)**

*Note 1: Answer any five questions and each question carries 10 marks*

*2: The answers should be comprehensive and the criteria for valuation is the content but not the length of the answer*

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11. a) Explain with neat sketch the procedure of setting out right angles with cross staff.  
 b) List out different types of obstacles in chain surveying?
  12. Describe briefly the various types of obstacles in chain surveying by giving examples with neat sketches.
  13. a) Define Fore Bearing and Back Bearing and State the relation between them.  
 b) What is the difference between WCB system and QB/RB system?  
 c) The true bearing of a line AB is  $125^{\circ} 30'$  and the magnetic declination is  $10^{\circ} 45' W$ .  
 Find the magnetic bearing of AB.
  14. a) Define a) True meridian. b) Dip c) Reduced Bearing  
 b) Briefly explain the functions of any five parts of prismatic compass?
  15. Describe various methods of contouring and state merits and demerits.

16. The following staff readings were observed successively with a dumpy level and leveling staff. The instrument was shifted after second & fifth readings 0.675, 1.230, 0.750, 2.565, 2.225, 1.935, 1.835, 3.220. The first staff reading was taken with staff held on a B.M. of R.L. of 125.325m. Enter the readings in the level book compute the RLs by HI method. Apply the check.
17. a) Explain the fundamental lines of dumpy level?  
b) State the relations between the fundamental lines?
18. Describe the method of determining the area of the plan by using electronic planimeter?

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