

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VII • EXAMINATION – WINTER • 2014

Subject Code: 171304

Date: 29-11-2014

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.

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|------------|---|-----------|
| Q.1 | (a) What is CP? Discuss CP concept in Detail. | 07 |
| | (b) How CP benefits to the Industry? | 07 |
| Q.2 | (a) Discuss CP Tools | 07 |
| | (b) Write brief note on “Difficulty in assessing the Cleaner Technology”. | 07 |
| | OR | |
| | (b) Enlist the CP options for Chemical Industry & Pharmaceutical Industry. | 07 |
| Q.3 | (a) Write a short note on Good House Keeping. | 07 |
| | (b) How to motivate the industries for Cleaner Production? Discuss in detail. | 07 |
| | OR | |
| Q.3 | (a) Enlist the CP options for Dyes & Dyes intermediate & Dairy Industry. | 07 |
| | (b) Explain Six Step Methodology in CP. | 07 |
| Q.4 | (a) How waste heat utilization is useful for the Industry? | 07 |
| | (b) Types of Heat recovery system with neat sketch. | 07 |
| | OR | |
| Q.4 | (a) Describe heat recovery boiler with one stack without fan. (with neat sketch) | 07 |
| | (b) What is LMTD? Draw the temperature profile for counter and parallel flow. | 07 |
| Q.5 | (a) Describe heat recovery boiler with Two stack without fan. (with neat sketch) | 07 |
| | (b) Differentiate between direct and indirect heat recovery system. | 07 |
| | OR | |
| Q.5 | (a) Describe heat recovery boiler with Two stack with fan. (with neat sketch) | 07 |
| | (b) Explain Shell and Tube Heat exchanger with neat sketch. | 07 |
