Total No. of Questions :8]

SEAT No. :

P4022

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F.E.

BASIC CIVIL AND ENVIRONMENTAL ENGINEERING

(2015 Pattern) (Semester - II)

Time : 2 Hours] *[Max. Marks :50*

Instructions to the candidates:

1) ***Neat diagram must be drawn wherever necessary.***
2) ***Figure to the right indicates full marks.***
3) ***Assume suitable data wherever necessary.***
4) ***Use of electronic pocket calculator is allowed (non-programmable).***

Q1) a) Define surveying, write down classification of surveying and its two applications. **[4]**

b) What is meant by Pre-Stressed Concrete (PSC)? Briefly explain with labelled proportionate sketch. State two primary types of PSC. **[4]**

c) Differentiate between Roadways and Railways. Support your answer with minimum 04 points. **[4]**

OR

Q2) a) Explain the importance of Quantity surveying. Support your answer with minimum 04 points. **[4]**

b) Briefly explain four tests for ascertaining quality of brick on the site. **[4]**

c) State whether following statements are 'True' or False', giving appropriate reasoning for your answer: **[4]**

i) 43 Grade Cement means a cement with minimum tensile strength of 43 N/mm^2,

ii) Compaction of concrete is an important step to avoid honey combing.

P.T.O.

Q3) a) Describe and draw the level field book, and explain how the field notes are booked. How is the accuracy of the reduction of levels checked? **[6]**

b) Explain Matrix method of carrying out EIA. **[3]**

c) Define Reduced level and what are the methods of reduction of levels? Explain in brief. **[3]**

OR

Q4) a) Explain in brief recycling, reuse and recovery as E waste management option. **[3]**

b) Define surveying. Explain in brief the principal of working from whole to part. **[3]**

c) During fly levelling work, the staff reading were obtained at a regular interval of 25 mts. The readings were as under: B. S. - 0.545, 0.995, 2.705, 2.350. F.S. - 1.670, 1,350, 2.125, 3.450. The work was started from a point whose R.L. was known to be 250.000m. Enter the readings for Rise and Fall method to determine the R.L.'s of all stations. Also find the nature and magnitude of gradient. Apply usual checks. **[6]**

Q5) a) A plot owner has purchased a rectangular plot whose perimeter is 140 m and breadth is 30 m. He wants to construct a G + 1 storeyed bungalow. If permissible FSI is 1.2 calculate the possible construction on ground as well as 1st floor. Take front margin as 3 m and all other margins as 2m, with small side facing the road. **[7]**

b) "Sanitation is the important principle of planning" comment in detail on this statement, with neat sketch. **[6]**

OR

Q6) a) A plot having size of 35 m x 40 m. It is proposed to construct a G + 2 storeyed building with 600 sq m built up area on each ground and 1st floor. If permissible FSI is 1.2, how much is the permissible built up area on 2nd floor?

For the above plot, if all margines are 2m each, find maximum ground coverage. **[6]**

b) Enlist 10 principles of planning. Explain any 01 in brief. **[7]**

Q7) a) Explain in brief any 03 sources of noise and 03 effects of noise. **[6]**

b) Defien air pollution. Explain in brief any 02 effects of air pollution. **[3]**

c) Explain in brief: what is air pollution. Explain in brief any 03 effects of air pollution. **[4]**

OR

Q8) a) Explain in brief urbanization as reason for environmental pollution. **[3]**

b) Write short notes on: **[6]**

- Acid Rain
- Ozone Depletion

c) Explain with suitable examples conventional & non conventional energy sources in brief. **[4]**