

Question Paper

Exam Date & Time: 26-Apr-2019 (02:00 PM - 05:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

INTERNATIONAL CENTER FOR APPLIED SCIENCES

IV SEMESTER B.Sc. (Applied Sciences) in ENGG. END SEMESTER THEORY EXAMINATION APRIL/MAY 2019

BIO-ORGANIC CHEMISTRY [IBT 242 - S2]

Marks: 100

Duration: 180 mins.

Answer 5 out of 8 questions.

Missing data, if any, may be suitably assumed

- 1) Explain the hybridization. Give an account reaction intermediates and their structures. (12)
 - 1A)
 - 1B) Explain the preparation methods of carboxylic acids. Comment on their acidity (8)
- 2) Describe the physical and chemical properties of carbonyl compounds. (12)
 - 2A) Explain keto enol tautomerism with suitable examples
 - 2B) Describe the effects of ring activators and deactivators with examples (8)
- 3) Explain the preparation, chemical properties and uses of amines. Comment on their basicity (12)
 - 3A)
 - 3B) Explain any two named reactions with mechanism (8)
- 4) Explain the chemical properties and preparation of substituted benzenes (12)
 - 4A)
 - 4B) Describe the chemical properties of benzene. Comment on molecular structure. (8)
- 5) Explain the preparation primary and secondary alcohols. Add a note on chemical properties (12)
 - 5A)
 - 5B) Explain the structure of carbenes, carbocations and carbanion. (8)
- 6) Give an account of synthetic uses of active methylene compounds. (12)
 - 6A)
 - 6B) Explain the chemical properties of heterocyclic compounds (8)
- 7) Explain the preparation, properties of dicarboxylic acids and their uses (12)
 - 7a)
 - 7b) Differentiate between nitration of benzene and phenol with mechanism (8)
- 8) Explain the preparation and properties of alkanes as well alkenes (12)
 - 8a)

8b) Explain the mechanism of aldol condensation and mixed aldol condensation (8)

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