

M.Sc.- II (Environmental Science) (CBCS Pattern) Sem-III
PSCENVT09 - Paper-IX : Water Treatment and Supply

P. Pages : 1

Time : Three Hours



GUG/W/22/11260

Max. Marks : 80

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- Notes : 1. All questions are compulsory and carry equal marks.
2. Illustrate the answers with suitable diagrams and examples.

- 1.** State reasons for analysis of water. Discuss impurities present in water. How purity of water is maintained? **16**

OR

- a) Describe devices used for measurement of rainfall. **8**
b) Discuss various surface sources of water. **8**

- 2.** Describe in detail important unit operations in physical treatment of water. **16**

OR

- a) What are screens? Explain types of screens. **8**
b) Explain sedimentation process. Add a note on circular sedimentation tank. **8**

- 3.** Describe construction and operation of rapid sand filter. **16**

OR

- a) Describe the Jar test methods for estimation of optimum coagulant dose. **8**
b) Explain disinfection process through chlorination and U.V. radiation. **8**

- 4.** State necessity of pumping. Give classification of pumps. Describe operation of pumps. **16**

OR

- a) Write about dead end and radial system in water distribution. **8**
b) Describe economical and topographical considerations for a water distribution system. **8**

- 5.** a) What are infiltration wells? **4**
b) Write about hopper bottom sedimentation tank. **4**
c) Explain theory of coagulation. **4**
d) How maintenance of distribution system is carried out? **4**
