

GUJARAT TECHNOLOGICAL UNIVERSITY**ME - SEMESTER-IV • EXAMINATION – SUMMER 2013****Subject Code: 743001****Date: 14-05-2013****Subject Name: Cleaner Production****Time: 10.30 am - 01.00 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) Discuss end of pipe treatment to curb pollution as a tool of cleaner production. **07**
(b) Explain cleaner production and cleaner technology in brief. **07**
- Q.2** (a) What is good housekeeping ? What are the benefits of good housekeeping ? **07**
(b) Discuss process change as 'Source of Waste reduction'. **07**
- OR**
- (b) Describe prerequisite of cleaner production in detail.. **07**
- Q.3** How energy audits are conducted? Discuss energy conservation as a tool for cleaner production. **14**
- OR**
- Q.3** (a) Explain product modification as a one of the technique of cleaner production . **07**
(b) Write the steps to be considered for saving energy in Vacuum systems in a Chemical process industry. **07**
- Q.4** (a) Role of C.P. in survival and sustainable development of Chemical Industries. **07**
(b) Give an example of cleaner production in any one chemical process industry. **07**
- OR**
- Q.4** Explain cleaner production methodology in detail. **14**
- Q.5** (a) Explain financial analysis of cleaner production. **07**
(b) Write the steps to be considered for saving energy in waste heat recovery system in a chemical process industry. **07**
- OR**
- Q.5** Discuss and explain practical ways and means to save material loss in unit operations of chemical engineering. **14**
