

[LB 4258]

AUGUST 2012

Sub. Code: 4258

SECOND YEAR B.PHARM. EXAM

Paper III – ADVANCED PHARMACEUTICAL ORGANIC CHEMISTRY

Q.P. Code : 564258

Time: Three hours

Maximum: 100 Marks

(180 Min) Answer ALL questions in the same order.

I. Elaborate on:

Pages Time Marks
(Max.)(Max.)(Max.)

- | | | | |
|---|----|----|----|
| 1. Define and classify alkaloids with examples. Discuss the chemistry and pharmacological activity of ephedrine. | 19 | 33 | 20 |
| 2. Write the definition, reaction, mechanism and applications of (i) Beckmann rearrangement and (ii) Birch reduction. | 19 | 33 | 20 |

II. Write notes on:

- | | | | |
|--|---|---|---|
| 1. Write a brief note on Absolute configuration. | 3 | 8 | 5 |
| 2. Explain Clemmenson's reduction in detail. | 3 | 8 | 5 |
| 3. (i) Fischer indole synthesis (ii) Skraup synthesis. | 3 | 8 | 5 |
| 4. Explain the oxidative uses of lead tetraacetate. | 3 | 8 | 5 |
| 5. Give any two methods of preparation of Oxazole and Thiophene. | 3 | 8 | 5 |
| 6. Explain conformational analysis of ethane. | 3 | 8 | 5 |
| 7. Write short notes on Atropine and related alkaloids. | 3 | 8 | 5 |
| 8. Write the electrophilic substitution reactions of Pyrrole. | 3 | 8 | 5 |

III. Short Answers:

- | | | | |
|--|---|---|---|
| 1. Define racemic modification. | 1 | 5 | 2 |
| 2. What are enantiomers. | 1 | 5 | 2 |
| 3. Write the definition and reaction for Meerwein Ponderoff reduction. | 1 | 5 | 2 |
| 4. Give any two methods of preparation of pyrimidine. | 1 | 5 | 2 |
| 5. What is dehydrogenation. | 1 | 5 | 2 |
| 6. What are flavonoids. | 1 | 5 | 2 |
| 7. Write any two uses of Selenium oxide. | 1 | 5 | 2 |
| 8. Define alkaloids and give examples. | 1 | 5 | 2 |
| 9. Write the structure of i) Vitamin D ii) Ephedrine | 1 | 5 | 2 |
| 10. Give any two reactions of thiophene. | 1 | 5 | 2 |

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FEBRUARY 2013

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Time : Three hours

Maximum: 100 Marks

(180 Min)

I. ELABORATE ON:

(2x20=40)

1. a) Write in detail about asymmetric synthesis(10)
b) Describe the stereochemistry of cyclic compounds(10)
2. a) Describe the chemistry and constitutions of ephedrine(15)
b) Give the structure and five reactions of atropine(5)

II. SHORT NOTES

(8x5=40)

1. Write the synthesis of furan
2. Describe the Clemmenson's reduction with suitable reaction
3. Classify heterocyclic compounds with example
4. Explain the Beckmann rearrangement with mechanism
5. Classify flavonoids with example
6. Describe the chemistry of digitoxin
7. Give the chemical reactions of papaverine
8. Describe the chemistry and uses of vitamin-E

III. SHORT ANSWERS

(10x2=20)

1. Add a note on sequence rule
2. Write any two reactions given by pyridine
3. Give two examples for the oxidative reactions of periodic acid
4. Describe the reactions of thiazole
5. Give the uses of metal hydride
6. Write the preparation of citral
7. Discuss the chemistry of uric acid
8. Write the chemistry of folic acid
9. Sketch the structures of caffeine and theobromine
10. Draw the structure and chemical name of thiamine

(LD 4258)

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SECOND YEAR B.PHARM. EXAM

PAPER III – ADVANCED PHARMACEUTICAL ORGANIC CHEMISTRY

Q.P. Code: 564258

Time: Three Hours

Maximum: 100 marks

I. Elaborate on:

(2X20=40)

1. a) What are conformational isomers and write in detail about conformational analysis.
b) Describe the modern theories of double bond with suitable examples.
2. Elucidate the structure of uric acid. Discuss the inter relationship between caffeine, Theophylline and theobromine.

II. Write notes on:

(8X5=40)

1. Explain the Schmidt rearrangement with mechanism?
2. Give the chemical reactions of atropine.
3. Describe the chemistry and uses of Vitamin K.
4. Write a brief note on Asymmetric synthesis.
5. Give any two methods of preparation and any three reactions of Furan.
6. Write a brief note on catalytic hydrogenation.
7. What is chirality? Write their significance.
8. Write a note on Walden Inversion.

III. Short Answers on:

(10X2=20)

1. Write any two reactions given by pyrimidine.
2. What is Darzens reactions?
3. Give any two reactions of ephedrine.
4. Give any two reaction of indole.
5. Write any two uses of Lithium aluminium hydride.
6. Define alkaloids and give examples.
7. Write the structure and numbering of heterocyclic compounds pyrimidine and pyrrole.
8. Medicinal uses of Flavanoids.
9. Define racemic modifications.
10. Write a note on plane of symmetric.

(LE 4258)

FEBRUARY 2014

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SECOND YEAR B.PHARM. EXAM
PAPER III – ADVANCED PHARMACEUTICAL ORGANIC CHEMISTRY
Q.P. Code: 564258

Time: Three Hours

Maximum: 100 marks

I. Elaborate on:

(2X20=40)

1. a) Describe the absolute and relative configuration.
b) Stereospecific and stereoselective synthesis.
2. Explain the chemistry and constitution of citral.

II. Write notes on:

(8X5=40)

1. Clemmenson's reduction.
2. Reaction of furan.
3. Stereochemistry of cyclic compounds.
4. Chemistry of papaverine.
5. Relationship between menthol and thymol.
6. Schmidt rearrangement.
7. Synthesis of thiophene.
8. Structure and uses of Vitamin B₁ and E.

III. Short Answers on:

(10X2=20)

1. Define glycoside.
2. Classify terpenoids.
3. Structure and uses of digoxin.
4. Define plane of symmetry.
5. Fischer projection.
6. Structure of hesperidine.
7. Two reaction of pyridine.
8. Structure of atropine and ephedrine.
9. Darzen's reaction.
10. Two synthesis of pyrimidine.

[LF 4258]

AUGUST 2014

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SECOND YEAR B.PHARM. DEGREE EXAMINATION

Paper III – ADVANCED PHARMACEUTICAL ORGANIC CHEMISTRY

Q. P. Code: 564258

Time: Three Hours

Maximum: 100 Marks

Answer All Questions

I. Essay Questions: (2 x 20 = 40)

1. a) What is Walden Inversion explain in detail the mechanism of reaction and factors affecting Walden inversion.
b) Give important methods of preparation and chemical reactions of Pyridine.
2. a) Give the structural elucidation of Atropine.
b) Give the definition, mechanism of reaction and applications of Meerwin pondroff reaction and Schimdt reaction

II. Short Notes: (8 x 5 = 40)

1. Explain Catalytic hydrogenation.
2. Explain the various methods of nomenclature of Geometrical isomers.
3. Write the chemistry of vitamin A.
4. Elucidate the structure of Caffiene.
5. Explain the chemistry of Lanatosides.
6. Give the Halogenation, Coupling reaction and Reduction reaction of Furan.
7. Write the synthesis of Pyrimidine.
8. Explain any five methods of resolution of racemic mixture.

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

1. Give the application of mercuric acetate.
2. Write the structure and medicinal uses of Digitoxin and Theophylline.
3. Write the Friedal craft's reaction and Coupling reaction of Pyrrole.
4. Write any two reactions of Acridine.
5. Give the structure and medicinal uses of Thymol and Hesperidin.
6. Define Enantiomer and Diastereoisomer.
7. Define Clemmenson reaction with example.
8. Write any method of synthesis of phenothiazine.
9. List out the Alkaloidal reagents used for identification.
10. Classify glycosides based on the Aglycones present in it.
