

FEBRUARY 2009

[KU 736]

Sub. Code: 4227

FIRST B.PHARM. DEGREE EXAMINATION

(Regulations 2004)

(Candidates admitted from 2004-05 onwards)

Paper II – PHARMACEUTICAL ORGANIC CHEMISTRY

Q.P. Code : 564227

Time : Three hours

Maximum : 90 marks

I. Essay Questions :

(2 X 20 = 40)

Answer any TWO questions.

1. a) What are alcohols? Classify them. Outline the nomenclature, method of preparation and chemical reactions of alcohols. (10)
b) Explain the mechanism of electrophilic addition reaction in alkenes. (10)
2. a) Explain the structure of benzene. (10)
b) Describe the chemical reactions of α , β – unsaturated carbonyl compounds. (10)
3. a) Explain the role of inductive effect and mesomeric effect in electron displacement of molecule.
b) Describe any two methods to differentiate 1° , 2° and 3° amines. (10)

II. Write Short Notes : Answer any EIGHT questions. (8X 5 = 40)

1. Write the preparation of diazonium compounds. Describe its mechanism.
2. Write a short note on stability of carborium ions.
3. Discuss the basicity of amines.
4. How will you distinguish between aldehydes and ketones?
5. Write a note on Bayer's strain theory.
6. Describe the nucleophilic substitution reactions.
7. Write an explanatory note on ozonolysis reaction and its applicability.
8. Explain the method of Haworth synthesis for polynuclear hydrocarbons.
9. Outline the method of preparation, assay and uses of the following:
a) Glyceroltrinitrate. b) Benzoic acid.
10. Explain the phenomenon of tetrahedral hybridisation with suitable examples.

III. Short Answers: Answer any FIVE questions. (5X2 = 10)

1. What happens when, a) Naphthalene reacts with sodium and ethanol.
b) Naphthalene is heated with nickel.
2. What is hydrogen bonding? Give example.
3. Write the method of preparation, assay and uses of acetanilide.
4. Write a brief note on aromaticity.
5. Define saytzeff's rule. Give example.
6. Mention the drawback of Friedel-Craft's alkylation in benzene.
7. Write a note on mixed aldol condensation.

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Time : Three hours

Maximum : 90 marks

I. Essay Questions : Answer any TWO questions. (2 x 20 = 40)

1. a) What is SN2 reaction? Explain the mechanism with a suitable example.
b) Give the synthesis of Malonic esters and write the synthetic applications of Malonic esters.
2. a) What is electrophilic addition reaction? Explain the mechanism with a suitable example.
b) Write the reactions of α , β unsaturated carbonyl compounds.
3. a) What is free radical addition reaction? Explain the mechanism of free radical addition with an example.
b) Give the reactions of carboxylic acids.

II. Write Short Notes : Answer any EIGHT questions. (8 x 5 = 40)

1. Write any five reactions of anthracene.
2. Give the reactions of alcohols.
3. How will you differentiate aldehyde from ketones?
4. How will you differentiate E1 reaction and E2 reaction?
5. Write short notes on Markownikoff's rule and peroxide effect with example.
6. What are the applications of diazonium salts?
7. Write the properties of α , β unsaturated carbonyl components.
8. What is hybridization? Describe the molecular orbital structure of methane.
9. Give the synthesis and medical uses of a) lactic acid b) aspirin.
10. Write any three examples for poly nuclear hydro carbon. Give any one reaction from each.

III. Short Answers: Answer any FIVE questions. (5 x 2 = 10)

1. Define carbocation and carbanion.
2. What is Saytzeff's rule?
3. How will you differentiate 1°, 2°, 3° amines.
4. What is hyper conjugation?
5. Define Tautomerism with example.
6. Explain the 1, 4 addition conjugated dienes.
7. Write the structure and test for purity of a) salicylic acid b) glyceryl tri nitrate.
