

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VIII (NEW) - EXAMINATION – SUMMER 2018****Subject Code: 2183504****Date: 02/05/2018****Subject Name: Sustainable Development & Green Chemistry (Department Elective - III)****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.

- Q.1** (a) Describe the principles of sustainable development in detail? **07**  
(b) What is atom economy and describe the concept of green chemistry? **07**
- Q.2** (a) Explain waste prevention and minimization of waste generation? **07**  
(b) Describe the concept of Sono chemistry? **07**
- OR**
- (b) What are super critical fluids and ionic liquids? **07**
- Q.3** (a) Describe the concept of Cleaner Production? **07**  
(b) What is Material and Energy Balance of Process in CP? **07**
- OR**
- Q.3** (a) Explain CP Methodology in detail? **07**  
(b) Differentiate between Cleaner Production and End of Pipe Solution **07**
- Q.4** (a) Describe CP Tools in detail? **07**  
(b) Define APO & Explain Green Productivity methodology in brief? **07**
- OR**
- Q.4** (a) Define Green Productivity concepts & techniques **07**  
(b) Explain the Barriers and Drivers in cleaner production? **07**
- Q.5** (a) Explain CEPI in detail? **07**  
(b) Explain solvent free system in detail with example? **07**
- OR**
- Q.5** (a) Describe the guidelines of APO on Green Productivity? **07**  
(b) Describe Good House Keeping checklist in detail? **07**

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