Total No. of Questions : 8]

SEAT No. :

P545

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F.E. (Common) (Semester - I & II)

BASIC CIVIL AND ENVIRONMENTAL ENGINEERING

(2012 Course)

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

Instructions to the candidates:

1) ***Attempt Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.***

2) ***Figures to the right indicate full marks.***

Q1) a) Explain in brief the role of civil engineer in a construction of Hydropower station. **[4]**

b) State comparison between load bearing structures and framed Structure. **[4]**

c) State any four practical application of quantity Surveying and Estimation. **[4]**

OR

Q2) a) Define Fluid. State various types of fluids. Explain the importance of fluid mechanics. **[1 + 1 + 2 = 4]**

b) Explain in brief the following: **[2 + 2 = 4]**

i) Prestressed Concrete.

ii) Qualities of First class bricks.

c) Define foundation. State any four functions of foundation. **[4]**

Q3) a) The following consecutive readings were taken with a level and 4m staff on a continuously sloping ground at common interval of 30m. **[8]**

0.905. (onA), 1.745, 2.345, 3.125, 3.725, 0.545,

1.390, 2.055, 2.955, 3.455 (on B). The R.L. of 'A'

was 395.500m. Calculate the R.L's of different points and the find the gradient of line AB. Use Rise & Fall Method.

b) Explain in brief Biotic and Abiotic components of Ecosystem. **[2 + 2 = 4]**

OR

Q4) a) Explain in brief the components of Grassland Ecosystem. **[4]**

P.T.O.

b) Explain in brief the following: **[2 + 2 = 4]**
   i) Hydrological Cycle.
   ii) E-waste.

c) State any four characteristics of contour lines. (Draw a neat sketches to justify your answer). **[4]**

Q5) a) State the various points/factors to be considered while selecting a site for Industrial Building. **[5]**

b) Define Carpet Area and Built Up Area. Determine the total Carpet of a Two storeyed building from the following: **[4]**
   i) Plot Area = 40m x 25m.
   ii) FSI Allowed = 1.0.
   iii) Ratio of Built up Area to Carpet Area = 0.75.

c) State and explain various Ecofriendly materials used in construction. **[4]**

OR

Q6) a) Explain with a neat sketch the following: **[5]**
   i) Roominess.
   ii) Privacy.

b) State with reason the desirable aspects for the following: **[4]**
   i) Living.
   ii) Toilet Block (W.C.).
   iii) Photo studio.
   iv) Store Room.

c) State and explain various points to be considered while planning & construction of sustainable building. **[4]**

Q7) a) Define Noise. What are the sources of Noise. How noise pollution can be minimized. **[1 + 1 + 3 = 5]**

b) Define Air Pollution. Explain in brief the Primary and Secondary Air Pollutants. **[1 + 2 + 2 = 5]**

c) Explain in brief why are reluctant towards use of Nonconventional energy sources. **[3]**

OR

Q8) a) Write a short note on Solar Energy. **[5]**

b) Explain in brief the sources of Land Pollution. Also state the remedial measures to control land pollution. **[2 + 3 = 5]**

c) Write a short note on Global Warming. **[3]**