

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VIII(NEW) EXAMINATION – SUMMER 2019****Subject Code:2183504****Date:13/05/2019****Subject Name:Sustainable Development And Green Technologies****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.

| | | MARKS |
|------------|--|-----------|
| Q.1 | (a) Give concept of green chemistry? | 03 |
| | (b) What is waste minimization? | 04 |
| | (c) Give concept of cleaner production in detail? | 07 |
| Q.2 | (a) Describe Principle of Sustainable Development? | 03 |
| | (b) What is waste prevention? | 04 |
| | (c) Describe atom economy with experimental atom economy of substitution reaction? | 07 |
| OR | | |
| | (c) Explain cleaner production methodology in detail? | 07 |
| Q.3 | (a) What is super critical fluids? | 03 |
| | (b) Describe Sono chemistry and solvent free system? | 04 |
| | (c) Give good housekeeping checklist with example in detail? | 07 |
| OR | | |
| Q.3 | (a) Give difference between End of pipe treatment and cleaner production? | 03 |
| | (b) Describe advantages and disadvantage of cleaner production? | 04 |
| | (c) Explain methodology & techniques of Green Productivity in detail? | 07 |
| Q.4 | (a) Describe material and Energy balance of process in CP? | 03 |
| | (b) Explain barriers and drivers in CP? | 04 |
| | (c) Give cleaner production case study on textile industry? | 07 |
| OR | | |
| Q.4 | (a) Give guidelines of APO on green productivity? | 03 |
| | (b) Explain salient features of revised CEPI? | 04 |
| | (c) Give cleaner production case study on dairy industry? | 07 |
| Q.5 | (a) Define APO and sustainability. | 03 |
| | (b) Explain concept of green productivity? | 04 |
| | (c) Describe CEPI in detail? | 07 |
| OR | | |
| Q.5 | (a) Describe Principle of Green Chemistry? | 03 |
| | (b) Give cleaner production case study on paper and pulp industry? | 04 |
| | (c) Explain case study of nuclear plant in detail? | 07 |
