Section B

6. (a) Expalin the following : **3**

(i) Edman's method of N-terminal residue analysis

(ii) Why amino acids are called amphoteric compounds ?

(b) Describe Merrifield solid phase peptide synthesis. **3**

7. (a) Expalin the following : **3**

(i) Electrophoresis

(ii) Zwitter ion

(iii) Peptide bond.

(b) Give evidence to support dipolar structure of α-amino acid. **3**

8. (a) What are polyesters and polyamides ? Name the type of polymerization involved. Give *one* example of each with preparation and uses. **3**

(b) Write a short note on natural and synthetic rubber. **3**

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B. Sc. EXAMINATION, 2026

(Sixth Semester)

(Re-appear Only)

CHEMISTRY

Paper–XX (CH–306)

Organic Chemistry

Time : 3 *Hours*] [*Maximum Marks :* 32

Before answering the question-paper, candidates must ensure that they have been supplied with correct and complete question-paper. No complaint, in this regard will be entertained after the examination.

Note : Attempt *Five* questions in all, selecting *two* questions from each Section. Q. No. **1** is compulsory.

(Compulsory Question)

1. (a) How will you explain the acidic nature of methylenic hydrogen in diethyl malonate ? **2**

(b) Pyrrole is acidic in nature. Explain. **2**

(c) Describe Gabriel phalimide synthesis of α-amino acid. **2**

(d) What are the differences between RNA and DNA ? **2**

Section A

2. (a) Explain the formation of ethyl aceto-acetate from ethyl acetate and sodium ethoxide with mechanism. **3**

(b) Describe the factors affecting the relative amount of keto and enol form in keto-enol tautomerism. **3**

3. (a) Give the synthesis of the following from ethyl aceoacetate : **3**

(i) 3-methyl-2-pentanone

(ii) *n*-valeric acid

(b) Explain the Chichibabin reaction with mechanism.

4. (a) Expalin the following : **3**

(i) Electrophilic substitution of pyridine takes place with difficulty when it takes place at 3-position.

(ii) Electrophilic substitution in indole takes place at 3-position of heterocyclic.

(b) Expalin the following : **3**

(i) Parr-Knorr synthesis of furan derivatives.

(ii) The mechanism of Fisher indole synthesis.

5. (a) Compare the basic character of pyridine, piperidine and pyrrole. **2**

(b) What happens when ? **2**

(i) Indole is treated in Sn/HCl ?

(ii) Quinoline is treated with Br_2/ Ag_2SO_4

(c) Why does pyridine give nucleophilic substitution reaction but not benzene ? **2**

9. (a) What is denaturation of protein ? **2**

(b) Give the preparation and uses of phenol formaldehyde polymer. **2**

(c) Give the preparation and uses of : **2**

(i) Buna-S

(ii) Neoprene.

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