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

Seat No.	

[4956]-106

F.E. (Common) EXAMINATION, 2016

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** Q. No. **7** *or* Q. No. **8**.

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

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

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

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

1. (*a*) Describe in brief the role of civil engineer in installations of heavy machines and equipments. [4]

(*b*) Define foundation. State its functions. [1+3]

(*c*) How you will correlate the importance of Environment Engineering and development activities ? Explain. [4]

Or

2. (*a*) Explain in brief the importance of Earthquake Engineering. What precautionary measures you will suggest in construction of any structure ? 2+2

P.T.O.

(*b*) What is combined footing ? Under what situations it is constructed. [1+3=4]

(*c*) Compare PCC and RCC by considering various points. [1+3]

3. (*a*) The following consecutive readings were taken with a dumpy level and 4 m leveling staff on a sloping ground. The readings are, 0.775, 1.045, 0.545, 1.845, 3.370, 0.935, 1.735, 3.215, 1.165, 2.990 and 3.985. The first readings was taken on permanent Bench mark of RL of 655.775 m. Calculate the reduced levels of staff stations by rise and fall method. Apply usual arithmetic check. [6]

(*b*) Explain the importance of natural resources in day to day life. [3]

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

Or

4. (*a*) How plan area of an irregular plot is measured ? Explain. [4]

(*b*) Compare the plan and map with respect to any four points. [1×4]

(*c*) Enlist various sources of electronic waste. How it affects our environment ? [1+3]

5. (*a*) "Privacy is the important principal of planning". Comment on the statement. [5]

(*b*) Describe different changes which are incorporated to make ordinary building to a Green building. [4]

(c) Explain the importance of circulation as a principle of planning. [4]

Or

6. (a) On a plot of 23 m × 20 m, a building of G + 1 is proposed with a built up area of 350 sq.m on ground and first floor. Wall area is 15% and permissible FSI is 0.8 All margins will be 1.5 m as per bye-laws. Find : [5]

(i) Plinth area of building

(ii) State with reason weather the plant will be sanctioned or not, based on allowable built up area as well as ground coverage.

(b) What is set back distance ? Why it is required ? Also state the prescribed values of setback distance for residential building. [4]

(c) Enlist important factors to be considered for selecting the site for residential building. [4]

7. (a) Highlight sources of increase in noise level and preventive measures to reduce its effects. [4]

(b) State various non conventional sources of energy. Why these sources cannot be an alternative to conventional sources of energy ? [1+4]

(c) State various greenhouse gases. What are the ill effects of these gases on environment ? [1+3]

Or

8. (*a*) Describe various remedial measures to abate land pollution. [4]

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

(*c*) How energy from ocean is extracted ? Explain. [4]