

Roll No. ....

**2266**

**B. E. 5th Sem. (Civil Engg)  
Examination – December, 2011**

**WATER SUPPLY & TREATMENT**

Paper : CE-305-E

*Time : Three hours ]*

*[ Maximum Marks : 100*

*Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.*

**Note :** Attempt any five questions. Make suitable assumptions if required.

1. (a) What is the importance of public water supply schemes in the present day civil life ?
- (b) What is meant by variations in the rate of demand ? What are the effects of these variations on the design of various units of a water supply scheme ?

5 + 15

2. Enumerate the different methods for estimating the possible future population of a town for which a water Supply scheme is to be planned and explain any two methods of them. 20

3. Write short notes on the following :

- (a) pH value of water
- (b) Hardness
- (c) Water borne diseases
- (d) BOD

4 × 5

4. Describe the construction of a slow sand filter with a neat sketch and explain its operation and cleaning. 20

5. (i) Match the words under "Process" with the corresponding appropriate words under "Impurity removed".

**Process**

**Impurity removed**

- |  |                             |
|--|-----------------------------|
| (1) Aeration                           | (a) Larger suspended solids |
| (2) Screening                          | (b) Dissolved solids        |
| (3) Plain settling                     | (c) Pathogenic microbes     |
| (4) Filtration                         | (d) Colloids and microbes   |
| (5) Disinfection                       | (e) Taste and odour         |
| (6) Zeolite process                    | (f) Fine suspended solids   |
| (7) Settling plus coagulation          | (g) Floating solids         |
| (8) Chemical treatment plus filtration | (h) Hardness                |

(ii) State the advantages and disadvantages of Zeolite process of water softening. 8 + 12

6. Describe C.I. pipes and steel pipes and give their comparison. 20

7. (i) Discuss in brief various methods of water distribution.

(ii) Compare the continuous and intermittent systems of water supply. 10 + 10