February 2011

[KY 758] **Sub. Code : 4252**

FIRST B. PHARM. DEGREE EXAMINATION.

(Regulations 2009) Candidates Admitted from 2009-2010

Paper II — PHARMACEUTICAL ORGANIC CHEMISTRY

Q.P. Code : 564252

Time : Three hours **Maximum : 80 marks**

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

1. (a) Define aromatic electrophlic substitution reactions. Discuss the reaction and mechanism of nitration sulphonation, and friedel-craft reaction, sulphonation, and friedel-craft reaction. (15)
   (b) Describe clemmenser reduction with suitable example (5)

2. (a) Define elimination reaction. Discuss the mechanism of E1 and E2 reaction with suitable example. (10)
   (b) Write any four general methods of preparation of alkyl halides. (10)

3. (a) Discuss Bayer's strain theory with suitable examples. (10)
   (b) Explain the facts supporting kekule structure of Benzene. (10)

II. Write short notes: Answer any **SIX** questions. **(6 x 5 = 30)**

1. Write short note on peroxide effect.
2. Explain nucleophilic substitution reaction with example.
3. Write the preparation and synthetic utility of diazanium salts.
4. Outline the general methods of preparation of alkynes.
5. Discuss the basicity of amines.
6. Write note on Inductive effect.
7. Write note on free radical reaction.
8. Write any two method of preparation of alcohol.

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

1. Tollens reagent.
2. Define hyper – conjugation.
3. Explain conjugated dienes.
4. Explain resonance effect.
5. Lucas test.
6. Give the structure for 5-Bromo-4-methyl-hex-3-en-2-one.
7. Give the IUPAC name for Ho -CH_2 -CH_2 - COOH.

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August 2011

[KZ 4252] **Sub. Code : 4252**

FIRST B.PHARM. EXAMINATION

Paper II – PHARMACEUTICAL ORGANIC CHEMISTRY

Q.P. Code : 564252

Time : Three hours **Maximum: 100 Marks**

Answer ALL questions.

I. LONG ESSAYS **(2 x 20 = 40)**

1. Give the preparation and reactions of Alkenes.
2. Explain the mechanism involved in Nucleophilic aromatic substitution reaction.

II. SHORT NOTES **(8 x 5 = 40)**

1. Explain the Bayers strain theory.
2. Write the preparation of alkyl halides.
3. Write short notes on Markownikoff's rule.
4. What is diel's alder reaction?
5. Explain the Huckel's rule.
6. Give a note on carbocations.
7. How to differentiate primary, secondary and tertiary alcohols.
8. Write the preparation and the synthetic utility of Grignard reagent.

III. SHORT ANSWERS **(10 x 2 = 20)**

1. Define dipole moment and resonance.
2. Give the medicinal uses of (a) Methyl salicylate (b) acetanilide.
3. Write any two addition reaction of conjugated dienes.
4. What are nucleophiles and electrophiles?
5. What is energy of activation?
6. Write the ozonolysis reaction.
7. Write the two steps of SN_1 mechanism.
8. What is sand Meyer Reaction?
9. What are epoxides?
10. How to prepare diazonoium salts?

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February 2012

[LA 4252] **Sub. Code: 4252**

FIRST B.PHARM. EXAMINATION

Paper II – PHARMACEUTICAL ORGANIC CHEMISTRY

Q.P. Code : 564252

Time: Three Hours **Maximum: 100 marks**

Answer ALL questions

I. Elaborate on: **(2 x 20 = 40)**

1. (a) Give the structure nomenclature, preparation and reaction of Cycloalkanes.(10)
   (b) Add a note on addition reactions of conjugated dienes. (5)
   (c) Explain the formation of bonding, anti-bonding orbitals. (5)

2. (a) What is kekule structure of benzene and write their resonance structure of Benzene. (7)
   (b) Explain the SN_2 reaction with the help of a suitable example. (8)
   (c) Outline the test for purity, preparation and medicinal uses of saccharin. (5)

II. Write notes on: **(8 x 5 = 40)**

1. What is the diazonium reaction? Explain the general reaction?
2. Write the synthesis and properties of phenanthrene.
3. Explain keto-enol tautomerism with examples.
4. Write the preparation, test for purity and medicinal uses of benzoic acid.
5. Explain the Bayer's strain theory and its limitations.
6. Give the nomenclature and reactions of alkynes.
7. Explain the markovnikov's rule including the mechanism and with an example.
8. What are Grignard reagent and explain with one example?

III. Short Answers **(10 x 2 = 20)**

1. Define intermolecular bonding.
2. Write the structure and uses of citric acid.
3. How will you test the purity of vanillin?
4. Define hyper conjugation.
5. What is energy of activation?
6. Explain the following reactions
   (a) Sandmeyer reaction (b) Gattermann reaction.
7. What is Diens?
8. What are alkyl halides?
9. Write the preparation of malonic ester.
10. Explain bond fission.

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(LC 4252) **FEBRUARY 2013** **Sub. Code: 4252**

FIRST YEAR B.PHARM. EXAM

Paper II – PHARMACEUTICAL ORGANIC CHEMISTRY

Q.P. Code : 564252

Time: Three Hours **Maximum: 100 marks**

(180 Min)

I. Elaborate on: **(2 x 2 0 = 40 marks)**

1. Define the terms 'Hybridization'.Explain various types of hybridization in carbon compounds with examples?

2. What are polynuclear aromatic hydrocarbons? Write the synthesis and properties of Diphenyl ethane, Phenanthrene and Naphthalene?

II. Write notes on: **(8 x 5 = 40 marks)**

1. Explain Williamson ether Synthesis and Riermticman reaction?
2. Explain the preparation of Glycerol?
3. Discuss cannizaro and crossed cannizaro reaction?
4. Write any two method of preparation of carboxylic acid with its mechanism?
5. Explain Bayer's strain theory?
6. Give preparation,assay,use of Dimercaprol and Hexamine?
7. Give synthetic utility of diazonium salts?
8. Explain mechanism of Halogenation of alkanes.Discuss selectivity of halogens in this reaction?

III. Short Answers **(10 x 2 = 20 marks)**

1. Diel's alder reaction?
2. Dipole moment?
3. Aromaticity of benzene?
4. Energy of activation?
5. Medicinal use of Mephensein and Benzyl benzoate?
6. Aniline with potassium permangante -------→?
7. Hoffmann degradation of amines?
8. How will distinguish 1,2 and 3 alcohol?
9. Tautomerism?
10. Explain Why Akynes are more reactive than alkenes?

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(LD 4252) **AUGUST 2013** **Sub Code: 4252**

FIRST YEAR B.PHARM. EXAM

Paper II – PHARMACEUTICAL ORGANIC CHEMISTRY

Q.P. Code: 564252

Time: Three hours **Maximum: 100 marks**

I. Elaborate on: **(2X20=40)**

1. (a) Illustrate the important steps in Haworth's synthesis of naphthalene.
   (b) Describe about elctrophilic and nucleophilic aromatic substitution reactions

2. (a) Write the general methods for the preparation of amines and carboxylic acids.
   (b) Enumerate the methods for the preparation and synthetic utility of diazonium salts

II. Write Notes on: **(8 x 5 =40)**

1. Write short notes on dipole moment
2. Describe the methods of preparation of alkenes
3. Explain about Markownikoff's rule
4. Write the methods of preparation of alcohol
5. Write the preparation and medicinal uses of vanillin
6. What are carbenes? Give examples and explain about stability
7. Write about aromatic character of benzene
8. Write short notes on mesomeric effect

III. Short Answers: **(10 x 2 =20)**

1. Types of tautomerism
2. Cycloalkanes
3. Lactic acid
4. Energy of activation
5. Ozonolysis
6. Diel's-Alder reaction
7. Methyl salicylate
8. Conjugated dienes
9. Sodium lauryl sulphate
10. Alpha-Beta-Unsaturated Carbonyl Compounds

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(LE 4252) **FEBRUARY 2014** **Sub Code: 4252**

FIRST YEAR B.PHARM. EXAM

Paper II – PHARMACEUTICAL ORGANIC CHEMISTRY

Q.P. Code: 564252

Time: Three hours **Maximum: 100 marks**

I. Elaborate on: **(2X20=40)**

1. a. Write down the general methods of preparation of alkyl and aryl halides
   b. Explain the methods of preparation and synthetic utility of aceto-acetic ester.

2. a. Write in detail about resonance effect and intramolecular forces in organic compounds.
   b. Explain in detail about ozonolysis and Baeyer's strain theory.

II. Write Notes on: **(8 x 5 =40)**

1. Describe the Methods of preparation of alkane
2. Describe the Mechanism of Diel's-Alder Reaction
3. Give the preparation and medicinal uses of amphetamine
4. What are Grignard reagent and give synthetic utility
5. Explain about Williamson ether synthesis and Reimer–Tiemann reaction
6. Explain about Markownikoff's rule with example
7. Discuss the Basicity of amines
8. Discuss about nucleophilic aromatic substitution reaction with examples

III. Short Answers on: **(10 x 2 =20)**

1. Dicophane
2. Carbenes
3. Ketones
4. Anthracene
5. Hyperconjugation
6. Wave equations
7. Diphenyl methane
8. Citric acid
9. Iodoform
10. Inductive effect

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(LF 4252) **AUGUST 2014** **Sub Code: 4252**

FIRST YEAR B.PHARM. EXAM
PAPER II – PHARMACEUTICAL ORGANIC CHEMISTRY

Q.P. Code: 564252

Time: Three hours **Maximum: 100 marks**

Answer All Questions

I. Essay: **(2X20=40)**

1. Describe the mechanism of electrophilic aromatic substitution with reference to nitration, sulphonation, Friedel-Craft's alkylation and halogenations in benezene.

2. Explain the mechanism, reactivity and orientation of E2 reaction.

II. Short Notes: **(8X5=40)**

1. Describe Bayer's strain theory.
2. Mention the methods of preparation and reactions of Aldehydes.
3. Write about the types and stability of Dienes.
4. Give the preparation and properties of Diphenyl ethane.
5. Mention the preparation, test for purity and medicinal uses of Methyl salicylate and Glycol.
6. Describe sp3 hybridisation with suitable example.
7. Define and mention the types of electrophiles and nucleophiles with suitable examples.
8. Write the preparation and synthetic utility of malonic ester.

III. Short Answers: **(10X2=20)**

1. Define Covalent bond.
2. Write about Saytzeff's rule.
3. Brief about Williamson ether synthesis.
4. Give the structural formula of Phenol and Aniline.
5. Define 'Resonance'.
6. Write the order of stability of different types of Carbanions.
7. Give the structural formula and IUPAC name of Acetone.
8. Mention the generation of free radicals.
9. Write the name and structural formula of any two Aprotic solvents.
10. Brief about oxidation of secondary alcohols.

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