

1E3109

Roll No. _____

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**B.Tech. I Sem. (Main) Examination, April/May - 2022
1FY3-09 Basic Civil Engineering**

Time : 3 Hours**Maximum Marks : 70****Instructions to Candidates:**

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

Schematic diagram must be shown wherever necessary. Any data you feel missing 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)*

PART - A

(Answers should be given up to 25 words only)

All questions are compulsory.**(10×2=20)**

1. What is the role of Civil Engineers in Transportation Engineering?
2. Explain relevance of Civil Engineering in the overall infrastructural development of the country.
3. Write any two characteristics of good scale.
4. What do you mean by 'Geodetic Surveying'?
5. What are the advantages of 'total station'?
6. A teacher wants to construct a double storied bungalow on a plot of 15m×20m. Front margin is 4.5 m. Rear margin is 3m. what will be the total built - up area? Also calculate FSI.
7. What is National Building Code?
8. What remedial actions should be taken while designing highway to avoid crash?
9. What do you mean by 'Ozone Depletion'?
10. What is the necessity of grit chamber in sewage treatment?

PART - B

(Analytical/Problem solving questions)

Attempt any five questions:

(5×4=20)

1. Enlist with brief description, the corrections to be applied to measurements made with steel tape.
2. Describe the characteristics of contour lines.
3. What is site plan? Which are the information to be included in a site plan?
4. Briefly explain the different components of building with neat figure.
5. Draw any five traffic signs and explain the meaning of each.
6. Explain different audiological, physiological and psychological effects of noise pollution.
7. Write short note on 'Sanitary Landfills'.

PART - C

(Descriptive/Analytical/Problem solving/Design Questions)

Attempt any three questions.

(3×10=30)

1. a) Draw and label the different parts of 'Dumpy Level'.
b) Define the following terms:
 - i) Axis of the telescope.
 - ii) Change point
 - iii) Parallax.
 - iv) Datum.
 - v) Height of instrument.
2. The bearings of the sides of a traverse ABCDE are as follows:

Side	Fore bearing	Back bearing
AB	107°15'	287°15'
BC	22°0'	202°0'
CD	281°30'	101°30'
DE	189°15'	9°15'
EA	124°45'	304°45'

Compute the interior angles of the traverse. Draw the sketch. Check the answer.

3. Differentiate between
- i) Load bearing structure and Framed structure. (4)
 - ii) Educational buildings and institutional buildings. (3)
 - iii) Sub-structure and super structure. (3)
4. Discuss in details the various modes of transport, their characteristics and criteria for choice of a particular mode of transport.
5. a) How is ecological balance disturbed due to human activities? (4)
- b) Write short note on
- i) Nitrogen cycle
 - ii) Rain water harvesting. (6)
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