

M.Sc. (Part-II) (Environmental Science) CBCS Pattern Semester-III
PSCENVT10 - Wastewater Treatment

P. Pages : 1

Time : Three Hours



GUG/W/23/11261

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. Discuss physical, properties of sewage. **16**

OR

a) Explain how measurement of wastewater is done. **8**

b) Describe cycle of decomposition of sewage. **8**

2. Describe design of trickling filter tank and waste stabilization pond. **16**

OR

a) Briefly explain concept of mass load. **8**

b) Explain maintenance of sanitary sewers. **8**

3. What is grit chamber? Discuss purpose and types of grit chamber. **16**

OR

a) Explain operation of plain sedimentation tank. **8**

b) Name different coagulants and their actions. **8**

4. Discuss design aspects and working of trickling filter. **16**

OR

a) Briefly explain method of aeration used in activated sludge process. **8**

b) Give the method of nutrient removal from wastewater. **8**

5. a) Write a note on relative stability of sewage. **4**

b) Explain design consideration of oil and grease trap. **4**

c) Describe mixing device used for coagulation. **4**

d) Briefly explain reverse osmosis in tertiary wastewater treatment. **4**
