

2012 Scheme

QP CODE: 112006

Reg. No:

First Year B.Pharm Degree Supplementary Examinations September 2021

Pharmaceutical Chemistry - II

(Organic Chemistry)

Time: 3 Hours

Total Marks: 100

- Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space
- Answer all parts of a single question together • Leave sufficient space between answers
- Write equations wherever necessary.

Essay

(3x10=30)

1. Elaborate the role of inductive effect and mesomeric effects in electron displacement of organic molecules.
2. Discuss reaction, mechanism and limitations of Markovnikov's rule and Kharasch effects.
3. Describe the mechanism of electrophilic aromatic substitution reactions of benzene with reference to nitration, sulphonation, Friedel-Craft's alkylation.

Short notes

(14x5=70)

4. Explain hybridization. Describe the molecular orbital structure of ethane.
5. Explain Bayers strain theory.
6. Distinguish the relative reactivity of primary, secondary and tertiary alcohols.
7. How do you differentiate primary, secondary and tertiary amines by chemical methods.
8. Explain any five reactions of phenols.
9. Explain the following reactions.
 - Benzoin condensation
 - Reformatsky reaction
10. Explain any two methods of preparation and three chemical reactions of alkyl halides.
11. Explain the acidity of phenols and give reason why they are more acidic than alcohols.
12. Explain the stability of benzene on the basis of resonance theory.
13. Outline Williamson's synthesis of ethers.
14. Discuss any four nucleophilic addition reactions of carbonyl compounds.
15. Explain the preparation of diazonium compounds. Describe its mechanism.
16. Discuss acidity and effect of substituents on the acidity of carboxylic acids.
17. Predict the products of the following reactions.
 - $\text{CH}_3\text{CH}_2\text{CONH}_2 + \text{LiAlH}_4$
 - $\text{C}_6\text{H}_5\text{CHO} + \text{NaCN}/\text{H}_2\text{O}-\text{EtOH}$
 - $\text{CH}_3\text{CH}-\text{CH}-\text{CH}_2\text{CH}_3 + \text{HBr}$
 - $\text{CH}_3\text{CH}_2\text{COOH} + \text{NaOH}/\text{CaO}$
 - $\text{C}_6\text{H}_5\text{NO}_2 + \text{Zn}/\text{HCl}$
