

Question Paper

Exam Date & Time: 11-Jul-2023 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

IV Year Pharm D/ I Pharm D Post Baccalaureate
University Examination April 2023

Pharmaceutical Organic Chemistry [PCH 1.4T-S2]

Marks: 70

Duration: 180 mins.

A: Long Answer Questions

Answer all the questions.

Draw diagrams wherever necessary

- 1) Write the mechanism of acetal formation. (4)
 - a)
 - b) Explain with mechanism the conversion of acetophenone to ethyl benzene. (6)
- 2) Predict the major products of bromination of aniline. 3 marks (4)
Why amino group is a strong activator? 1 mark
 - a)
 - b) Explain with mechanism the bromination of aniline. (6)
- 3) **Define the following named reactions and propose the mechanism with an example:** (10)
 - a) The Perkin condensation
 - b) Michael addition reaction

B: Short Answer Questions

Answer all the questions.

- 4) Explain with an example the mechanism and any three evidences for E2 reactions. (5)
- 5) Discuss with an example the mechanism involved in elimination-addition method of nucleophilic aromatic substitution reaction. (5)
- 6) Propose a suitable class of solvents with example for S_N2 reactions. (5)
Justify your answer.
- 7) Give a method of preparation, principle involved in assay and uses of the methyl salicylate. (5)
- 8) Explain Bayer's strain theory with suitable illustrations. (5)
- 9) **Write the structure for the following IUPAC names** (5)
 - 3-bromo heptane

- 3-Methyl hexane
- 5(1,2 dimethyl propyl)-2-Methyl nonane
- 6-Methyl oct-3-yne
- Ethane 1,2 diol

C. Give Reasons for the Following

Answer all the questions.

- 10) Carbon dioxide has zero dipole moment. (2)
- 11) Inversion of configuration occurs in S_N2 reactions. (2)
- 12) Water is a liquid and hydrogen sulphide is a gas at room temperature. (2)
- 13) Chlorine is an ortho- and para- directing even though it is an electron withdrawing group. (2)
- 14) Strong base affects S_N1 reaction. (2)

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