

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VII (NEW) EXAMINATION – WINTER 2022****Subject Code:3171304****Date:07-01-2023****Subject Name:Cleaner Production and Waste Utilization****Time:10:30 AM TO 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.
4. Simple and non-programmable scientific calculators are allowed.

- Q.1** (a) What do you mean by Energy audit? **03**
(b) Explain effect of CP on industrial economy. **04**
(c) Explain the concept of CP. **07**
- Q.2** (a) What do you mean by Sustaining CP? **03**
(b) How CP team is designated? **04**
(c) Explain six step methodology of CP. **07**
- OR**
- (c) Describe various financial analysis techniques for CP. **07**
- Q.3** (a) Define Reuse. **03**
(b) What are the barriers to the CP? **04**
(c) Enlist and explain CP tools. **07**
- OR**
- Q.3** (a) Define Recycle. **03**
(b) Describe procedure to carry out Material balance. **04**
(c) Differentiate between CP and End-of-pipe approach. **07**
- Q.4** (a) Define LMTD. **03**
(b) What role a Cleaner production center can play at regional level? **04**
(c) Enlist and explain various Heat exchangers. **07**
- OR**
- Q.4** (a) Define Cleaner Production. **03**
(b) Which factors needs to be considered for selecting cleaner production solution? **04**
(c) Explain with neat sketch Waste heat recovery system. **07**
- Q.5** (a) What is Good housekeeping? **03**
(b) Enlist and explain objectives and benefits of CP. **04**
(c) Discuss one case study of CP implementation. **07**
- OR**
- Q.5** (a) What do you mean by Mass and energy balance? **03**
(b) Describe techniques for recycling and reuse of liquid Industrial waste. **04**
(c) Discuss procedure for Energy audit. **07**
