

B.Pharm I Year II Semester (R15) Supplementary Examinations December 2016

PHARMACEUTICAL ORGANIC CHEMISTRY – II

Time: 3 hours

Max. Marks: 70

PART – A

(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- How can you distinguish 1°, 2° and 3° alcohols in the laboratory?
 - What is the advantage of reducing esters rather than the corresponding acids?
 - How can you differentiate the following in the laboratory?
 - $\text{CH}_3\text{CH}_2\text{CONH}_2$ and $\text{CH}_3\text{CH}_2\text{CH}_2\text{NH}_2$
 - Why dehydration proceeds in the presence of an acid catalyst whereas dehydrohalogenation occurs in the presence of a base?
 - How do you convert?
 - Acetic acid to acetamide.
 - Write the different resonance structures of naphthalene. How is the hybrid structure presented?
 - Phenols are weakly acidic than carboxylic acids. Explain.
 - What is Kolbe's reaction?
 - Why aryl halides undergo nucleophilic substitution with extreme difficulty compared to alkyl halides?
 - Which of the following groups are activating / deactivating and o, p and m directing in electrophilic aromatic substitution reactions?
 - CHO
 - OC_2H_5
 - Br
 - C_6H_5

PART – B

(Answer all five units, 5 X 10 = 50 Marks)

UNIT - I

- 2 Discuss the Williamson's synthesis of ethers along with the mechanism. How can you prepare tert-butyl ethyl ether by this method? Which reagents do you choose for this synthesis and which will you avoid? Explain your answer.

OR

- 3 (a) Explain the Dow process of preparation of phenol.
(b) Discuss the stability of phenoxide ion.

UNIT - II

- 4 Explain the theory of reactivity in mono substituted benzene. Identify which of the following are activating and deactivating groups:

- NH_2
- COOH
- NO_2
- CH_3

OR

- 5 Give an account on:
- Huckel's rule.
 - Benzene ion concept.
 - Conversion of benzene to iodobenzene.
 - Conversion of toluene to m-toluic acid.

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UNIT - III

6 Give the methods of preparation of naphthalene. Write the electrophilic substitution reactions naphthalene.

OR

7 Discuss the structure and aromatic character of naphthalene, anthracene, phenanthrene.

UNIT - IV

8 How are acetoacetic and malonic esters prepared? Outline the mechanisms involved and discuss the important uses of these esters in organic synthesis.

OR

9 Discuss the important methods of preparation of carboxylic acids. How is the acidity varies among different substituted aromatic acids?

UNIT - V

10 Give an account on:

- (a) Reductive reactions of aromatic nitro compounds.
- (b) Reactions of diazonium salts.

OR

11 Discuss the methods of synthesis and functional reactions of isonitriles.

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