D 50485 (Pages : 2) Name...

Reg. No....................................

SEVENTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION NOVEMBER 2013

ENVIRONMENTAL ENGINEERING—I

(2009 Scheme)

Time : Three Hours Maximum : 70 Marks

Answer all questions.

Part A

Short answer questions.
All questions *are* **compulsory.**
Each question carries 2 marks.

1. What is the necessity of community water supply scheme ?

2. What do you meant by population forecast ?

3. What is meant by tube wells ?

4. Write short notes on corrosion of metal pipes.

5. What are the different types of aeration ?

(5 × 2 = 10 marks)

Part B

Answer any **four** *questions.*
Each question carries 5 marks.

6. Mention and discuss the factors that influence percapita demand.

7. Enlist the factors that affecting consumption of water.

8. Explain briefly on conduits used for transmitting water.

9. Write a notes on maintenance of tube well.

10. What is break-point chlorination and under what conditions it is advocated ?

11. What are the requirements of a good distribution system ?

(4 × 5 = 20 marks)

Turn over

Part C

*Answer **all** questions.*
Each question carries 10 marks.

12. Estimate the future population of a town in 2001 given:

Year	1941	1951	1961	1971	1981
Population (in thousands)	446	994	1560	1623	1839

Justify the method you have used.

Or

What is peak hour demand and how it affect the design of a water supply system ?

13. Enumerate and discuss in brief various physical and chemical characteristics of testing of a raw water supplies.

Or

The diameter of a tubewell is 300 mm and depth of aquifer is 15 m. The radius of circle of influence of the well is 135 m. The co-efficient of permeability of the soil is 30 $m^3/m^2/d$. Calculate the drawdown of the well when the yield is 2000 m^3/d.

14. What are the chemicals which are used as disinfectant ? What are their merits and demerits ?

Or

Design a rapid sand filter for treating 6 million litres per day water supply with all its principal components.

15. Two 150 mm diameter pipes of equal lengths form a loop in a distribution network. Calculate the diameter of an equivalent pipe of the same length to represent the loop (there are no intermediate draw offs).

Or

What are the different materials which are commonly used for water supply pipes ? Discuss their comparative merits and demerits .

$(4 \times 10 = 40$ marks$)$