[4656] – 104

Seat No.	

F.E. (Semester – I) Examination, 2014
BASIC CIVIL AND ENVIRONMENTAL ENGINEERING
(2012 Pattern)

Time : 2 Hours Max. Marks : 50

Instructions : *1) Answer Q. **1** or Q. **2**, Q. **3** or Q. **4** and Q. **5** or Q. **6**, Q. **7** or Q. **8**.*

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

*3) **Use** of logarithmic tables, slide rule, Mollier charts, electronics pocket calculator and steam tables is **allowed**.*

*4) **Neat** diagrams must be drawn **wherever** necessary.*

*5) Assume **suitable** data if **necessary**.*

1. a) Explain in brief the general role of civil engineer in any construction work. **4**

   b) State comparison between Load Bearing structure and Framed Structure. **4**

   c) State any four Practical Applications of Fluid Mechanics. **(1×4)**

   OR

2. a) Explain in brief the importance of Project Management. **(1×4)**

   b) What is combined footing ? Under what situations it is constructed ? **(1+3)**

   c) Explain in brief the advantages and disadvantages of Pre-stressed Cement Concrete. **(2+2)**

3. a) The following consecutive readings were taken with a level and 4 m leveling staff at a common interval of 30 m. The readings are,

   1.045, 0.865, 1.915, 2.165, 1.435, 0.915, 1.715, 2.165, 3.985

   The level was shifted after Second, Fifth and Seventh reading. The first reading was taken on Permanent Benchmark. The RL of last point was found to be 835.914 m. Calculate the Reduced Levels of remaining Staff stations by Collimation Plane Method. Apply Usual Arithmetic check. **6**

   b) State various natural resources. Explain any one in brief. **3**

   c) What do you mean by EIA ? Why it is necessary ? **(1+2)**

   OR

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4. a) Explain in brief the procedure of determining the area of an irregular figure by Digital Planimeter. **4**

   b) State difference between Plan and Map. Give two suitable examples of each. **(2+2)**

   c) Write a short note Electronic Waste and methods of Disposal of E-Waste. **(2+2)**

5. a) "Privacy is the important principle of planning". Comment on the statement. **5**

   b) Write a short note on Green Building. **4**

   c) Define :

      1) Carpet Area
      2) Built Up Area
      3) FSI
      4) Orientation. **(1×4)**

OR

6. a) A plot owner has purchased a rectangular plot, whose perimeter is 108 m and breadth is 20 m. He wants to construct Ground + One storeyed bungalow. As per Rules Permissible FSI is 1.50, Front Margin is 3 m and all other margins are 2.0 m, calculate the possible construction on Ground Floor and First Floor. **5**

   b) What is Roominess ? How it is achieved during planning of Building ? **(1+3)**

   c) What do you mean by Elegance of building ? What are the various ways of achieving it. **(1+3)**

7. a) Define Noise. State various sources of noise. Also state the ill effects of noise of human health. **(1+1+2)**

   b) State various conventional sources of energy. Explain in brief the need of developing alternative to conventional sources of energy. **(2+3)**

   c) State various Green House gases. What are the ill effects of Green house gases on environment ? **(1+3)**

OR

8. a) Write a short note on Air Pollution. **4**

   b) Explain in brief the mechanism of production of Bio-Gas Energy. **5**

   c) Write a short note on Geothermal Energy. **4**

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