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No. of Printed pages: 2

SARDAR PATEL UNIVERSITY

Bachelor of Science Semester -6 Examination – 2026

Subject Code: US06MIICH05

Subject Title: Fundamental of Organic Chemistry



Date : 04/04/2026

Time : 10:00 AM to 11:30 AM

Day : Saturday

Total : 25 Marks

Q -1 Choose the correct option for the following :

[05]

1. Which group is present in the structure of Uracil?
[a] Methyl [b] Two hydroxy [c] Amine [d] Amine and Hydroxy
2. Which of the following is a essential heterocyclic amino acid?
[a] Threonine [b] Proline [c] Tryptophane [d] Isoleucine
3. Which Protein have pleated sheet structure?
[a] Silk fibroin [b] Collagen [c] Gelatin [d] α - Keratin
4. Friedel-Craft acylation of Naphthalene for α - & β - substitution depends on _____.
[a] Catalyst [b] Pressure [c] Solvents [d] Temperature
5. What is [A] in the following reaction?
Naphthalene undergo reduction with $\text{Na/C}_5\text{H}_{11}\text{OH}$ at 132°C $\longrightarrow$ [A]
[a] Tetralin [b] Decalin [c] 1,4- Naphthaquinone [d] Phthalic anhydride

Q -2 Answer the following questions.

[A] Explain the term Peptide. Discuss the geometry of the peptide linkage.

[5]

[B] Write the synthesis for the following:

[5]

- (i) Phenylalanine using malonic ester synthesis
- (ii) Aspartic acid using Phthalimidomalonic ester synthesis.

OR

Q -2 Answer the following questions.

[A] Discuss P. Edman method for N- terminal residue analysis. Also give its disadvantages and limitation.

[5]

[B] Write the synthesis for the following:

[5]

- (i) Gly-Ala using benzoyloxy carbonyl method.
- (ii) Traube synthesis of Adenine.

Q -3 Answer the following questions.

[A] Write the Haworth synthesis of phenanthrene.

[5]

[B] Write a short note on Sulphonation of Naphthalene and also give the preparation method of β - Naphthol.

[5]

OR

Q -3 Answer the following questions.

[A] Nitration of Naphthalene take place almost exclusively at position-1. Explain

[5]

[B] Draw the resonance hybrid structures of Anthracene and Phenanthrene.

[5]

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