

GUJARAT TECHNOLOGICAL UNIVERSITY**M.E –IIst SEMESTER–EXAMINATION – JULY- 2012****Subject code: 1721702****Date: 09/07/2012****Subject Name: Industrial Water and Wastewater Treatment****Time: 10:30 am – 13:00 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) Enlist various methods of waste strength reductions and explain any three methods in detail. **07**

(b) What do you understand by equalization and proportioning of industrial wastewater in context with industrial wastewater treatment. **07**

Q.2 (a) Explain the methods for removal of colloidal solids. **07**

(b) Explain in detail neutralization of industrial wastewater by various methods. **07**

OR

(b) Explain the role of algae in removal of inorganic dissolved solids. **07**

Q.3 (a) Discuss the sources and treatment of dairy wastes. **07**

(b) Discuss the source and treatment of radioactive wastes. **07**

OR

Q.3 (a) Explain the importance of pre-primary treatment in case of industrial waste treatment. **07**

(b) How coagulation and flotation helps in treatment of industrial wastewaters. Explain. **07**

Q.4 (a) Explain Vacuum filtration and sludge digestion for treatment of industrial wastes. **07**

(b) Explain origin characteristics and treatment of either textile industry or tannery industry. **07**

OR

Q.4 (a) Which physio-chemical processes are involved in treatment of industrial wastewater? Explain. **07**

Q.4 (b) Explain in brief various biological treatment processes for industrial wastewaters. **07**

Q.5 (a) Enlist various methods of saline water conversion and explain ion exchange method in detail **07**

(b) Write short note on activated sludge process and trickling filter. **07**

OR

Q.5 (a) Write short note on electro dialysis and reverse osmosis. **07**

(b) Explain in detail the concept and the points to be considered in designing of CETP **07**
