

Total No. of Questions : 8]

SEAT No. :

P545

[Total No. of Pages : 2

[4456] - 106

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. (on A), 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]

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- 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]

