

PSCENVT10 - Waste Water Treatment

P. Pages : 1

Time : Three Hours



GUG/W/24/11261

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 chemical properties of sewage. **16**
- OR**
- a) Explain how measurement of waste water 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 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 waste water. **8**
5. a) Write a note on storm water flow rates. **4**
b) Explain design consideration of oil and grease trap. **4**
c) Explain mixing devices used for coagulation. **4**
d) Briefly explain role of reverse osmosis in tertiary waste water treatment. **4**
