Session: 2021-22
B. Tech 4thYear (VIIth Semester)
Subject: (7AG6) Environmental Engineering and Disaster Management

Instructions

1) Use A4 size plain paper and Cobra file.
2) Draw all sketch using pencil.

Last date of submission: - 25-11-2021

Assignment: -01

Q1. Discuss the importance of safe water supply system in details.

Q2. Describe the different type of intakes structure with neat sketch.

Q3. What are the factors affecting demand of water?

Q4. What is the fire demand of the city having population 1 lakh using Bustan's, Freeman's, Kuichling's and Underwriter's formula?

Q5. What are the sources of underground water discuss in detail?

Q6. If tomato juice is having a P_H of 4.1, then find out the hydrogen and hydroxyl ion concentration in tomato juice.

Q7. A 50 ml sample of industrial wastewater is taken into a silica crucible. The empty weight of the crucible is 54.352g. The crucible with the sample is dried in a hot air oven at 104℃ till a constant weight of 55.129g. Thereafter, the crucible with the dried sample is fired at 600℃ for 1 hour in a muffle furnace, and the weight of the crucible along with residue is determined as 54.783g. Find out the concentration of total solids, total organic solids and total inorganic solids.

Q8. A suspension of sand like particles in water with particles of diameter 0.1 mm and below is flowing into a settling tank at 0.1 m^3/sec. Assuming g = 9.81 m/s^2, specific gravity of particles = 2.65, and kinematic viscosity of water = 1.0105 * 10^{-2} cm^2/sec. Find out the minimum surface area in m^2 required for this settling tank to remove particles of size 0.06 mm and above.

Q9. Describe working and principal of slow sand filter with neat sketch.

Q10. What is turbidity, describe all the methods of measurement of turbidity in details.