

# UKA TARSADIA UNIVERSITY

B.Pharm. (3rd Semester)

Subject :030020303 - Organic Chemistry II

Duration: 3 Hours

Max. Marks: 70

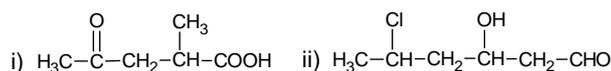
## Instructions:

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) What happens when benzylchloride is treated with aqueous NaOH?
- II) What do you mean by Elb's reaction?
- III) Between o-nitrophenol and p-nitrophenol, which one is having lower solubility in water? Justify.
- IV) How can you prepare phenol by Dow's process?
- V) Provide the IUPAC name of followings.



- VI) What do you mean by arenes?
- VII) Why pyrrole is more aromatic than furan?

**Q-1 (B) Answer the following in brief. (Any 4)** [08]

- I) Justify the acidic nature of phenol.
- II) Write the friedel craft's alkylation with mechanism.
- III) Write the preparation of fluorescein and phenolphthalein.
- IV) Discuss the preparation of naphthalene by Haworth synthesis.
- V) Write two activating substituents which give ortho-para isomers, and two deactivating substituents which give meta isomers.
- VI) Discuss perkin condensation.

**Q-2 Answer the following.** [10]

- A) Explain the Haloform reaction and Cannizaro reaction.

**OR**

- A) Convert: i) toluene  $\rightarrow$  (trichloromethyl)benzene, ii) styrene  $\rightarrow$  ethylcyclohexane

- B) Write short notes on malonic ester synthesis and acetoacetate synthesis.

**OR**

- B) Write five preparations and five chemical properties of aldehyde.

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

- A) i) How is the basicity of aniline affected by substitution on ring? Write with example.

ii) Write the carbylamine reaction and oxidation reaction of aniline.

- B) Write five preparations and five chemical properties of phenol.

- C) What happens when acetaldehyde reacts with tollen's reagent and fehling solution? Explain in detail.

## Section-2

- Q-1 (A) Do as directed.** [07]
- I) What is isoelectric point?
  - II) Define anomer?
  - III) Draw the structure of pyrimidine and isoquinoline.
  - IV) How will you distinguish between glucose and fructose?
  - V) What is zwitter ion?
  - VI) Why does starch give blue colour when combine with iodine?
  - VII) What do you mean by pericyclic reaction?
- Q-1 (B) Answer the following in brief. (Any 4)** [08]
- I) How will you convert D-arabinose to D-glucose?
  - II) Write a note on muta-rotation.
  - III) Write the constituents of starch along with their structures.
  - IV) Write two preparations and two chemical properties of thiophene.
  - V) What are essential and non-essential amino acids? Give their examples.
  - VI) Discuss the preparation of any one amino acid by Gabriel synthesis.
- Q-2 Answer the following.** [10]
- A) Write a short note on sigmatropic reaction.
- OR**
- A) What is combinatorial chemistry? Describes various techniques for synthesis. Write its pharmaceutical application in drug design.
  - B) Write the reaction of glucose with i) alcohol, ii) amines, iii) HCN, iv) semicarbazide, v) phenyl hydrazine
- OR**
- B) What is protein? Classify it. Write colour tests for it.
- Q-3 Answer the following in detail. (Any 2)** [10]
- A) Give short notes on electrocyclic and cycloaddition reaction.
  - B) Write five preparations and five chemical properties of quinoline.
  - C) Write electrophilic substitution reactions of furan.