Total No. of Questions—**8**] [Total No. of Printed Pages—**4**

Seat No.	

[4756]-104

F.E. (First Semester) EXAMINATION, 2015

BASIC CIVIL AND ENVIRONMENTAL ENGINEERING

(2012 PATTERN)

Time : Two Hours **Maximum Marks : 50**

N.B. **:—** (*i*) Answer Q. No. **1** *or* Q. No. **2**, Q. No. **3** *or* Q. No. **4** and Q. No. **5** *or* Q. No. **6** and Q. No. **7** *or* Q. No. **8**.

(*ii*) Figures to the right indicate full marks.

(*iii*) Use of logarithmic tables, slide rule, Mollier charts, electronic pocket calculator and steam tables is allowed.

(*iv*) Neat diagrams must be drawn wherever necessary.

(*v*) Assume suitable data, if necessary.

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

(*b*) State comparison between first class bricks and second class bricks. [4]

(*c*) Discuss in brief the practical applications of Transportation engineering. [4]

P.T.O.

Or

2. (*a*) Explain in brief the importance of construction management. [4]

(*b*) With the help of a neat sketch differentiate between uniform settlement and differential settlement. [4]

(*c*) Comment on a statement "Use of Recycle construction materials is the need of the time". [4]

3. (*a*) The following consecutive readings were taken with a level and 4 m levelling staff at a common interval of 30 m. on a sloping ground the readings are 3.250, 2.805, 1.995, 0.655, 3.605, 2.985, 1.535, 0.875, 2.455 and 0.935 the first reading was taken on GTS Bench market of RL 535.745 m. Calculate the reduced levels of remaining staff stations by Rise and Fall method. Apply usual arithmetic check. [5]

(*b*) Write a short note on Hydrological cycle. [3]

(*c*) State various methods of carrying out EIA. Explain any *one* in brief. [4]

Or

4. (*a*) State with a neat sketch any *four* characteristics of contour lines. [4]

(*b*) Explain with a neat sketch basic principle of EDM. [4]

(*c*) Write a short note on solid waste management. [4]

5. (*a*) Comment on statement "Privacy and circulation and complementary to each other". [5]

(*b*) Write a short note on Green building. [4]

(*c*) Explain with a neat sketch of the following : [4]

(1) Aspect

(2) Roominess

Or

6. (*a*) A plot owner wants to construct a bungalow with G+1 floor, on a plot size of 14 m × 19 m. He proposes 150 m^2 construction on each floor. Find the ground coverage and FSI consumed, if the side margin is 2 m for all the sides. As per the rules FAR allowed is 1.0. State with reasons whether the plan will be sanctioned or not ? [5]

(*b*) What is Roominess ? How is it achieved during planning of building ? [4]

(*c*) What is building line ? Why is it necessary ? [4]

7. (*a*) State the advantages and disadvantages of conventional energy sources. [4]

(*b*) State and explain primary and secondary air pollutants. [5]

(*c*) What is land pollution ? What are the various sources of land pollution ? [4]

Or

8. (*a*) Write a short note on Wind energy. [4]

(*b*) Explain in brief the mechanism of production of Biogas energy. [5]

(*c*) Explain with a neat sketch "Green House Effect". [4]