

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

[BPHARM 0321]

MARCH 2021

Sub. Code: 2039

(SEPTEMBER 2020 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. Discuss the conformational isomerism in monosubstituted and disubstituted cyclohexane.
2. a) Skraup synthesis (5 marks)
b) Fischer Indole synthesis (2½ marks)
c) Pall-Knorr synthesis (2½ marks)
3. What are rearrangement reactions? Write a detailed account on Schmidt rearrangement.

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

1. Explain DL system of nomenclature. List out its disadvantages.
2. What are the conditions for a compound to be optically active? Explain optical activity in compounds containing two different chiral carbon atoms.
3. Write a brief note on Atropisomerism.
4. Write any two methods of preparation of pyridine? Add a note on its basicity.
5. Write the methods of synthesis and reactions of isoquinoline.
6. Explain the methods of preparation and any three reactions of thiophene.
7. What is asymmetric synthesis? Describe the types of asymmetric synthesis with suitable examples.
8. Explain with mechanism any one reaction which is used for the reduction of carbonyl compounds to hydrocarbons.
9. Write the reaction, mechanism and applications of Dakin reaction?

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

1. Which of the following is optically active-lactic acid or propionic acid. Give reason.
2. What are syn and anti forms?
3. Define racemic mixture. List out any five methods for the resolution of racemic modification.
4. Write all the conformers of 1,2-dichloro ethane.
5. What is the product obtained on treating pyrrole and furan with maleic anhydride?
6. Write any one method of synthesis of azepines and give their medicinal uses.
7. Write any one method of synthesis and any one reaction of thiazole.
8. Why is nitrobenzene generally used as the oxidizing agent in Skraup synthesis?
9. Write the reaction showing an aldoxime undergoing Beckmann rearrangement.
10. With a suitable example explain centre of symmetry.
