1E3109

Roll No. _____

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1E3109

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. NIL

2. 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.

PART – C

[3×10=30]

(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.

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.
