

Roll No. \_\_\_\_\_

1E3109

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**B. Tech. I - Sem. (Main / Back) Exam., - 2025**  
**1FY3-09 Basic Civil Engineering**

Time: 3 Hours

Maximum Marks: 70

*Instructions to Candidates:*

*Attempt all ten questions from Part A, five questions out of seven questions from Part B and three questions out of five from Part C.*

*Schematic diagrams must be shown wherever necessary. Any data you feel missing may suitably be assumed and stated clearly. Units of quantities used /calculated must be stated clearly.*

*Use of following supporting material is permitted during examination.  
 (Mentioned in form No. 205)*

1. NIL2. NIL**PART - A****[10×2=20]****(Answer should be given up to 25 words only)****All questions are compulsory**

- Q.1 What are the various types of building plans?
- Q.2 Define bearing capacity of soil.
- Q.3 "Orientation is an essential step while planning a building". Comment.
- Q.4 Define plinth area, floor area and carpet area.
- Q.5 Explain the fundamental principles of surveying.
- Q.6 What are the advantages of 'total station'?

- Q.7 What do you mean by 'Ozone layer depletion'?
- Q.8 Describe different kinds of chains used for linear measurements.
- Q.9 Define Building Byelaws.
- Q.10 What are the various modes of transportation?

[5×4=20]

### **PART – B**

**(Analytical/Problem solving questions)**

**Attempt any five questions**

- Q.1 Draw any five traffic signs and explain the meaning of each in detail.
- Q.2 What are the various components of building? Explain in detail using neat and clean diagram.
- Q.3 Discuss in brief various sources of water.
- Q.4 Explain in brief various methods of disinfection.
- Q.5 What are the sources of errors in compass survey and what precautions will you take to eliminate them?
- Q.6 Describe the 'height of instrument' and 'rise and fall' methods of computing the levels.
- Q.7 Write a note on wastewater treatment system.

[3×10=30]

### **PART – C**

**(Descriptive/Analytical/Problem Solving/Design Questions)**

**Attempt any three questions**

- Q.1 Explain the hydrological cycle and the ill effects of environmental pollution on the hydrological cycle.
- Q.2 Describe with a neat sketch various components of a residential building and their functions.

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Q.3 Describe in detail how you would proceed in the field for -

- (i) Profile levelling
- (ii) Cross – Sectioning

Q.4 Write short notes on the following –

- (a) Screening
- (b) Sedimentation
- (c) Filtration
- (d) Unit operation

Q.5 The following are bearings taken on a closed compass traverse –

Side	Fore bearing	Back bearing
AB	80° 10'	259° 0'
BC	120° 20'	310° 50'
CD	170° 50'	350° 50'
DE	230° 10'	49° 30'
EA	310° 20'	130° 15'

Compute the interior angles and correct them for observational errors.

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