PVP 14

Code: CE5T2

III B.Tech - I Semester – Regular/Supplementary Examinations
October 2018

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) List the different sources of water.
   b) List the different pipe materials used in water supply system.
   c) List out the forces balanced in deriving Stokes law.
   d) Define detention period in a sedimentation tank.
   e) Differentiate between residual chlorine and chlorine demand.
   f) State the purpose of providing wash water troughs in rapid sand filter.
   g) Name the instruments or equipments available for determining turbidity of raw water.
   h) Define the term defluoridation.
   i) Define an equivalent pipe in water distribution system.
   j) State the purpose of an air 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) Discuss the methods for estimation of population Forecast. 8 M

   b) Describe the principle, working and application of any two pumps used in water supply. 8 M

3. a) Differentiate between plain sedimentation and sedimentation with coagulation. Describe the mechanism of coagulation. 8 M

   b) What are the different water borne diseases and explain the causes and solutions. 8 M

4. a) Illustrate the working of a rapid sand gravity filter. 8 M

   b) Analyze the importance of break point chlorination in water. 8 M

5. a) Differentiate between Ion exchange process and Lime soda process in water softening. 8 M

   b) Describe the various layouts of water distribution systems. 8 M

6. a) Describe the various sanitary fittings provided in a house. 8 M

b) Differentiate between 8 M
i) check valve and sluice valve
ii) a single stack and one-pipe system of plumbing.