

Code: 15R00201

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)
- (a) How can you distinguish 1°, 2° and 3° alcohols in the laboratory?
 - (b) What is the advantage of reducing esters rather than the corresponding acids?
 - (c) How can you differentiate the following in the laboratory?
 - (i) $\text{CH}_3\text{CH}_2\text{CONH}_2$ and $\text{CH}_3\text{CH}_2\text{CH}_2\text{NH}_2$
 - (d) Why dehydration proceeds in the presence of an acid catalyst whereas dehydrohalogenation occurs in the presence of a base?
 - (e) How do you convert?
 - (i) Acetic acid to acetamide.
 - (f) Write the different resonance structures of naphthalene. How is the hybrid structure presented?
 - (g) Phenols are weakly acidic than carboxylic acids. Explain.
 - (h) What is Kolbe's reaction?
 - (i) Why aryl halides undergo nucleophilic substitution with extreme difficulty compared to alkyl halides?
 - (j) Which of the following groups are activating / deactivating and o, p and m directing in electrophilic aromatic substitution reactions?
 - (i) CHO (ii) OC_2H_5 (iii) Br (iv) 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:
- (a) NH_2
 - (b) COOH
 - (c) NO_2
 - (d) CH_3

OR

- 5 Give an account on:
- (a) Huckel's rule.
 - (b) Benzene ion concept.
 - (c) Conversion of benzene to iodobenzene.
 - (d) 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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