

**GUJARAT TECHNOLOGICAL UNIVERSITY****ME - SEMESTER– I (New course)• REMEDIAL EXAMINATION – SUMMER 2015**Subject Code: **2711808**

Date:14/05/2015

Subject Name: **Water and Wastewater Technologies****Time: 10:30 am to 1:00 pm****Total Marks: 70****Instructions:**

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

- Q.1 (a)** Give the classification of screens and explain any one in detail. **07**
- Q.1 (b)** Give the difference between : **07**
- (i) Rapid Mixing and Slow Mixing
  - (ii) Rapid Sand Filter and Slow Sand filter
- Q.2 (a)** Write a short note on Horizontal Flow Grit Chamber **07**
- Q.2 (b)** Explain the different types of chemical coagulants with chemical reactions. **07**
- OR**
- Q.2 (b)** Compare water treatment and waste water treatment. **07**
- Q.3 (a)** Explain different types of sedimentation tanks with neat sketch. **07**
- Q.3 (b)** With the help of a neat sketch explain the units of sewage treatment plant. **07**
- OR**
- Q.3 (a)** Differentiate between Anaerobic Suspended growth process and Anaerobic attached growth process. **07**
- Q.3 (b)** Differentiate between aerobic and anaerobic wastewater treatment processes. **07**
- Q.4 (a)** Derive the equation for Newton's law for discrete settling of particles. **07**
- Q.4 (b)** Explain factors affect on Anaerobic Treatment of Wastewater. **07**
- OR**
- Q.4 (a)** Compare COD and BOD. **07**
- Q.4 (b)** Write a short note on Operating Problems of Activated Sludge Process. **07**
- Q.5 (a)** Compare Rotating Biological Contractors with Trickling Filter **07**
- Q.5 (b)** Write the procedure for preparation of dilution water for BOD test. **07**
- OR**
- Q.5 (a)** Enlist the factors affect on disinfection. **07**
- Q.5 (b)** Assuming the diameter of the clarifier to be 12 m and an average wastewater flow rate of 22 MLD, calculate the detention time and surface overflow rate of a clarifier having a wastewater depth of 2.7 m in the clarifier. **07**

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