

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[BPHARM 0522]

MAY 2022

Sub. Code: 2039

(SEPTEMBER 2021 EXAM SESSION)

B. PHARMACY DEGREE EXAMINATION

PCI Regulation SEMESTER - IV

PAPER I – PHARMACEUTICAL ORGANIC CHEMISTRY III

Q.P. Code : 562039

Time: Three hours

Maximum: 75 Marks

I. Elaborate on: Answer any TWO questions. (2 x 10 = 20)

1. Define racemic modification? Discuss the method of resolution of racemic modification by formation of diastereomers.
2. Discuss the methods of preparation and chemical reactions of pyridine.
3. Describe the reaction and mechanism of
(a) Birch reduction (b) Wolf Kishner reduction.

II. Write notes on: Answer any SEVEN questions. (7 x 5 = 35)

1. Explain asymmetric synthesis.
2. Explain the nomenclature of geometrical isomers.
3. Discuss the conformational isomerism in n-butane.
4. Compare the aromaticity and reactivity of pyrrole, furan and thiophene.
5. Write the methods of synthesis and medicinal uses of pyrimidine.
6. Write the electrophilic substitution reactions of indole.
7. Explain the synthetic applications of sodium borohydride.
8. Write a brief note on Oppenauer oxidation?
9. Explain with mechanism Claisen-Schmidt condensation. Add a note on its application.

III. Short answers on: Answer ALL questions. (10 x 2 = 20)

1. Distinguish between enantiomers and diastereomers.
2. What are the disadvantages of biochemical method of resolution of racemic mixture?
3. Define stereospecific reactions and give a suitable example.
4. Compound A has melting point 300°C and boiling point 40°C. Compound B has melting point 130°C and boiling point 60°C. Determine whether compounds A and B are cis or trans isomers.
5. What are fused heterocyclic compounds? Give examples.
6. Why is pyrrole weakly basic?
7. Write any one method of synthesis and any one reaction of acridine.
8. What happens when.
a) Quinoline reacts with potassium permanganate.
b) Pyrazole reacts with concentrated nitric acid.
9. What is Schmidt rearrangement?
10. Write any two applications of Clemmensen reduction?
