

**PARUL UNIVERSITY**  
**FACULTY OF PHARMACY**  
**B.Pharm. Summer 2017-18 Examination**

**Semester: 4**

**Subject Code: 08101251**

**Subject Name: Pharmaceutical Chemistry IV (Organic Chemistry II)**

**Date: 15/05/2018**

**Time: 02:00PM TO 05:00PM**

**Total Marks: 75**

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**Instructions:**

1. Figures to the right indicate full marks.
2. Make suitable assumptions wherever necessary.

**Q.1 Essay type Questions. (Any 2 out of 3) (10 marks each) (20)**

1. Explain E<sub>2</sub> reaction and mechanism along with supporting evidences. Comment on orientation and reactivity of it.
2. What are carboxylic acid derivatives? Give any two chemical reactions and preparations of each.
3. Explain Friedal craft reactions with mechanism.

**Q.2 Short Essay type Questions. (Any 7 out of 9) (5 marks each) (35)**

1. Explain S<sub>N</sub>1 reaction and mechanism along with evidences.
2. Explain Markovnikov and Anti Markovnikov orientation and reactivity with examples.
3. Enlist principles of green chemistry. Explain any two principles in detail.
4. Explain Fries reaction with mechanism.
5. Write any three reactions of amines and two reactions of alcohols.
6. Write a sort note on microwave chemistry.
7. Explain mechanism of following reactions:
  - a) Aldol condensation
  - b) Claisen Schmidt reaction
8. Explain Hofmann rearrangement reaction with mechanism.
9. Give preparations of alkenes.

**Q.3 Answer in short. (2 marks each) (20)**

1. Justify: Aromatic amines are less basic than aliphatic amines.
2. Explain in brief: any two chemical reactions involving diazonium salts.
3. Write two reactions of alkyl halides.
4. Explain synthesis of any one drug using retro synthesis approach.
5. Define phase transfer catalysis with example.
6. Give any two preparations of aldehydes.
7. Define the term microwave chemistry along with its principle.
8. What is diene? Give one reaction of it.
9. What is combinatorial chemistry? Explain in brief any one application.
10. Write any two chemical reactions of phenol.