

SECTION-B

2. Explain Indirect Ranging with various steps.
3. The F.B and B.B. of a line AB were observed to be $245^{\circ}30'$ and $65^{\circ}45'$. It is known that station A is free of local attraction. The declination at the place was found to be $3^{\circ}15'$ W. Find the true bearing of line BA.
4. What do you mean by Designation of Curve? What are its different methods, explain?
5. The following readings were taken in sequence during a leveling work :

1.585, 1.315, 2.305, 1.225, 1.325, 1.065, 1.815 and 2.325. The level was shifted after the 3rd and 6th readings. The 2nd change point was a bench mark of elevation 186.975. Find the RLs of the remaining stations. Use the Rise and Fall method.
6. Why is balancing of back sight and foresight necessary? Explain with a neat sketch.

SECTION-C

7. Write the comparison between Surveying Compass and Prismatic Compass.
8. What is an anallactic lens? In which telescope is it used? What is the condition under which the additive constant is zero with an anallactic lens? Also, calculate the stadia interval when, the readings on a staff held vertically 60 m from a tachometer were 1.460 and 2.055. The line of sight was horizontal. The focal length of the objective lens was 24 cm and the distance from the objective lens to the vertical axis was 15 cm.
9. Explain Gales Traverse table with respect to theodolite in detail.

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