

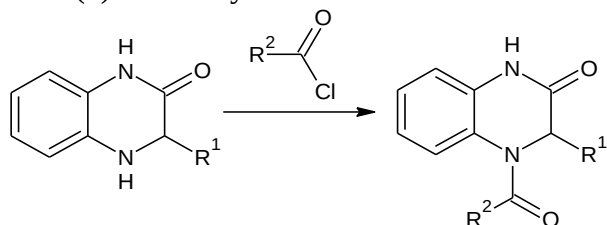
Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY**M. Pharm. – SEMESTER – II • EXAMINATION – WINTER • 2014****Subject Code: 2920101****Date: 24-12-2014****Subject Name: Advanced Organic Chemistry - II****Time: 10:30 am - 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.

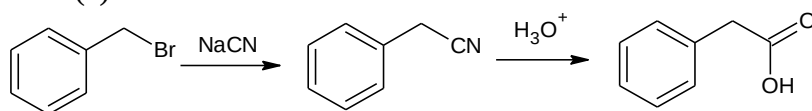
- Q1.** (a) Write structure of the following drugs and locate the chiral centers. 6
 Vitamin C, Nifedipine, Atenolol, Ethambutol, Ampicillin and Thalidomide.
- (b) Write asymmetric synthesis of Vitamin C. 5
- (c) Differentiate between optical isomerism & geometrical isomerism. 5
- Q.2** (a) Focus on 12 principles of green chemistry. 6
- (b) Define synthon approach with classification and its importance in reaction mechanism. 5
- (c) Focus on Reformatsky synthesis & Benzilic acid rearrangement. 5
- Q.3** (a) Give synthon approach of the drugs with connection & disconnection approach: 6
(any two):
 (i) Ibuprofen (ii) Diclofenac
 (iii) Captopril (iv) Cetrizine
- (b) Differentiate between Sharpless Oxidation & Swern Oxidation. 5
- (c) Write the importance of ionic liquid in green chemistry. 5
- Q.4** (a) Write asymmetric synthesis of the drugs **(any two):** 6
 (i) Ethambutol (ii) Nifedipine (iii) Thalidomide (iv) Atenolol
- (b) Write the reactions **(any two):** 5
 (i) Bayer-Villiger Rearrangement (ii) Pinner Reaction
 (iii) Vilsmeier Haack Reaction (iv) Heck Reaction
- (c) Write the importance of supercritical liquids in green chemistry synthesis. 5
- Q.5** (a) Define Chiral carbon, Enantiomers, Diastereomers & Asymmetric Plane. 6
- (b) Draw your conclusion in the reaction given: 5



1. Dimethyl formamide, 4-Dimethyl amino pyridine, 80Deg C, 48hrs (14%)
2. Dichloro ethane, 180Deg C, 10min (100%)

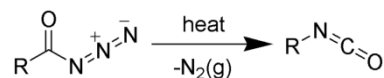
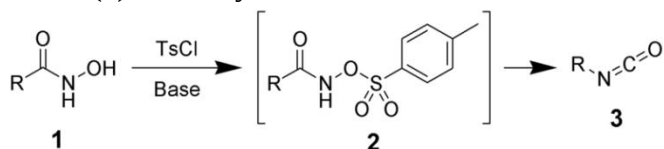
Which one is conventional and which one is under microwave synthesis?
 Why acylation takes place in imino nitrogen and not in imide nitrogen?

- (c) Write the reaction mechanism of the scheme: 5



- Q.6** (a) Write a short note on ultrasound reaction. 6
 (b) Write the mechanism of Allylic rearrangement & Curtius Rearrangement. 5
 (c) Write the name of heterocyclic rings present in the following drugs & their category 5
 (i) Nifedipine, Losartan, Pyrimethamine, Omeprazole & Rosiglitazone

- Q.7** (a) Write the importance of microwave reactions with green chemistry approach. 6
 (b) Identify the reactions: 5



- (c) Discuss nanochemistry in brief. 5
