Code: BP202T

R19

B.Pharm I Year II Semester (R19) Supplementary Examinations February 2023

PHARMACEUTICAL ORGANIC CHEMISTRY - I

(For 2019, 2020 & 2021 admitted batches only)

Time: 3 hours Max. Marks: 75

PART – A

(Compulsory Question)

*****

1		Answer the following: (10 X 02 = 20 Marks)	
	(a)	What is functional isomerism? Give one examples.	2M
	(b)	Write the structures and IUPAC names for tertiary butyl chloride and acetic acid.	2M
	(c)	Write any two methods of preparation for Alkanes.	2M
	(d)	What is ozonolysis? Write the reaction.	2M
	(e)	Write any two differences between SN1 and SN2 reactions.	2M
	(f)	Write the structure and uses for iodoform.	2M
	(g)	Write a brief note on electrometric effect.	2M
	(h)	Write any two qualitative tests for formaldehyde.	2M
	(i)	Write the structure and uses of amphetamine.	2M
	(j)	Which is more acidic, formic acid or acetic acid? Give reason.	2M

PART – B

(Answer any two questions: 02 X 10 = 20 Marks)

2	Explain in detail the mechanisms involved in electrophilic and free radical addition reaction in alkenes.	10M
3	Elaborate on the mechanism, kinetics and stereochemistry involved in SN1 and SN2 reactions.	10M
4	Explain in detail the mechanisms for Perkin condensation and cannizzaro reaction.	10M

PART – C

(Answer any seven questions: 07 X 05 = 35 Marks)

5	Write various classifications of organic compounds with one example for each class.	5M
6	Explain in detail SP2 hybridization in alkenes. Write any two methods of preparation of alkenes.	5M
7	Discuss the mechanism and kinetics in E1 reaction.	5M
8	What is Markownikoff's orientation in the addition reaction for alkenes?	5M
9	Write any five methods of preparation for alkyl halides OR alcohols.	5M
10	Write the reaction and mechanism involved in Aldol condensation. Add a note on crossed aldol condensation.	5M
11	Write any two identification tests for carboxylic acids and amides.	5M
12	Explain the effect of substituents on acidity of carboxylic acids with appropriate examples.	5M
13	Explain the basicity of amines.	5M

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Code: 15R00201

R15

B.Pharm I Year II Semester (R15) Supplementary Examinations February 2023

PHARMACEUTICAL ORGANIC CHEMISTRY – II

Time: 3 hours Max. Marks: 70

PART – A

(Compulsory Question)

*****

1 Answer the following: (10 X 02 = 20 Marks)

(a) What is primary alcohol?
(b) What is MPV reduction?
(c) Write the structure for: (i) 5 isopropyldecane. (ii) 4 bromo-isopropylbenzene.
(d) Write the reaction for chlorination reaction of Benzene.
(e) Give one reaction of naphthalene.
(f) Give one method of preparation of phenanthrene.
(g) Define esterification reaction.
(h) Explain why trichloroacetic acid is more acidic than acetic acid?
(i) What is carbylamine reaction?
(j) Explain acidity of nitro compounds reaction.

PART – B

(Answer all the questions: 05 X 10 = 50 Marks)

2 Discuss with mechanism Reimer Tiemann reaction of Phenols and its utility.

OR

3 What is alcohol? Give its classification. Discuss electrophilic substitution reaction of alcohol.

4 Explain about the nucleophilic substitution of aromatic halogen compounds.

OR

5 Write in detail about the resonance theory of benzene.

6 Discuss in detail any two methods of preparation of naphthalene.

OR

7 Discuss oxidation and reduction of polynuclear aromatics.

8 Write about the malonic ester synthesis and its synthetic applications.

OR

9 Give the preparation of acetoacetic ester and give examples of it synthetic uses.

10 (a) Add a note on reduction of aromatic nitro compounds.
(b) Give any two methods of preparation of nitriles.

OR

11 Describe in detail about reductive reductions of aromatic nitro compounds.

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Code: BP202T

R19

B.Pharm I Year II Semester (R19) Regular Examinations November 2022

PHARMACEUTICAL ORGANIC CHEMISTRY – I

(For 2021 admitted batch only)

Time: 3 hours Max. Marks: 75

PART – A

(Compulsory Question)

*****

1 Answer the following: (10 X 02 = 20 Marks)

(a) Discuss different types of structural isomerism. 2M

(b) Discuss the tautomerism with examples. 2M

(c) Explain the SP^2 hybridization in alkenes. 2M

(d) What is peroxide effect, discuss with a suitable example. 2M

(e) Explain the stability of carbocations. 2M

(f) Discuss the rearrangement of carbocation with a suitable examples. 2M

(g) Discuss two methods for the preparation of aldehydes. 2M

(h) Discuss the Cannizzaro and crossed Cannizzaro reaction with examples. 2M

(i) Discuss two general methods for the preparation of carboxylic acid. 2M

(j) Discuss the effect of substituent on basicity of aliphatic amines. 2M

PART – B

(Answer any two questions: 02 X 10 = 20 Marks)

2 (a) Compare the SN_1 & SN_2 reactions with respect to the substrate scope, kinetics, stereochemistry, rearrangements of intermediates, and order of reactivity of alkyl halide with respect to nucleophilic substitution reactions. 5M

(b) Discuss the different methods for the preparation of the alcohol and also elaborate the different qualitative tests for the primary alcohols with the basic reactions and the mechanism involved in. 5M

3 (a) Discuss the different methods for the preparation alkenes with reaction. 5M

(b) Discuss the cycloaddition of a 4 pi + 2 pi (diene + dienophile) system, the mechanism and the stability of the product, also explain why this reaction is *syn* addition. 5M

4 (a) Discuss the C-C bond formation reaction using carbonyl compound as a reactant, also discuss its reaction mechanism. 5M

(b) Discuss the synthesis of cinnamic acid from benzaldehyde, write reaction, mechanism and also explain why the alpha hydrogens of carbonyl compounds are more acidic than the hydrogens in a typical hydrocarbon. 5M

PART – C

(Answer any seven questions: 07 X 05 = 35 Marks)

5 (a) Discuss the different types of structural isomerism with suitable examples. 2.5M

(b) Classify the organic compounds based on the skeleton of the carbon chain with suitable examples. 2.5M

6 (a) Discuss the dehydration of alcohols and Zaitsev rule. 2.5M

(b) Discuss the dehydration of alcohols and carbocation rearrangement. 2.5M

Contd. in page 2

7	(a)	What is the haloform test, give the haloform reaction and its mechanism.	2.5M
	(b)	Write the structure and uses of cetosteryl alcohol, benzyl alcohol, glycerol, propylene glycol.	2.5M
8	(a)	Discuss the ozonolysis of alkene and its synthetic applications.	2.5M
	(b)	Discuss different methods for the preparation ketones.	2.5M
9	(a)	Discuss the method of preparation and uses of acetic acid.	2.5M
	(b)	Write the structure, method of preparation and uses of aspirin.	2.5M
10	(a)	Explain the basicity of aliphatic primary, secondary and tertiary amines.	2.5M
	(b)	Write the structure and uses of ethanolamine, ethylenediamine, amphetamine.	2.5M
11	(a)	Discuss qualitative test for carboxylic acids, amide and ester with the reaction and mechanism involved in.	2.5M
	(b)	Discuss the inductive effect and electromeric effect on carbonyl group with examples.	2.5M
12	(a)	Discuss the stability and rearrangement of free radical.	2.5M
	(b)	Discuss the different methods for the preparation of alkanes.	2.5M
13	(a)	Discuss the reaction, mechanism of benzoin condensation, and its application.	2.5M
	(b)	Discuss the different chemical methods for the preparation of alcohols.	2.5M

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Code: BP202T

R19

B.Pharm I Year II Semester (R19) Supplementary Examinations September 2022

PHARMACEUTICAL ORGANIC CHEMISTRY – I

(For 2019 & 2020 admitted batch only)

Time: 3 hours

Max. Marks: 75

PART – A

(Compulsory Question)

*****

1 Answer the following: (10 X 02 = 20 Marks)

(a) What is tautomerism? Define and explain with suitable example.
(b) What is positional isomerism? Discuss with suitable example.
(c) What is peroxide effect? Discuss with suitable example?
(d) Discuss the stability of conjugated dienes with suitable example.
(e) What is Walden inversion and give suitable example?
(f) Discuss the different colour tests of primary alcohols.
(g) Discuss two examples of nucleophilic addition reactions.
(h) Discuss the Cannizzaro and crossed Cannizzaro reaction with examples.
(i) Discuss the effect of substituents on acidity of carboxylic acids.
(j) Discuss the effect of substituent on basicity of aliphatic amines.

PART – B

(Answer any two questions: 02 X 10 = 20 Marks)

2 (a) Discuss the substrate scope, kinetics, stereochemistry, rearrangements of intermediates and order of reactivity of alkyl halide with respect to nucleophilic substitution reactions.
(b) Discuss the qualitative test to differentiate the primary, secondary and tertiary alcohols with the basic reactions and the mechanism involved in.

3 (a) Discuss the substrate scope, kinetics, stereochemistry, rearrangements of intermediates, and order of reactivity of alkenes with respect to electrophilic addition reactions.
(b) Discuss the cycloaddition of a 4 pi + 2 pi (diene + dienophile) systems, the mechanism and the stability of the product; also explain why this reaction is *syn* addition.

4 (a) Discuss the Aldol condensation, crossed Aldol condensation reaction, mechanism and compare with Cannizzaro reaction.
(b) Discuss the synthesis of cinnamic acid from benzaldehyde, write reaction, mechanism and also explain why the alpha hydrogens of carbonyl compounds are more acidic than the hydrogens in a typical hydrocarbon.

PART – C

(Answer any seven questions: 07 X 05 = 35 Marks)

5 (a) Discuss the different types of structural isomerism with suitable examples.
(b) Classify the organic compounds based on the skeleton of the carbon chain with suitable examples.

6 (a) Discuss the reaction and mechanism of allylic rearrangement.
(b) Discuss the regiochemistry of electrophilic addition on alkenes.

Contd. in page 2

7 (a) What is the haloform test? Give the haloform reaction and its mechanism.
(b) Write the structure and uses of cetostearyl alcohol, benzyl alcohol, glycerol, propylene glycol.

8 (a) Write the structure and uses of chloral hydrate, hexamine, benzaldehyde, vanillin, cinnamaldehyde.
(b) Discuss qualitative test for ketones with the reaction and mechanism involved in.

9 (a) Write the structure and uses of acetic acid, lactic acid, tartaric acid, citric acid, Succinic acid and oxalic acid.
(b) Write the structure and uses of salicylic acid, benzoic acid, benzyl benzoate, dimethyl phthalate and methyl salicylate acetylsalicylic acid.

10 (a) Discuss qualitative test for aliphatic amine with the reaction and mechanism involved in.
(b) Write the structure and uses of ethanolamine, ethylenediamine, amphetamine.

11 (a) Discuss qualitative test for carboxylic acids, amide and ester with the reaction and mechanism involved in.
(b) Discuss the inductive effect and electromeric effect on carbonyl group with examples.

12 (a) Discuss the reaction and mechanism of free radical addition reactions of conjugated dienes.
(b) Discuss the reaction, mechanism of ozonolysis of alkenes and its application.

13 (a) Discuss the reaction, mechanism of benzoin condensation, and its application.
(b) Discuss the different chemical methods for the preparation of alcohols.

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Code: BP202T

R19

B.Pharm I Year II Semester (R19) Regular Examinations November 2020

PHARMACEUTICAL ORGANIC CHEMISTRY – I

Time: 3 hours

Max. Marks: 75

PART – A

(Compulsory Question)

*****

1 Answer the following: (10 X 02 = 20 Marks)

(a) What is the IUPAC name for $CH_3CH(CH_3)CH_2CH_3$?

(b) Write the structure for trans-2-butene.

(c) Write the structure of ethane and indicate the hybridization of the carbon atoms.

(d) What is Saytzeff rule?

(e) Give an example for an SN1 reaction.

(f) Draw the structure of trichloroethylene and mention its use.

(g) Depict the Aldol reaction.

(h) What is the structure of vanillin? Mention its use.

(i) Mention qualitative test for carboxylic acid.

(j) What is the structure of salicylic acid and mention its use.

PART – B

(Answer any two questions: 02 X 10 = 20 Marks)

2 (a) Explain the IUPAC rules.

(b) Write an account on sp3 hybridization.

3 (a) Write about Crossed Aldol reaction.

(b) Mention two qualitative tests for alcohols.

4 (a) Write about the difference between SN1 and SN2 reaction.

(b) Mention the use of formaldehyde and paraldehyde.

PART – C

(Answer any seven questions: 07 X 05 = 35 Marks)

5 (a) Write a short note on functional, positional and regional isomerism.

(b) Briefly mention structural isomerism.

6 (a) Explain Hunsdiecker reaction of alkyl halides.

(b) What is allylic rearrangement?

7 (a) Write a note on substitution reactions of alkyl halides.

(b) Mention the uses of ethyl alcohol, tetrachloroethylene.

8 (a) Write name reaction of carbonyl compounds involving nucleophilic addition.

(b) What are the qualitative tests for benzaldehyde?

9 (a) Describe acidity of carboxylic acids and mention uses of succinic acid and diethyl phthalate.

(b) Explain basicity of amines.

Contd. in page 2

10 (a) Write the difference between Markownikoff's rule and Anti Markownikoff's rule.
(b) Explain reactivity of carbocations.

11 (a) Explain nucleophilic addition involving HCN.
(b) What is the advantage of IUPAC nomenclature?

12 (a) Explain halogenation of methane.
(b) Write a short note on functional, positional and regional isomerism.

13 (a) Briefly mention structural isomerism.
(b) Explain elimination reaction of alkyl halides.

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Code: BP202T

R19

B.Pharm I Year II Semester (R19) Supplementary Examinations April/May 2022

PHARMACEUTICAL ORGANIC CHEMISTRY – I

(For 2020 admitted batches only)

Time: 3 hours Max. Marks: 75

PART – A

(Compulsory Question)

*****

1 Answer the following: (10 X 02 = 20 Marks)

(a) Write the classification of organic compounds.
(b) Write the difference between common system and IUPAC system of nomenclature of organic compounds.
(c) Define hybridisation with examples.
(d) What is free radical. Give example.
(e) Write the structure and uses of dichloromethane.
(f) Give the structure and uses of chlorobutanol.
(g) Write the structure and uses of hexamine.
(h) Give the structure and uses of chloral hydrate.
(i) Write any two quality test for amide.
(j) Write any two quality test for ethanolamine.

PART – B

(Answer any two questions: 02 X 10 = 20 Marks)

2 Explain halogenation of alkanes and stability of conjugated dienes.

3 Explain kinetics, order of reactivity of alkyl halides in SN^1 reaction.

4 Discuss in detail acidity of carboxylic acids.

PART – C

(Answer any seven questions: 07 X 05 = 35 Marks)

5 Classify isomerism. Discuss in detail geometrical isomerism with example.

6 Write the free radical addition reaction of alkanes.

7 Explain free radical addition reaction of conjugated dienes.

8 Write the qualitative test for glycerol and methyl alcohol.

9 Explain SN^1 Versus SN^2 reactions.

10 Write mechanism of aldol condensation.

11 Write the quantitative tests for paraldehyde.

12 Write a note on effect of substituent on basicity.

13 Explain the inductive effect with example.

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Code: BP202T

R19

B.Pharm I Year II Semester (R19) Supplementary Examinations March 2022

PHARMACEUTICAL ORGANIC CHEMISTRY – I

(For 2019 admitted batch only)

Time: 3 hours

Max. Marks: 75

PART – A

(Compulsory Question)

*****

1 Answer the following: (10 X 02 = 20 Marks)

(a) Give one example for structural isomerism in organic compounds.
(b) What is the IUPAC name for $CH_3CH(CH_3)CH_2CH_3$?
(c) Write the order of stabilities of alkenes.
(d) Define Saytzeff's orientation.
(e) Define Walden Inversion.
(f) Give the test that helps to distinguish primary, secondary and tertiary alcohol.
(g) Differentiate aldol condensation and cannizaro reaction. (Any two points)
(h) Write the structure and uses of formaldehyde and paraldehyde.
(i) Write the structure and uses of methyl salicylate.
(j) Compare the acidity of acetic acid and chloroacetic acid.

PART – B

(Answer any two questions: 02 X 10 = 20 Marks)

2 (a) Define elimination reaction. Discuss the mechanism of E1 reaction with suitable example.
(b) Give any three method of preparation of alkenes.

3 (a) Compare SN1 and SN2 reaction.
(b) Write the structure and uses of Benzyl alcohol, Glycerol and Ethyl alcohol.

4 (a) Explain Benzoin condensation.
(b) Write the structure and uses of hexamine and vanillin.

PART – C

(Answer any seven questions: 07 X 05 = 35 Marks)

5 (a) Give the structure of 3-methyl-pentan-1-al.
(b) Give the structure of Hex-3-enoic acid.

6 Explain halogenation reaction of alkane with suitable example.

7 Explain about Markownikoff's rule.

8 Write about stereochemistry of SN1 and SN2 reaction.

9 Write any three methods of preparation and reactions of alcohols.

10 Write any three nucleophilic addition reactions.

11 Explain Aldol condensation.

12 Give short notes on acidity of carboxylic acids with suitable examples.

13 Write two qualitative tests for carboxylic acid, amide and ester.

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Code: BP202T

R19

B.Pharm I Year II Semester (R19) Regular Examinations November/December 2021

PHARMACEUTICAL ORGANIC CHEMISTRY – I

Time: 3 hours

Max. Marks: 75

PART – A

(Compulsory Question)

*****

1 Answer the following: (10 X 02 = 20 Marks)

(a) Give an examples for isomerism.
(b) Define Cis and Trans isomerism with example.
(c) Enumerate the uses of paraffins.
(d) Define ozonolysis with examples.
(e) Write the structure and uses of chloroform.
(f) Write the structure and uses of glycerol.
(g) Give the structure and uses of vanillin.
(h) Write the structure and uses of cinnamaldehyde.
(i) Give any two qualitative tests for esters.
(j) Give any two qualitative tests for amphetamine.

PART – B

(Answer any two questions: 02 X 10 = 20 Marks)

2 Discus kinetics, order of reactivity of alkyl halides in E1 reaction.

3 Write in detail kinetics, mechanism of SN^2 reaction.

4 Write a short note on basicity of amines.

PART – C

(Answer any seven questions: 07 X 05 = 35 Marks)

5 Explain in detail structural isomerism with example.

6 Explain E1 Vs E2 reaction.

7 Discus SP^2 hybridization in alkenes.

8 Write a brief note on rearrangement of carbocations.

9 Write the qualitative test for Propylene glycol and Benzyl alcohol

10 Illustrate the mechanism of Benzoin condensation

11 Discuss briefly about nucleophilic addition reactions.

12 Explain the effect of substituents on basicity of amines

13 Write the qualitative tests for ethylenediamine and ethanolamine

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Code: BP202T

R19

B.Pharm I Year II Semester (R19) Supplementary Examinations March 2022

PHARMACEUTICAL ORGANIC CHEMISTRY – I

(For 2019 admitted batch only)

Time: 3 hours

Max. Marks: 75

PART – A

(Compulsory Question)

*****

1 Answer the following: (10 X 02 = 20 Marks)

(a) Give one example for structural isomerism in organic compounds.
(b) What is the IUPAC name for $CH_3CH(CH_3)CH_2CH_3$?
(c) Write the order of stabilities of alkenes.
(d) Define Saytzeff's orientation.
(e) Define Walden Inversion.
(f) Give the test that helps to distinguish primary, secondary and tertiary alcohol.
(g) Differentiate aldol condensation and cannizaro reaction. (Any two points)
(h) Write the structure and uses of formaldehyde and paraldehyde.
(i) Write the structure and uses of methyl salicylate.
(j) Compare the acidity of acetic acid and chloroacetic acid.

PART – B

(Answer any two questions: 02 X 10 = 20 Marks)

2 (a) Define elimination reaction. Discuss the mechanism of E1 reaction with suitable example.
(b) Give any three method of preparation of alkenes.

3 (a) Compare SN1 and SN2 reaction.
(b) Write the structure and uses of Benzyl alcohol, Glycerol and Ethyl alcohol.

4 (a) Explain Benzoin condensation.
(b) Write the structure and uses of hexamine and vanillin.

PART – C

(Answer any seven questions: 07 X 05 = 35 Marks)

5 (a) Give the structure of 3-methyl-pentan-1-al.
(b) Give the structure of Hex-3-enoic acid.

6 Explain halogenation reaction of alkane with suitable example.

7 Explain about Markownikoff's rule.

8 Write about stereochemistry of SN1 and SN2 reaction.

9 Write any three methods of preparation and reactions of alcohols.

10 Write any three nucleophilic addition reactions.

11 Explain Aldol condensation.

12 Give short notes on acidity of carboxylic acids with suitable examples.

13 Write two qualitative tests for carboxylic acid, amide and ester.

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Code: 15R00201

R15

B.Pharm I Year II Semester (R15) Supplementary Examinations September 2022

PHARMACEUTICAL ORGANIC CHEMISTRY – II

Time: 3 hours Max. Marks: 70

PART – A

(Compulsory Question)

*****

1 Answer the following: (10 X 02 = 20 Marks)

(a) What is primary alcohol?
(b) What is MPV reduction?
(c) What is Huckel's rule?
(d) What is meta director?
(e) Give any two reaction of naphthalene.
(f) Give any two reaction of anthracene.
(g) Give any one method of preparation of carboxylic acid.
(h) Give any one method of preparation of acetoacetic esters.
(i) Give classification of amines.
(j) What is diazotization reaction?

PART – B

(Answer all the questions: 05 X 10 = 50 Marks)

2 (a) What is alcohol? Give its classification. Discuss electrophilic substitution reaction of alcohol.
(b) Discuss Kolbe Schmidt reaction in detail.

OR

3 (a) Add a note on Williamson's synthesis for ether.
(b) Discuss Reimer Tiemann reaction in detail.

4 (a) Discuss Kekule structure of benzene. Add note on molecular orbital picture of benzene.
(b) Discuss reactivity of halobenzenes towards nucleophilic substitution.

OR

5 (a) Discuss any two reactions of benzene in detail.
(b) Add a note on benzene ion concept. Comment on mechanism of its formation.

6 (a) Discuss in detail electrophilic substitution reaction in phenanthrene.
(b) Discuss in detail electrophilic substitution reaction in anthracene.

OR

7 (a) Discuss in detail any two methods of preparation of naphthalene.
(b) Discuss in detail any two methods of preparation of anthracene.

8 (a) Give IUPAC rules for carboxylic acids with suitable examples.
(b) Write a note on Hofmann degradation of amide.

OR

9 (a) Write a note on hydrolysis of esters.
(b) Discuss in detail reduction of carboxylic acids.

10 (a) Write a note on basicity of amines.
(b) Give any two methods of preparation of isonitriles.

OR

11 (a) Add a note on reduction of aromatic nitro compounds.
(b) Give any two methods of preparation of nitriles.

*****

Code: 15R00201

R15

B.Pharm I Year II Semester (R15) Supplementary Examinations December 2019

PHARMACEUTICAL ORGANIC CHEMISTRY – II

Time: 3 hours Max. Marks: 70

PART – A

(Compulsory Question)

*****

1 Answer the following: (10 X 02 = 20 Marks)

(a) Give an example each for nucleophilic substitution and elimination reaction of primary alcohols.

(b) Draw the resonance structures of phenoxide ion.

(c) Give the molecular orbital picture of benzene. Comment on stability of benzene.

(d) Why chlorine acts as ortho para directing, despite it is electron withdrawing group in electrophilic aromatic substitution reaction of benzene?

(e) Why Lewis acid like aluminium chloride is preferred as catalyst in the preparation of toluene from benzene?

(f) What is the difference between aromatic, non-aromatic and anti-aromatic compounds?

(g) Justify that p-chloro benzoic acid is strongly acidic than p-methyl benzoic acid.

(h) Give any one general method for the preparation of acid chloride and amide from carboxylic acids.

(i) What happens when alcohols are treated with strong hydroiodic acid?

(j) How will you convert acetonitrile to acetic acid?

PART – B

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

UNIT – I

2 Give any three important reactions of alcohols. Explain with mechanism Meerwein Ponndorf Verley reduction.

OR

3 Explain with mechanism, Fries Rearrangement and Reimer-Tiemann reaction.

UNIT – II

4 Explain the reactivity and orientation in mono substituted benzene compounds.

OR

5 Explain the heats of hydrogenation experiment on benzene. What are the important criteria for aromaticity?

UNIT – III

6 Write the resonance structures of naphthalene. Give the various reactions with examples of naphthalene.

OR

7 What are polynuclear hydrocarbons? Give the various reactions of phenanthrene with examples.

UNIT – IV

8 Give important methods of preparation and reactions of carboxylic acids.

OR

9 Write the preparation of acetoacetic ester. Give its importance in organic synthesis.

UNIT – V

10 Explain the basicity of amines. Discuss any three important reactions of amines.

OR

11 Give two important methods of preparation and two reactions each of nitriles and isonitriles.

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Code: 15R00201

R15

B.Pharm I Year II Semester (R15) Supplementary Examinations March 2022

PHARMACEUTICAL ORGANIC CHEMISTRY – II

Time: 3 hours Max. Marks: 70

PART – A

(Compulsory Question)

*****

1 Answer the following: (10 X 02 = 20 Marks)

(a) Write the structure for: (i) 2, 4, 6-trinitrophenol. (ii) 3-chloro-4-Iodophenol.

(b) Write one example each of a primary, secondary and tertiary alcohol.

(c) Write the structure for: (i) 5 isopropyldecane. (ii) 4 bromo-isopropylbenzene.

(d) Write the reaction for chlorination reaction of Benzene.

(e) Write a preparation reaction for anthracene.

(f) Draw the resonance structures of naphthalene.

(g) Give one method of preparation of amides.

(h) Give one reaction of acid chloride.

(i) Write the IUPAC names for: (i) CH_3-CH=CH-CH_2-CH_3-CN. (ii) C_6H_5-CH_2-$CONH_2$.

(j) Write the structures for: (i) N-Ethyl, N-Methyl-Propanamine. (ii) N.N-dimethylformamide.

PART – B

(Answer all the questions: 05 X 10 = 50 Marks)

2 (a) Give three reactions of alcohol.

(b) Give the mechanism of dehydration of alcohol.

OR

3 (a) Discuss with mechanism Reimer Tiemann reaction of Phenols and its utility.

(b) Give three reactions of phenols.

4 Discuss aromatic electrophilic reactions of Benzene.

OR

5 Discuss the free radical halogenation reactions of alkanes.

6 (a) Write three reactions of phenanthrene.

(b) Discuss the resonance of anthracene.

OR

7 Discuss oxidation and reduction of polynuclear aromatics.

8 Discuss Hoffman degradation of amines with examples.

OR

9 Discuss the synthetic utility of malonic ester with relevant examples.

10 Discuss in detail about the basicity of amines in.

OR

11 Discuss the synthetic utility of diazotization reaction.

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Code: 15R00201

R15

B.Pharm I Year II Semester (R15) Supplementary Examinations September/October 2021
PHARMACEUTICAL ORGANIC CHEMISTRY – II

me: 3 hours Max. Marks: 70

PART – A
(Compulsory Question)
*****

Answer the following: (10 X 02 = 20 Marks)

(a) Write down the structure of. (i) 5-bromo-3-chloro-pentanol. (ii) 3, 3-dimethylhexan-2-ol.
(b) Write the principle and equation behind Lucas test.
(c) Write the structure of: (i) 2, 3, 6, 6 tetramethylpentane. (ii) 4-terbutyl-toluene.
(d) Write the equation for electrophilic bromination of benzene.
(e) Give one reaction of naphthalene.
(f) Give one method of preparation of phenanthrene.
(g) Write the structure for: (i) 3-chloro-3-Iodo-pentanoic acid. (ii) But 3-en-oic acid.
(h) Give one method of preparation of acid chlorides.
(i) What do get when you reduce $C_2H_5NO_2$ (nitro-ethane) with Sn/HCl?
(j) What do you get when you hydrolyse CH_3CN with HCl?

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

UNIT – I

2 (a) Give three methods of preparation of alcohols.
(b) Give three reactions of alcohol.

OR

3 (a) Why are phenols acidic? Discuss with structures.
(b) Write down the Kolbe reaction.

UNIT – II

4 Write in detail about the resonance theory of benzene.

OR

Write in detail about aromatic nucleophilic substitution with example.

UNIT – III

Discuss the Haworth synthesis of naphthalene.

OR

Give three electrophilic substitution reactions of anthracene.

UNIT – IV

Give the preparation of acetoacetic ester and give examples of it synthetic uses.

OR

(a) Give the mechanism for acid catalyzed ester formation from carboxylic acid.
(b) Draw the structure of benzyl benzoate and give the equation for its preparation.

UNIT – V

Describe the Hinsberg method of differentiating primary, secondary and tertiary amines.

OR

Give two methods of synthesis for nitriles and isonitriles.

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