Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY B.Pharm - SEMESTER-VII • EXAMINATION - WINTER-2016

Subject Code: 2270012 Date: 29/11/2016

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.

Q.1	(a)	Define Green Chemistry with obstacles in the pursuit of the goal of Green Chemistry.	06
	(b) (c)	Explain Atom economy and sustainability with the help of suitable examples. Briefly explain any five principles Green Chemistry.	05 05
Q.2	(a) (b) (c)	Explain role of bio catalyst in designing Green Synthesis. Write a note on polymer supported catalysts role in Green Chemistry. Define the terms: Immobilized Solvents and Ultrasonic energy.	06 05 05
Q.3	(a) (b) (c)	How the Catalytic reagents are superior to stoichiometric reagents? Write a note on Microwave assisted organic synthesis with suitable examples. How can avoid unnecessary derivatization for designing Green Synthesis.	06 05 05
Q.4	(a) (b) (c)	Discuss any two reactions under sonication taking a suitable example i) Alkylation synthesis ii) Reformatsky reaction iii) Reduction reactions Explain the Fries rearrangement reaction when induced by microwaves. Write a note on microwave assisted Decarboxylation reaction.	06 05 05
Q.5	(a) (b) (c)	Explain Ultrasound assisted reactions with any two suitable examples. Write a note on microwave assisted solid state reaction for saponification of esters. Explain the terms Green Solvents.	06 05 05
Q. 6	(a) (b) (c)	Explain the role of Green Chemistry in sustainable development. Write a note on proliferation of solventless reactions. Describe the role of 'Clayan' as a nonmetallic oxidative reagents in various reactions.	06 05 05
Q.7	(a) (b) (c)	Give the Green Synthesis of any two: i) Acetaldehyde ii) Citral iii) Ibuprofen Write a note on Hydrolysis of Benzamide microwave assisted reaction in water. Briefly explain the applications of Green Chemistry.	06 05 05
