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MPC 102 T

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2021

M.Pharm. 1st Semester (Regular) Examination

Pharmaceutical Chemistry

ADVANCED ORGANIC CHEMISTRY - I

(New Regulation w.e.f. 2017-18)

Full Marks – 75

Time – Three hours

The figures in the margin indicate full marks
for the questions.

Answer question No. 1 and any *seven* from the rest.

1. Answer the following questions : (5 × 1 = 5)
 - (a) Define Synthons in Retrosynthesis.
 - (b) Where Saytzev rule is implemented?
 - (c) What is the significance of Protecting group?
 - (d) Give an example of Rearrangement reaction.
 - (e) Differentiate carbocation and carbene.
2. Discuss different types of reactions with mechanism. (10)
3. Write a note on reaction intermediates citing example. (10)
4. Differentiate SN¹ and SN² reaction stereochemically with example. Discuss the factors affecting both SN¹ and SN² reactions. (4+6=10)
5. (a) What happens when tertiary butyl chloride react with ethanolic KOH? Explain the mechanism. Describe the reaction when 1-butene reacts with HBr. (3+3=6)
 - (b) Explain Friedal craft acetylation with mechanism. (4)

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6. Write down the mechanism and synthetic application of following reactions :
(3+3+4=10)
- (a) UGI reaction
 - (b) Ullman coupling reaction
 - (c) Sandmeyer reaction.
7. Write down the application of Aluminium isopropoxide, N-bromosuccinamide, diazomethane, Wilkinson reagent, Witting reagent. (10)
8. What should be the qualities of a good protecting group? Discuss how you will protect alcohol group, carboxyl group and amino group by using different protecting groups. (2+8=10)
9. What do you mean by Retrosynthesis? Write down the basic principle and advantages of Retrosynthesis. (2+8=10)
10. Write down the mechanism of the following synthesis : (3+3+4=10)
- (a) Knorr Pyrazole Synthesis
 - (b) Pinner Pyrimidine Synthesis
 - (c) Traube purine synthesis.
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