

GUJARAT TECHNOLOGICAL UNIVERSITY
B.Pharm - SEMESTER-VII • EXAMINATION – WINTER 2017

Subject Code: 2270012

Date: 16-11-2017

Subject Name: Green Chemistry

Time: 10:30 am to 01:30 pm

Total Marks: 80

Instructions:

1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

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|-------------|---|-----------|
| Q.1 | (a) Define and explain green chemistry in detail. | 06 |
| | (b) Write a notes on need and goals of green chemistry. | 05 |
| | (c) Give the reaction of following | 05 |
| | 1) Hofmann elimination | |
| | 2) Fries rearrangement | |
| Q.2 | (a) Explain twelve principles of green chemistry with their examples. | 06 |
| | (b) Discuss in brief designing and choice of starting materials and reagents. | 05 |
| | (c) Write a note on Polymer supported catalysts. | 05 |
| Q.3 | (a) What is microwave assisted solid state reactions? Give the reaction of reductions and saponification of esters. | 06 |
| | (b) Write synthesis of the following compounds | 05 |
| | 1) Paracetamol | |
| | 2) Adipic acid | |
| | (c) Explain green chemistry in sustainable development. | 05 |
| Q.4 | (a) What is ultrasound assisted reactions? Give the reactions of esterification, substitution and cannizaro reaction. | 06 |
| | (b) Explain in detail application of green chemistry. | 05 |
| | (c) Write synthesis of the following compounds | 05 |
| | 1) Citral | |
| | 2) Acetaldehyde | |
| Q.5 | (a) Enlist microwave assisted reactions and explain any one in detail. | 06 |
| | (b) Write a detail notes on Biocatalysts. | 05 |
| | (c) Write a detail notes on green solvents. | 05 |
| Q. 6 | (a) Discuss hydrolysis and oxidation reaction of toluene and alcohol reactions of microwave assisted in water. | 06 |
| | (b) Write a note on noncovalent derivatization. | 05 |
| | (c) Write a note on proliferation of solventless reactions. | 05 |
| Q.7 | (a) Write a detail notes on microwave assisted organic synthesis. | 06 |
| | (b) Write a note on oxidation reagents and catalysts. | 05 |
| | (c) Write a ultrasound assisted reaction 1) Strecker synthesis 2) Reformatsky reaction | 05 |
