Total No. of Questions : 8]

SEAT No. :

P4359

[Total No. of Pages : 2

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F.E. (All Branches) (Semester - I)

BASIC CIVIL AND ENVIRONMENTAL ENGINEERING

(2015 Pattern)

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

Instructions to the candidates:

1) ***Answer Q.1 or Q.2, Q.3 or Q.4 , Q.5 or Q.6, Q.7 or Q.8.***
2) ***Neat sketches must be drawn wherever necessary.***
3) ***Figures to the right indicate full marks.***
4) ***Assume suitable data, if necessary.***
5) ***Use of electronic pocket calculator is allowed in the examination.***
6) ***Use of cell phone is prohibited in the examination hall.***

Q1) a) Differentiate between Plane and Geodetic Surveying with respect to any four points. **[4]**

b) What is settlement? Enlist its types and explain any one with a sketch. **[4]**

c) Explain importance of Quantity surveying with minimum four points. **[4]**

OR

Q2) a) State any two applications of each branch: Irrigation Engineering; Surveying. **[4]**

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

c) What is pile foundation? Explain any one pile foundation type with sketch? **[4]**

Q3) a) Explain the term EIA? Explain any one method of EIA with sketch if applicable. **[5]**

b) Following readings were taken on 4m levelling staff at 25m interval. The readings were: BS = 1.225, 1.015, 2.155, 3.200; FS = 2.395, 2.885, 1.965, 3.500. The work was started from a point whose R.L. was 255.000m. Enter the readings for H.I. method and determine R.L.s of all the stations. Also find the gradient of the line joining first and last staff stations. Apply usual arithmetic check. **[7]**

OR

P.T.O.

Q4) a) What is Bench Mark? What are its types? Explain any two types in detail. **[7]**

b) Explain the role of Civil Engineers towards achieving sustainable development. **[5]**

Q5) a) Explain the principles of building planning with sketch: "Roominess"and "Privacy". **[8]**

b) What is Air plane rule? Explain with sketch. **[5]**

OR

Q6) a) A owner wants to construct three storeyed building on a plot size 30 m × 30 m. The Built up area on Ground floor is 400 Sq. m. and First Floor is 350 Sq.m. How much area can be constructed on second floor if the permissible FSI is 1.2. **[7]**

b) Explain in brief the following: **[6]**

i) Floor Space Index (FSI)

ii) Set back distances

iii) Carpet Area

Q7) a) What is Land Pollution? Give any three sources of Land Pollution. **[4]**

b) Explain with suitable examples conventional and non-conventional energy sources with respect to any four points. **[4]**

c) Write short note on sources and preventive measure for water pollution. Any two point. **[5]**

OR

Q8) a) Write a short note explaining working principle of Biogas plant with a neat sketch. **[7]**

b) Write a short note on "Need of Harnessing Energy Sources". [with 6 points] **[6]**

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