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BICE-014

B.Tech. CIVIL ENGINEERING (BTCLEVI)

Term-End Examination

BICE-014 : ENVIRONMENTAL ENGINEERING - 1

Time : 3 Hours]

[Maximum marks : 70

Note : Attempt any five questions. All questions carry equal marks. Assume suitable data, if any.

1. Describe the various sources of water supply. Also, list the advantages and disadvantages of each of them. [14]
2. (a) List the various water demands for which a supply scheme is designed. [8]
- (b) What are the reasons for fluctuations in water demand? How are these fluctuations taken care of? [6]
3. (a) Describe the components of a service connection, with the help of neat sketches. [8]
- (b) With the help of a neat sketch, describe the function of drain valve and check valve. [6]

4. Describe the advantages and disadvantages of the different types of layouts of water distribution networks. Also provide neat sketches. [14]
5. (a) Differentiate between : [2×3=6]
- (i) Type I and Type II sedimentation
 - (ii) Flocculent and discrete particles
- (b) With the help of a neat sketch, describe the working of a rectangular sedimentation tank. [8]
6. (a) How does the natural purification of water sources take place ? Explain in detail. [7]
- (b) Describe the Lime-Soda Ash process of water softening. [7]
7. Write short notes on **any four** of the following : [4×3½=14]
- (a) Gravity mains
 - (b) Pumping mains
 - (c) Defluoridation
 - (d) Break-Point chlorination
 - (e) Aeration