

GUJARAT TECHNOLOGICAL UNIVERSITY
M. E. - SEMESTER – I • EXAMINATION – WINTER • 2013

Subject code: 711802N**Date: 26-12-2013****Subject Name: Industrial Wastewater Management****Total Marks: 70****Time: 10.30 am – 01.00 pm****Instructions:**

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

- Q.1** (a) Describe the different characteristics of industrial wastewater. **07**
(b) Write short note (a) Stream standards (b) Water reclamation Technology **07**
- Q.2** (a) Why CETP is required? Draw the complete flow diagram of a CETP which is visited by you. **07**
(b) What do you mean by Effluent standards? Discuss the selection criteria of river as the ultimate point of discharge. **07**
- OR**
- (b) What do you mean by disposal sink? Discuss the disposal sink for treated wastewater from pharmaceutical industry with justification. **07**
- Q.3** (a) How strength of industrial wastewater is measured? Discuss different methods of strength reduction of industrial wastewater. **07**
(b) Explain the pollution control measures to be taken by an industrialist supported by a case study. **07**
- OR**
- Q.3** (a) Differentiate (a) Neutralization and Equalization (b) Reuse and recycling **07**
(b) Discuss about economical management of an industry and suggest some measures to reduce cost of pollution control in industry. **07**
- Q.4** (a) How the location of CETP is decided? Discuss the design criteria used design of different units of a CETP. **07**
(b) Explain the (a) Recreational water reuse (b) Recovery and reuse of metals **07**
- OR**
- Q.4** (a) Why volume reduction of industrial wastewater is necessary? Discuss different methods of volume reduction of industrial wastewater. **07**
(b) What do you mean by toxic wastewater? Describe any one method of treatment for toxic wastewater. **07**
- Q.5** (a) Describe the need of CP and discuss how cleaner production help an industry. **07**
(b) Explain the primary and secondary recycling of industrial wastewater. **07**
- OR**
- Q.5** (a) Discuss different membrane processes with their merits and demerits. **07**
(b) What is life cycle method? How is it used to achieve goals of CP? **07**
