

B PHARM
(SEM II) THEORY EXAMINATION 2017-18
PHARMACEUTICAL ORGANIC CHEMISTRY-I

*Time: 3 Hours**Total Marks: 75***Note: 1.** Attempt all Sections.**SECTION A****1. Attempt all questions in brief. 10 x 2 = 20**

- a. Write down the structure of 2,2,4-trimethylpentane and amyl alcohol
- b. What are chiral and achiral compounds?
- c. Discuss any two method of preparation of alkanes.
- d. What is Hybridization?
- e. Define structure and uses of Chloroform and Ethyl alcohol.
- f. What is Vector Meyer's test?
- g. Discuss the preparation of ketone from geminal di halides.
- h. Define crossed aldol condensation.
- i. What do you mean by nucleophile?
- j. Define structure and uses of Acetic acid and Lactic acid,

SECTION B**2. Attempt any two parts of the following: 2 x 10 = 20**

- a. Differentiate E^1 and E^2 reactions with their kinetics and order of reactivity of alkyl halides. Explain factors affecting E^1 and E^2 reactions.
- b. Give the methods of preparation of alkyl halides. Discuss about SN^1 and SN^2 reactions in detail.
- c. What is carbonyl compound? Explain their qualitative test and methods of preparation.

SECTION C**3. Attempt any five parts of the following: 7 x 5 = 35**

- a. Give the detailed classification of organic compounds
- b. Define Sp^3 hybridization in alkanes. Explain halogenation reaction of alkanes.
- c. Describe Markovnikov and Anti-Markovnikov rule with suitable examples.
- d. Discuss methods of preparation and reactivity of conjugated dienes.
- e. Describe a detailed account of nucleophilic addition reaction of carbonyl compounds.
- f. Explain Cannizzaro and Perkin reaction with mechanism.
- g. Give the methods of preparation and reactivity of carboxylic acids. Explain the acidity of carboxylic acid.

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B PHARM
(SEM-II) THEORY EXAMINATION 2018-19
PHARMACEUTICAL ORGANIC CHEMISTRY-I

Time: 3 Hours**Total Marks: 75****Note:** Attempt all Sections. If you require any missing data, choose suitably.**SECTION A****1. Attempt all questions in brief. 10 x 2 = 20**

- a. Give IUPAC name for $(\text{CH}_3)_2\text{C}=\text{CHC}(\text{C}_2\text{H}_5)=\text{CH}_2$.
- b. Give the structure and uses of Hexamine.
- c. Give the structure and uses of Tartaric acid.
- d. Why chloroacetic acid is more acidic than acetic acid?
- e. Write the structure and uses of Methyl Salicylate.
- f. Why aliphatic amines are more basic than aromatic amines?
- g. Give the structure and uses of Amphetamine.
- h. What is Saytzeff's rule?
- i. What is the effect of base in E_2 reaction?
- j. What is ozonolysis of alkene?

SECTION B**2. Attempt any two parts of the following: 2 x 10 = 20**

- a. What is isomerism? Explain structural isomerism with suitable examples.
- b. Write reaction and mechanism of Aldol condensation and Benzoin condensation.
- c. What are dienes? Explain 1, 2 and 1,4 addition mechanism in conjugated dienes with suitable examples

SECTION C**3. Attempt any five parts of the following: 7 x 5 = 35**

- a. Write a note on Markownikoff's orientation.
- b. Write IUPAC nomenclature rules for the naming of carboxylic acids.
- c. Write a detailed account of SN^1 and SN^2 reactions.
- d. Give the chemical tests for alcohols. Give the structure and uses of glycerol.
- e. Write a note on Cannizzaro reaction.
- f. Write chemical tests for amines. Give the structure and uses of ethanolamine.
- g. Write a note on: i) Perkin condensation reaction ii) Inductive effect

B PHARM
(SEM II) THEORY EXAMINATION 2019-20
PHARMACEUTICAL ORGANIC CHEMISTRY

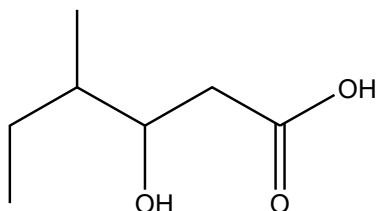
Time: 3 Hours

Total Marks: 75

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A**1. Attempt all questions in brief****10 x 2 = 20**

- a) Write the chemical structure & uses of succinic and oxalic acid
- b) Define benzoin condensation reaction
- c) Give identification test of aldehydes and alcohol
- d) Differentiate between E_1 and E_2 reaction
- e) Write the two examples and uses of aliphatic amines
- f) Give the IUPAC name of



- g) Discuss uses of vanillin and cinnamaldehyde
- h) Give free radical reactions of alkenes
- i) Give the IUPAC name of following compound-: $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{COOH}$
- j) What are electrophile and nucleophile?

SECTION B**2. Attempt any two parts of the following:****2 X 10 = 20**

- a) What are SN_1 and SN_2 reactions. Discuss the kinetics, mechanism and factors affecting the SN_1 and SN_2 reactions
- b) Write about vanillin and benzaldehyde.
- c) Give short notes on cannizzaro reaction and aldol condensation.

SECTION C**3. Attempt any five parts of the following:****7 X 5 = 35**

- a) Define ozonolysis.
- b) Write the structure and uses of chloroform and trichloroethylene.
- c) Explain diels alder reaction with mechanism.
- d) Explain with examples markownikoffs rule.
- e) Write about basicity of aliphatic amines and factors affecting it.
- f) What is isomerism ?. Discuss various type of structural isomerism with examples.
- g) Define Nomenclature of organic compounds with examples..

B. PHARM
(SEM II) THEORY EXAMINATION 2022-23
PHARMACEUTICAL ORGANIC CHEMISTRY-I

Time: 3 Hours

Total Marks: 75

Note: Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt all questions in brief.

10 x 2 = 20

- (a) What is Electromeric effect? Give examples
- (b) Explain the term "Inductive effect" with suitable example.
- (c) What is Walden inversion?
- (d) What is Ozonolysis?
- (e) Write about Diel-Alder reaction.
- (f) Give reaction for Friedel Crafts reaction.
- (g) What is Saytzeff's orientation?
- (h) Rosenmund Reduction is used for?
- (i) Give structure of 3-chloro 2-hydroxy hexanoic acid.
- (j) Write IUPAC name of $\text{CH}_3\text{OCH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{CHO}$

SECTION B

2. Attempt any twoparts of the following:

2 x 10 = 20

- (a) Explain kinetics, order of reactivity of alkyl halides, stereochemistry and rearrangement of carbocations regarding SN1 and SN2 reactions.
- (b) Elaborate Basicity, effect of substituent on Basicity of Aliphatic amines with suitable examples.
- (c) In E1 and E2 reactions –Discuss Kinetics, order of reactivity of alkyl halides and rearrangement of carbocations. Elaborate Factors affecting E1 and E2 reactions.

SECTION C

3. Attempt any fiveparts of the following:

7 x 5 = 35

- (a) Describe in detail aldol condensation and Crossed Aldol condensation.
- (b) Explain Structural isomerism in organic compounds.
- (c) Give detailed account of free radical addition reactions of alkenes and Anti-Markownikoff's orientation.
- (d) Give Reactions of Aldehydes and Ketones? What are Nucleophilic addition reactions of Carbonyl compounds and How they differ in acids and Bases?
- (e) Discuss Qualitative tests of Alcohols. Give Structure and uses of Cetosteryl alcohol and Iodoform.
- (f) Give preparations and Reactions of Alkyl Halides.
- (g) Write short note on Structure and Uses of Acetic acid, Citric acid, Acetyl salicylic acid, Amphetamine and Acetone.



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BPHARM
(SEM II) THEORY EXAMINATION 2021-22
PHARMACEUTICAL ORGANIC CHEMISTRY I

Time: 3 Hours**Total Marks: 75****Note:** 1. Attempt all Sections. If require any missing data; then choose suitably.**SECTION A****1. Attempt all questions in brief.****10 x 2 = 20**

a.	Draw the structure for 3-Methoxypentanoyl chloride.
b.	Give IUPAC name for $\text{CH}_3\text{-CH}(\text{CH}_3)\text{-CO-CH}_2\text{-CH}_3$.
c.	Define "Saytzeff's rule".
d.	Outline the Diels-Alder reaction of conjugated dienes.
e.	Summarize any two reactions of alkyl halide.
f.	Discuss the structure and uses of ethyl alcohol.
g.	Discuss about "Inductive effect".
h.	Describe any two qualitative tests for carbonyl compounds.
i.	Discuss the structure and uses of acetyl salicylic acid.
j.	Show the structure and uses of amphetamine.

SECTION B**2. Attempt any twoparts of the following:****2 x 10 = 20**

a.	Illustrate the mechanism of Markovnikov's and Anti-Markovnikov's orientation of alkene with suitable example.
b.	Discuss the reaction and mechanism of aldol condensation and cross aldol condensation with suitable example.
c.	Illustrate SN_1 versus SN_2 reaction.

SECTION C**3. Attempt any fiveparts of the following:****7 x 5 = 35**

a.	Discuss about structural isomerism. Write a note on chain, positional and functional isomerism.
b.	Explain the reaction and mechanism of chlorination of alkane with suitable example.
c.	Explain 1, 2 and 1,4 addition mechanism in conjugated dienes with suitable examples.
d.	Outline the chemical tests for alcohols. Give the structure and uses of glycerol.
e.	Outline the mechanism of Cannizzaro reaction with suitable example.
f.	Discuss the acidity of aliphatic carboxylic acid and the effect of substituents on their acidity.
g.	Define aliphatic amines. Discuss the basicity of aliphatic amines and the effect of substituents on their basicity.

B PHARM
(SEM II) THEORY EXAMINATION 2022-2023
PHARMACEUTICAL ORGANIC CHEMISTRY-I

Total Marks: 75

Time: 3 Hours

Note: Attempt all Sections. If require any missing data then choose suitably.

SECTION A

10 x 2 = 20

1. Attempt all questions in brief.

- Give structure of the following compounds :-
i) Acetic acid ii) Lactic acid iii) Salicylic acid iv) Succinic acid
- Enlist qualitative tests for Alcohol.
- What is Aldol condensation?
- Explain Acidity of Carboxylic acids and Basicity of Aliphatic Amines.
- What are SN_1 and SN_2 reactions? Give examples.
- Explain SP^3 hybridization in Alkanes.
- What is structural isomerism in organic compounds? Give examples.
- What are Alkyl Halides?
- Explain in brief Nucleophilic addition.
- What is Diel-Alder reaction?

SECTION B

2 x 10 = 20

2. Attempt any twoparts of the following:

- Explain factors affecting SN_1 and SN_2 reactions in detail.
- What are E_1 and E_2 reactions? Give Markownikoff's orientation.
- What is Inductive effect? Give qualitative tests for Carboxylic acid, Amides and Ester.

SECTION C

7 x 5 = 35

3. Attempt any fiv eparts of the following:

- Discuss three methods of preparation of Amines.
- Explain Saytzeff's rule with suitable examples.
- Give chemical tests to differentiate between primary secondary and tertiary Alcohols.
- Write a note on Cannizzaro reaction.
- Write IUPAC nomenclature rules for the naming of carboxylic acids.
- Explain Ozonolysis and electrophilic addition reaction of Alkenes.
- What is IUPAC system of nomenclature of organic compounds?



PAPER ID-411258

Subject Code: BP202T

Roll No:

BPHARMA
(SEM II) THEORY EXAMINATION 2023-24
PHARMACEUTICAL ORGANIC CHEMISTRY I

TIME: 3 HRS

M.MARKS: 75

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

10 x 2 = 20

1. Attempt *all* questions in brief.

a.	What is chain isomerism?
b.	What are electrophiles and nucleophiles?
c.	What is Markownikoff's rule?
d.	Write the structure of aldol and benzoin.
e.	What is ozonolysis?
f.	Give identification test of amines.
g.	What is Diels-Alder's reaction?
h.	What is the order of reactivity of 1°, 2°, and 3° alkyl halides?
i.	What do you understand by Hoffman's rule?
j.	Differentiate between E1 and E2 reactions.

SECTION B

2 x 10 = 20

2. Attempt any *two* parts of the following:

a.	Define the Nomenclature of organic compounds with examples.
b.	What are SN1 and SN2 reactions? Discuss the kinetics, mechanism, and factors affecting the SN1 and SN2 reactions.
c.	Give detailed notes on the Cannizaro reaction and Aldol condensation.

SECTION C

7 x 5 = 35

3. Attempt any *five* parts of the following:

a.	Define the Nomenclature of organic compounds with examples.
b.	Discuss 1,2 and 1,4 additions in conjugated dienes.
c.	Write about the basicity of aliphatic amines and the factors affecting it.
d.	Write down qualitative tests for carboxylic acids and alcohols.
e.	Write the structure and uses of chloroform and trichloroethylene.
f.	Discuss about preparation, chemical reactions, and uses of monocarboxylic acids.
g.	Discuss in detail about nucleophilic addition reactions in carbonyl compounds.



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BPHARM
(SEM II) THEORY EXAMINATION 2024-25
PHARMACEUTICAL ORGANIC CHEMISTRY I

TIME: 3 HRS**M.MARKS: 75**

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A**1. Attempt all questions in brief.****10 x 2 = 20**

a.	What is ozonolysis of alkenes.
b.	Define inductive effect.
c.	Give structure and uses of cinnamaldehyde.
d.	Explain why formic acid is stronger than acetic acid.
e.	What are protic and aprotic solvents.
f.	Describe esterification reaction.
g.	Outline Diels-Alder reaction of conjugated dienes.
h.	Give structure of 2-methyl-3-pentanone.
i.	What is Saytzeff rule orientation.
j.	Explain sp ² hybridization in alkenes.

SECTION B**2. Attempt any two parts of the following:****2 x 10 = 20**

a.	Explain kinetics, order of reactivity of alkyl halides, stereochemistry and rearrangement of carbocations regarding SN1 and SN2 reactions.
b.	Illustrate mechanism of Markownikoff's and anti Markownikoff's addition reactions of alkenes
c.	In E1 and E2 reactions, discuss mechanism, kinetics, factors affecting and differences between both reactions

SECTION C**3. Attempt any five parts of the following:****7 x 5 = 35**

a.	Explain factors affecting stability of conjugated dienes.
b.	Write reaction and mechanism of Aldol and Perkin condensation.
c.	Explain Structural isomerism in organic compounds.
d.	Discuss the acidity of aliphatic carboxylic acids and effect of substituents on their acidity.
e.	Write a note on methods of preparation and reactions of aliphatic amines.
f.	How to distinguish between primary secondary and tertiary alcohols
g.	Write short note on Structure and Uses of Benzyl alcohol, Acetone and Aspirin.



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B.PHARM.

(SEM. II) THEORY EXAMINATION 2025-26

PHARMACEUTICAL ORGANIC CHEMISTRY I

TIME: 3 HRS

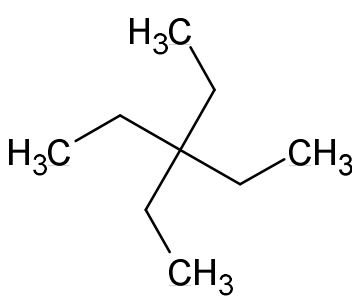
M.MARKS: 75

Note: Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt *all* questions in brief.

10 x 2 = 20

a.	Define structural isomerism with one suitable example.
b.	What is sp^2 hybridization? Explain with reference to alkenes.
c.	Write the IUPAC name for this compound: 
d.	Differentiate between electrophiles and nucleophiles.
e.	What is the order of reactivity of 1° , 2° and 3° alkyl halides in SN_1 reaction?
f.	Draw the structure of chloroform and write one medicinal use.
g.	Draw the structure of glycerol and mention one pharmaceutical use.
h.	What is crossed aldol condensation?
i.	How does the inductive effect influence the acidity of carboxylic acids?
j.	Draw the structure of amphetamine and mention one use.

SECTION B

2. Attempt any *two* parts of the following:

2 x 10 = 20

a.	Explain E_1 and E_2 reactions with suitable mechanisms. Compare them with respect to: i. Kinetics ii. Order of reactivity of alkyl halides iii. Factors affecting E_1 and E_2 reactions iv. Saytzeff's orientation
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B.PHARM.**(SEM. II) THEORY EXAMINATION 2025-26****PHARMACEUTICAL ORGANIC CHEMISTRY I****TIME: 3 HRS****M.MARKS: 75**

b.	Differentiate between SN_1 and SN_2 reactions. Discuss their mechanisms, stereochemistry, carbocation rearrangement and factors affecting SN_1 and SN_2 reactions.
c.	Discuss nucleophilic addition reactions of carbonyl compounds in detail. Explain the following reactions with mechanism and synthetic importance: i. Aldol condensation ii. Cannizzaro reaction iii. Benzoin condensation

SECTION C**3. Attempt any five parts of the following:****7 x 5 = 35**

a.	Discuss electrophilic addition reactions of alkenes. Explain Markownikoff's and Anti-Markownikoff's orientation with suitable examples.
b.	Classify organic compounds with suitable examples. Explain chain isomerism, position isomerism and functional group isomerism with examples.
c.	Discuss the reactions of alkanes in detail.
d.	Describe the preparation and important reactions of alcohols. Explain any two qualitative tests used for alcohols.
e.	Write a note on i. Diels–Alder reaction ii. Ozonolysis of alkenes iii. Stability of conjugated dienes
f.	Explain the acidity of carboxylic acids and the effect of substituents on acidity. Mention one qualitative test used for carboxylic acids. Draw the structure of acetyl salicylic acid.
g.	Discuss the basicity of aliphatic amines and the effect of substituents on basicity. Explain one qualitative test used to distinguish primary, secondary and tertiary amines.