

**002303**

**December 2023**

**B. Tech. (Civil/ENV) III SEMESTER**

**Surveying (PCC-CED202)**

Time : 3 Hours]

[Max. Marks : 75

*Instructions :*

1. *It is compulsory to answer all the questions (1.5 marks each) of Part-A in short.*
2. *Answer any four questions from Part-B in detail.*
3. *Different sub-parts of a question are to be attempted adjacent to each other.*

**PART-A**

1. (a) Define Plane and Geodetic Surveying. (1.5)
- (b) What is the principle for leveling? (1.5)
- (c) What do you understand by bearing? (1.5)
- (d) What is difference between Temporary and permanent adjustments? (1.5)
- (e) Name the equipment's used for the Automatic leveling. (1.5)
- (f) Define triangulation fieldwork. (1.5)
- (g) What is the principle for traversing? (1.5)

- (h) Name the equipment's used for the plane table surveying. (1.5)
- (i) What do you understand by transition curve? (1.5)
- (j) What is simple curve? (1.5)

**PART-B**

- 2. (a) Explain the concept of errors in surveying. Discuss the different types of errors and how they can be minimized. (10)
- (b) List and briefly explain the principles of surveying. (5)
- 3. (a) Differentiate auto level and direct level. (5)
- (b) Explain the use of an automatic level in surveying. Discuss its advantages and disadvantages. (10)
- 4. (a) Discuss the process of measuring horizontal and vertical angles in surveying. Why are these measurements important? (10)
- (b) Define Simpson's and Trapezoidal rules with their formulation. (5)
- 5. (a) Explain the different types of tachometric measurements. (5)
- (b) Discuss the concept of contouring in surveying. Explain its methods and uses. (10)

- 6. (a) What is resection by three-point problem in plane table surveying? (10)
- (b) Discuss the principles of traversing by compass and theodolite in surveying. (5)
- 7. Explain the theory and methods of setting out simple circular curves in surveying. Discuss its importance. (15)