

GUJARAT TECHNOLOGICAL UNIVERSITY**M. E. IST Semester–Remedial Examination – July- 2011****Subject code: 711802****Subject Name: Industrial Wastewater Management****Date:08/07/2011****Time: 10:30 am – 01:00 pm****Total Marks: 60****Instructions:**

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

- Q.1** (a) What are the objectives of a typical Common Effluent Treatment Plant (CETP)? **06**
 (b) Explain the terms 'recycling', 'reuse' and 'recovery' in the context of water reuse. **06**
- Q.2** (a) Explain, in detail, the need for establishing the effluent standards. How are they different than criteria? **06**
 (b) Define and differentiate between effluent standards and stream standards with the help of appropriate examples. **06**
- OR**
- (b) Technically justify why the discharge standards are different for different environmental sinks. **06**
- Q.3** (a) You have been invited by a medium scale industry to suggest the means to reduce the cost of effluent treatment with out compromising with the effluent quality to be discharged. Suggest methodological approach with justification. **07**
 (b) Justify and briefly describe the secondary and tertiary benefits of pollution control **05**
- OR**
- Q.3** (a) How will you convince an industrialist that the cost of pollution control is not unbearable? Base your answer on appropriate examples. **06**
 (b) Suggest the methods of effluent volume reduction at a large scale industry. **06**
- Q.4** (a) What is 'characterization of wastewater' ?Explain its importance in the design of a CETP in an existing industrial estate having a large number of small and medium industries of different types **06**
 (b) What, according to you are the barriers to extensive municipal or industrial water reuse? **06**
- OR**
- Q.4** (a) Explain the different aspects to be considered while planning the steps for pollution prevention at an industry. **06**
 (b) Highlight advantages and limitations of a CETP **06**
- Q.5** (a) Write a note on Waste Minimization hierarchy. **06**
 (b) Enlist and explain the objectives and scope of Cleaner Production. **06**
- OR**
- Q.5** (a) Enlist and explain the types of surveys to be carried out prior to design of CETP. **06**
 (b) Describe 'seasonal storage requirements' in the context of water reuse **06**
