

**UKA TARSADIA UNIVERSITY**  
**B.Pharm. (3rd Semester)**  
**Subject :030020303 - Organic Chemistry II**

**Duration: 3 Hours**

**Max. Marks: 70.**

**Instructions:**

1. Attempt all questions.
2. Write each section in a separate answer book.
3. Make suitable assumptions wherever necessary.
4. Figures to the right indicate full marks allocated to that question.
5. Draw diagrams/figures whenever necessary.

**Section-1**

**Q-1 (A) Do as directed.**

**[07]**

- I) Classify the followings group as ortho, para directors and meta directors  
-NH<sub>2</sub>, -NO<sub>2</sub>, -OCH<sub>3</sub>, -Ar, -NHCOR, -F, -Br, -SO<sub>3</sub>H, -CHO, -COOH.
- II) Write structure of picric acid.
- III) Why chloroacetic acid is more acidic than acetic acid?
- IV) Write structures for acetophenone, acetone, p-methoxy benzaldehyde and cinnamaldehyde
- V) Enlist reagents used in Hinsberg test.
- VI) What is basic difference between fats and oils?
- VII) How will you convert cyclopentanol to cyclopentanone.

**Q-1 (B) Answer the following in brief. (Any 4)**

**[08]**

- I) Which is strong base, methylamine or aniline? Why?
- II) Write Wolf Kishner reaction with suitable example.
- III) Write Gabriel Synthesis for amines.
- IV) Enlist the conditions necessary for aromaticity.
- V) Write short note on Cannizarro reaction.
- VI) Give reaction for Michael addition.

**Q-2 Answer the following.**

**[10]**

- A) Explain electrophilic addition reaction of  $\alpha$ ,  $\beta$ -unsaturated carbonyl compounds with suitable examples.

OR

- A) Write electrophilic substitution reactions of benzene.
- B) Write method of preparation and reactions of diazonium salt.

OR

- B) Explain in detail about Hoffmann degradation of amide.

**Q-3 Answer the following in detail. (Any 2)** [10]

- A) Write methods for preparation of phenol.
- B) Write methods for preparation of anthracene and naphthalene.
- C) Give reactions of carboxylic acids.

Section-2

**Q-4 (A) Do as directed.** [07]

- I) What is chemical content of Sanger's reagent?
- II) Define anomers with suitable example.
- III) Why pyridine is more basic compared to pyrazole?
- IV) Enlist four non essential amino acids.
- V) Give one example of [2,3] sigmatropic rearrangement.
- VI) Give name and structure of achiral amino acid.
- VII) Define the term heteroglycans.

**Q-4 (B) Answer the following in brief. (Any 4)** [08]

- I) Write the nitration, halogenations and acylation reaction given by furans.
- II) Write reaction of sulfonation and halogenation of imidazole nucleus.
- III) Write Knorr and Paal-Knorr synthesis of pyrrole nucleus.
- IV) Write electrophilic substitution reaction given by thiazole.
- V) Write any two methods to synthesize piperazine.
- VI) Explain why sucrose is non-reducing sugar.

**Q-5 Answer the following.** [10]

- A) Define pericyclic reaction and explain electrocyclic reactions.

OR

- A) Define pericyclic reaction and explain cyclo-addition reaction.
- B) Define and classify proteins.

OR

- B) Write note on Killiani –Fischer synthesis and Ruff degradation.

**Q-6 Answer the following in detail. (Any 2)** [10]

- A) Explain in detail about combinatorial chemistry.
- B) Write methods of preparation for quinoline and isoquinoline.
- C) Write reactions of pyridazine and pyrimidine.