Roll No. ☐☐☐☐☐☐☐☐☐☐☐☐☐   Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(CE) (2011 Onwards) (Sem.–5)
ENVIRONMENTAL ENGINEERING–I
Subject Code : BTCE-505
Paper ID : [A2082]

Time : 3 Hrs.   Max. Marks : 60

INSTRUCTION TO CANDIDATES :
1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students has to attempt any FOUR questions..**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

1.   **Answer briefly :**

a) Discuss the factors that influence per capita demand.

b) What is meant by development of wells?

c) What is the upper limit of the dissolved solids in the water?

d) What is meant by economical diameter of rising main?

e) Define chlorination and fluoridation.

f) What is the biological purification mechanism involved in a slow sand Filter?

g) Draw a neat sketch of grid iron system used for the distribution of water supply.

h) Distinguish between expansion joint and flanged joint.

i) Describe the term rain water harvesting.

j) What is the consideration in locating an intake structure in water structures in water supply schemes?

SECTION-B

2.   Describe in detail the variations in demand.

3.   Describe the spring form of underground water and also describe the types of springs.

4.   Define rotary pumps and also describe the advantages and disadvantages of rotary pumps.

5.   Describe the different methods of measurement of PH value.

6.   Discuss the advantages and disadvantages of pressure filters over rapid gravity filters.

SECTION-C

7.   What is a mass curve? How it is prepared and where it is used?

8.   Compute the population of the year 2000 and 2006 for a city whose population in the year 1930 was 25000 and in the year 1970 was 47000. Make use of geometric increase method.

9.   Distinguish clearly between water quality criteria and standards. Critically examine the use of MPN as bacteriological water quality standard.