

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**BE SEM-VII Examination-Nov/Dec.-2011**

**Subject code: 171304**

**Date: 29/11/2011**

**Subject Name: Cleaner Production and Waste Utilization**

**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) Explain importance and need to implement good house keeping. **07**  
(b) Enlist cleaner production methodology. **07**
- Q.2** (a) Explain selection of cleaner production solutions and implement of CP solution. **07**  
(b) Explain heat recovery boiler with one stack and fan. **07**  
**OR**  
(b) Explain heat recovery boiler with one stack and no fan. **07**
- Q.3** (a) Which CP tools you have suggested to reduce automobile pollution. Discuss in detail. **07**  
(b) Explain with example how CP is useful in Dye manufacturing unit. **07**  
**OR**
- Q.3** (a) Enlist CP tools. **07**  
(b) Explain with example how CP is useful in Fertilizer industry. **07**
- Q.4** (a) Explain LMTD with temperature profile for parallel and counter flow. **07**  
(b) How heat recovery is important in cleaner production. **07**  
**OR**
- Q.4** (a) Write short note on types of heat exchanger. **07**  
(b) Write short note on Heat recovery. **07**
- Q.5** (a) Explain shell and tube heat exchanger. **07**  
(b) Explain heat recovery boiler with two stack and fan. **07**  
**OR**
- Q.5** (a) Write short note on benefits of heat recovery in steam boiler. **07**  
(b) Explain heat recovery boiler with two stack and no fan. **07**

\*\*\*\*\*