PVP 14

Code: CE5T2

III B.Tech - I Semester – Regular/Supplementary Examinations October 2019

ENVIRONMENTAL ENGINEERING - I
(CIVIL ENGINEERING)

Duration: 3 hours Max. Marks: 70

PART – A

Answer ***all*** the questions. All questions carry equal marks

11x 2 = 22 M

1.

a) Define Intake. State the points to be considered in locating and designing of Intakes.
b) List out various factors that affect the rate of water demand.
c) State the classification of impurities.
d) List out any four water borne diseases.
e) Write the objectives of Filtration process in water.
f) State any four methods of Disinfection in water treatment.
g) Compare Lime soda process with Zeolite process for effective removal of hardness.
h) Define Hardy Cross method.
i) What is an equivalent pipe?
j) State the purpose of check valve.
k) Illustrate a two pipe system in plumbing.

PART – B

Answer any ***THREE*** questions. All questions carry equal marks.
3 x 16 = 48 M

2. a) List various types of Intake works. Describe any one Intake with a neat sketch. 8 M

   b) How does Fire demand affect the design of distribution system? Calculate the fire demand of a Town with 10,000 population. 8 M

3. a) Give a brief note about the different tests which are involved in analysis of water. 6 M

   b) Design a sedimentation tank for a water work, which supplies $3.4X10^6$ liter/day water to the town, the sedimentation period is about 21,600 seconds, the velocity of flow is 10cm/ minute, the depth of water tank is about 5m. Assuming an allowance for sludge is to be 100cm. 10 M

4. a) Give a brief note on Rapid Sand Filters with a neat sketch. 8 M

   b) Discuss the Vertical Pressure Filter with the help of neat sketch. 8 M

5. a) Describe the methods used for removing the hardness in the water. 8 M

b) State and explain the various layouts of Water distribution system with the help of neat sketches. 8 M

6. a) What are Sluice valve and Air valve? Explain their working in detail. 8 M

b) Explain different Plumbing systems of drainage. 8 M