

FACULTY OF PHARMACY

**B. Pharmacy II-Semester (PCI) (Backlog) Examination,
September 2021**

Subject: Biochemistry

Time: 2 Hours

Max. Marks: 75

Note: Answer any seven questions from Part – A, and one question from Part – B, and any five questions from Part – C.

PART – A (7 X 3 = 21 Marks)

1. Write biological significance of ATP.
2. Describe the utilization of ketone bodies by the body.
3. Explain hormonal regulation of glucose level in blood.
4. What is diabetes mellitus?
5. What are co-enzymes?
6. What is atherosclerosis?
7. Write significance of HMP Shunt pathway.
8. Differentiate between enzyme induction and repression.
9. What are the functions of Vitamin D and mention deficiency disorders.
10. Describe nitrogenous bases with examples.

PART – B (1 x 14 = 14 Marks)

11. Describe citric acid cycle and glycogenesis pathway.
12. Explain about various disorders of lipid metabolism.
13. Define enzymes. Write about IUB classification of enzymes and enzyme inhibitors with examples.

PART - C (5 x 8 = 40 Marks)

14. Explain in-detail about energy rich compounds.
15. Write about de novo synthesis of fatty acids (palmitic acid).
16. Explain about electron transport chain (ETC) and its mechanism.
17. Write biological role and classification of amino acids with examples.
18. Describe glycolysis pathway.
19. Describe biosynthesis and significance of dopamine, noradrenaline and adrenaline.
20. Write the biosynthesis of Pyrimidine nucleotides.
21. Explain therapeutic, diagnostic applications of enzymes and isoenzymes.
22. Describe the production of bile acids and steroid hormones from cholesterol.

FACULTY OF PHARMACY

**B. Pharmacy II-Semester (PCI) (Backlog) Examination,
September 2021**

Subject: Computer Applications in Pharmacy

Time: 1 ½ Hours

Max. Marks: 50

Note: Answer any two questions from Part – A, and six questions from Part – B.

PART – A (2X 10 = 20)

1. What is HTML? Explain any 10 HTML tags.
2. Explain about Laboratory Information management System (LIMS) with needs and Applications of LIMS.
3. Write about application of computers in Pharmacy.

PART – B (6 x 5 = 30)

4. Explain with example for One's complement & Two's complement method.
5. Describe about Extensible Mark-up Language characteristics and advantages of XML.
6. What is a web server? Write different types of servers.
7. Explain role of computers in hospital and clinical pharmacy.
8. Write about functions and features of Pharmacy information systems (PIS).
9. Explain about objective of Bioinformatics.
10. Write about barcode and its advantages.
11. Explain about Text Information Management System (TIMS).

Code: 12062/PCI

FACULTY OF PHARMACY

B. Pharmacy II-Sem. (PCI) (Backlog) Examination, September 2021

Subject: Environmental Sciences

Time: 1 ½ Hours

Max. Marks: 50

Note: Answer two questions from Part – A, and any six questions from Part – B

PART – A (2 X 10 = 20)

1. Discuss about soil pollution, its effect on food and health. Write about the measures to prevent Soil pollution.
2. What are renewable and non-renewable energy resources? Write about the advantages and disadvantages of these resources.
3. Write about the concept, structure and functions of Grassland ecosystem.

PART – B (6 x 5 = 30)

4. Explain why multi disciplinary approach is required to preserve the environmental balance.
5. Write about the forest resources. Measure to preserve the forest resources.
6. Discuss about the soil pollution. Write about the measures to prevent the soil pollution.
7. Write about the water pollution. Explain the effect of water pollution on human health.
8. Mention various mineral resources. Discuss about the maintenance of mineral resources.
9. Write about the air pollution. Explain the measures to prevent the air pollution in urban areas.
10. Mention about various food resources. Explain the methods to preserve the natural food resources and methods to prevent food contamination.
11. Write about aquatic resources. Explain the methods to preserve the aquatic resources.

FACULTY OF PHARMACY
B. Pharmacy II - Semester (PCI) (Backlog) Examination,
September 2021

Subject: Human Anatomy and Physiology - II

Time: 2 Hours

Max. Marks: 75

Note: Answer any seven questions from Part – A, and one question from Part – B, and any five questions from Part – C.

PART – A (7 X 3 = 21 Marks)

1. Write the functions of cerebrospinal fluid.
2. Draw a neat labeled diagram of brain.
3. What is the basic process performed by digestive system?
4. List the functions of Stomach.
5. What is peptic ulcer disease?
6. Define Congenital defects.
7. List the female sex hormones.
8. What are important functions of thyroid gland?
9. Mention important functions of Liver.
10. What is the role of pancreas?

PART – B (1 x 14 = 14 Marks)

11. (a) Describe the protective structure and gross anatomical features of the Spinal Cord.
(b) Describe the functional components of reflex arc.
12. Describe the phases of the female reproductive cycle.
13. Explain different lung volumes and capacities with the diagram of Spirograph and Spirometer.

PART - C (5 x 8 = 40 Marks)

14. Explain the events associated with the three stages of labor.
15. Discuss the process of Oogenesis in ovaries.
16. Explain about the Action Potential.
17. Describe the structure and function of the layer's that form the wall of GIT.
18. Explain the physiology of Urine formation.
19. Give a note on hypothalamus.
20. Write a detail note on pituitary gland and its hormone.
21. Write a note on mechanism of respiration.
22. Explain RAS pathway in regulation of Kidney function.

FACULTY OF PHARMACY

B. Pharmacy II-Sem. (PCI) (Backlog) Examination, September 2021

Subject: Pharmaceutical Organic chemistry - I

Time: 2 Hours

Max. Marks: 75

Note: Answer any seven questions from Part – A, and one question from Part – B, and any five questions from Part – C.

PART – A (7 X 3 = 21 Marks)

1. Define the following terms with examples:
(a) Functional group (b) Electrophile.
2. Write the IUPAC name for the following structures:
(a) $\text{H}_3\text{C} - \text{CH}_2 - \underset{\text{C}_2\text{H}_5}{\text{C}} = \text{CH}_2$ (b) $\text{H}_3\text{C} - \overset{\text{OH}}{\text{CH}} - \text{CH}_2 - \text{CH}_3$
3. Explain Sp^2 hybridization with an example.
4. Define 'free radical'. Explain its formation with an example.
5. Explain the significance of esterification test.
6. Give one example for cis-and trans-isomers.
7. Classify alkylhalides with examples.
8. Write the structure and uses of glycerol and ethylalcohol.
9. Write the structure and uses of benzaldehyde and Cinnamaldehyde.
10. Write the structure and uses of salicylic acid and amphetamine.

PART – B (1 x 14 = 14 Marks)

11. (a) Explain any two methods of preparations of alkanes.
(b) Explain Markovnikov's addition of alkenes giving examples.
12. Explain the mechanism involved in cannizzaro and crossed-cannizzaro reactions with relevant examples.
13. (a) Write the structure and uses of benzoic acid and acetyl salicylic acid.
(b) Explain the acidity of Carboxylic acids with special emphasis on effect of substituent on their acidity.

PART - C (5 x 8 = 40 Marks)

14. Write the IUPAC rules for alkenes with suitable examples (minimum five).
15. Describe the mechanism of 1, 2-/1, 4-addition reactions of conjugated dienes with an example.
16. Explain about halogenation of alkanes with examples.
17. Describe the mechanism and stereochemistry of S_N^2 reactions.
18. Write any two qualitative tests to differentiate various classes of alcohols.
19. Explain the mechanism involved in the aldol condensation with examples.
20. Give any three qualitative tests to identify and differentiate aldehydes and ketones.
21. Explain about structural isomerism with examples.
22. How will you differentiate primary, secondary and tertiary amines based on qualitative tests?

Code: 12060/PCI

FACULTY OF PHARMACY

B. Pharmacy II-Semester (PCI) (Backlog) Examination, September 2021

Subject: Patho Physiology

Time: 2 Hours

Max. Marks: 75

Note: Answer any seven questions from Part – A, and one question from Part – B, and any five questions from Part – C.

PART – A (7 X 3 = 21 Marks)

1. Define the following terms
(a) Atrophy (b) Necrosis
2. What are signs and symptoms of asthma?
3. Define thalasemia and classify it.
4. Explain alcoholic liver disease.
5. What are the causative organisms of syphilis and gonorrhoea?
6. Define and classify angina pectoris.
7. What are the four principal effects of acute inflammation?
8. Write about hepatitis.
9. What are the causes and symptoms of typhoid?
10. Mention about different types of stroke.

PART – B (1 x 14 = 14 Marks)

11. Classify cancer and explain etiopathogenesis of cancer.
12. Represent the pathogenesis of atherosclerosis with neat labeled diagram.
13. Define cell injury. Explain the mechanism of cell injury.

PART - C (5 x 8 = 40 Marks)

14. Write a note on jaundice.
15. Explain in brief about Alzheimer's disease.
16. Discuss the pathogenesis of tuberculosis.
17. Describe the pathophysiology of meningitis.
18. What is megaloblastic anaemia? Discuss its pathophysiology.
19. Write a note on chemical mediators of acute inflammation.
20. Explain the etiology and pathogenesis of acute renal failure.
21. Define homeostasis. Write various components of feedback system.
22. What is the role of hypertrophy in congestive heart failure?

FACULTY OF PHARMACY

B. Pharmacy II - Semester (PCI) (Main & Backlog) Examination, December 2021

Subject: Pathophysiology

Time: 2 Hours

Max. Marks: 75

Note: Answer any Seven Questions from Part - A, any One questions from Part – B, and any Five questions from Part – C

PART- A (7 X 3 = 21 MARKS)

1. What are causes of cell injury?
2. What are signs and symptoms of asthma?
3. Differentiate between myocarditis and cardiomyopathy.
4. Explain alcoholic liver disease.
5. What is jaundice?
6. Define and classify angina pectoris.
7. Define gout and write its symptoms.
8. Write about hepatitis.
9. What are the causes of meningitis?
10. Write about different types of stroke

PART- B (1 X 14 = 14 MARKS)

11. Describe pathogenesis of depression in detail.
12. Represent the pathogenesis of atherosclerosis with neat labelled diagram.
13. Explain in detail various cellular events of inflammation.

PART- C (5 X 8 = 40 MARKS)

14. Write a note on jaundice.
15. Explain the pathogenesis of asthma.
16. Discuss the pathogenesis of tuberculosis.
17. Write a brief note on schizophrenia.
18. What is megaloblastic anaemia? Discuss its pathophysiology.
19. Mention etiology and symptoms of inflammatory bowel disease.
20. Explain the etiology and pathogenesis of acute renal failure.
21. Discuss alcoholic liver disease in detail.
22. What is the role of hypertrophy in congestive heart failure?

FACULTY OF PHARMACY

B. Pharmacy II Semester (PCI) (Main & Backlog) Examination, December 2021

Subject: Biochemistry

Time: 2 Hours

Max. Marks: 75

PART – A

Note: Answer any seven questions.

(7 x 3 = 21 Marks)

- 1 What is amino acid and its function in human body?
- 2 Define Enzyme induction.
- 3 What are Isoenzymes & allosteric enzymes?
- 4 What are essential fatty acids? Give two examples.
- 5 Differentiate between DNA & RNA.
- 6 Write a note on phenyl ketonuria.
- 7 Explain the deficiency of G6PD.
- 8 What is Ketoacidosis?
- 9 What is Jaundice and write its symptoms?
- 10 Explain Gout disease.

PART - B

Note: Answer any one questions.

(1 x 14 = 14 Marks)

- 11 Write a note on lipid metabolism. Explain various lipid metabolism disorders.
- 12 (a) Explain urea cycle and its disorders.
(b) Explain significance of Gluconeogenesis.
- 13 Explain DNA replication process in detail.

PART - C

Note: Answer any five questions.

(5 x 8 = 40 Marks)

- 14 Write a short note on Enzyme inhibitors with examples.
- 15 Describe various steps involved in glycolysis.
- 16 Write a note on conversion of cholesterol into vitamin D.
- 17 Write the synthesis and significance of biological 5-HT.
- 18 Write a note on conversion of cholesterol to bile acids.
- 19 Write about Oxidative phosphorylation with mechanism.
- 20 Explain Biosynthesis of purine.
- 21 Explain Structure of Coenzymes and its biochemical functions.
- 22 Explain Electron transport chain.

FACULTY OF PHARMACY

B. Pharmacy II Semester (PCI) (Main & Backlog) Examination, December 2021

Subject: Compute Application in Pharmacy

Time: 2 Hours

Max. Marks: 50

PART - A

Note: Answer any two questions.

(2 x 10 = 20 Marks)

- 1 Define number system. Explain the conversion process from binary to octal and binary to hexadecimal.
- 2 (a) Explain major components of Microsoft Access.
(b) How Barcode Labels will Work?
- 3 (a) Explain different types of Databases in Bioinformatics.
(b) Write a note on LIMS (Laboratory Information Management Systems).

PART - B

Note: Answer any six questions.

(6 x 5 = 30 Marks)

- 4 Explain the process for binary addition and binary subtraction.
- 5 Write different types of Cascading Style Sheets with examples.
- 6 What is a database? Explain about MySQL Components.
- 7 Explain about Pharmacokinetics and its stages.
- 8 Explain the impact of bioinformatics on vaccine design and development.
- 9 Write note on CS (Chromatographic data systems).
- 10 Explain the process of planning and managing the project.
- 11 How does patient monitoring system works?

FACULTY OF PHARMACY

B. Pharmacy II - Semester (PCI) (Main & Backlog) Examination, December 2021

Subject: Environmental Sciences

Time: 2 Hours

Max. Marks: 50

Note: Answer any two questions from Part-A any six questions from Part-B

PART- A (2 X 10 = 20 Marks)

1. What are the causes of water pollution? What are the measures to be taken to reduce water pollution?
2. List and explain the natural resources in detail. Differentiate between renewable and non renewable resources citing examples.
3. Explain aquatic ecosystems in detail.

PART- B (6 X 5 = 30 Marks)

4. Explain the economic importance of mineral resources
5. What is meant by grass land ecosystem? Explain the different grass land ecosystems.
6. Explain any 5 sources of air pollution
7. What are the different types of deserts? Explain the adaptation of plants and animals for desert life.
8. Explain in detail the structure and functions of ecosystem. What is the importance of ecosystem?
9. Explain the different forest resources
10. What are the reasons for soil pollution? What is its import on the health?
11. What are the functions of food? Add a note on the world food problems?

FACULTY OF PHARMACY

B. Pharmacy II – Semester (PCI) (Main & Backlog) Examination,

December 2021

Subject: Human Anatomy and physiology - II

Time: 2 Hours

Max. Marks: 75

PART – A

Note: Answer any seven questions.

(7 x 3 = 21 Marks)

1. Write the functions of neuron.
2. What is the role of pepsin?
3. Write a note on RAAS.
4. Define vital capacity and its value.
5. Why artificial respiration is important?
6. Enlist the functions of male reproductive system.
7. Reaction neurotransmitters and their functions.
8. List the cell types of pancreatic islets.
9. Write the functions of androgens.
10. Define gene. List two genetic disorders.

PART – B

Note: Answer any one question.

(1 x 14 = 14 Marks)

11. Write a note on lung volumes and capacities with the help of spiograph and neat labelled diagram of spirometer.
12. Write in detail about the steps involved in menstrual cycle.
13. Discuss about the structure and functions of brain with the help of diagram.

PART – C

Note: Answer any five questions.

(5 x 8 = 40 Marks)

14. What are the three ways that ATP can be generated?
15. Explain how respiratory areas control respiration.
16. Write a note on parturition.
17. Discuss about the posterior pituitary hormones.
18. Write about genetic pattern of inheritance.
19. Write a note on thyroid glands.
20. Write a note on components of reflex arc.
21. Define neurotransmitter. Add a note on biogenic amines.
22. What are the various phases involved in digestion?

FACULTY OF PHARMACY

B. Pharmacy II Semester (PCI) (Main & Backlog) Examination, December 2021

Subject: Pharmaceutical Organic Chemistry - I

Time: 2 Hours

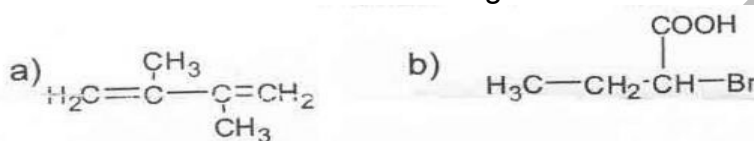
Max. Marks: 75

PART - A

Note: Answer any seven questions.

(7 x 3 = 21 Marks)

- Define the following terms with examples:
 - Hybridization
 - Functional group.
- Write the IUPAC name for the following structures.



- Explain Saytzeff's rule with an example.
- What are conjugated dienes? Write any one method of preparation of the same.
- Explain the significance of Tollen's test.
- Write the structure and uses of iodoform.
- Classify alcohols with examples.
- Explain the cannizzaro reaction with an example.
- Classify aliphatic amines with examples.
- Write the uses of acetyl salicylic acid and methyl salicylate.

PART - B

Note: Answer any one question.

(1 x 14 = 14 Marks)

- Write any three methods for preparation each for aldehydes & ketones.
- Explain Markovnikov's addition of alkenes with examples.
- Define 'isomerism'. Explain various types of structural isomerism with examples.

PART - C

Note: Answer any five questions.

(5 x 8 = 40 Marks)

- Write the IUPAC rules for aliphatic carboxylic acids with suitable examples.
- Write the preparation (any two) and reactions of alkanes with examples.
- Explain the electrophilic addition reactions of conjugated dienes with examples.
- Differentiate between $\text{S}_{\text{N}}1$ and $\text{S}_{\text{N}}2$ reactions of alkyl halides.
- Explain any two qualitative tests to differentiate various classes of alcohols.
- Describe the mechanism involved in aldol condensation with examples.
- Explain the general mechanism involved in nucleophilic addition reactions of carbonyl compounds. Provide two examples of the same.
- Explain the basicity of aliphatic amines with special emphasis on effect of substituent on their basicity.
- Write the structure, IUPAC name, preparation and uses of acetic acid.

FACULTY OF PHARMACY

B. Pharmacy II - Semester (PCI) (Main & Backlog) Examination, November 2022
Subject: Pathophysiology

Time: 3 Hours

Max. Marks: 75

PART - A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. Define the following terms
 - a. Atrophy
 - b. Necrosis
2. Mentions various causes of acute renal failure
3. Explain alcoholic liver disease.
4. What is jaundice?
5. Define gout and write its symptoms.
6. What are the causes of meningitis?
7. Define and classify angina pectoris.
8. Write about hepatitis.
9. Write about different types of stroke.
10. Differentiate between myocarditis and cardiomyopathy.

PART - B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. Describe pathogenesis of depression in detail.
12. Classify cancer and explain etiopathogenesis of cancer.
13. Explain in detail various cellular events of inflammation.

PART - C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Explain in brief about Alzheimer's disease.
15. Explain the pathogenesis of asthma.
16. Write a brief note on schizophrenia.
17. Describe the pathophysiology of meningitis.
18. Explain the causes and pathophysiology of peptic ulcer.
19. Mention aetiology and symptoms of inflammatory bowel disease.
20. Write about urinary tract infections.
21. Define homeostasis. Write various components of feedback system.
22. Explain the aetiology and pathogenesis of acute renal failure.

FACULTY OF PHARMACY

B. Pharmacy II-Semester (PCI) (Main & Backlog) Examination, November 2022

Subject: Biochemistry

Time: 3 Hours

Max. Marks: 75

PART - A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. What are the functions of lipids in the human body?
2. Define redox potential.
3. What are Isoenzymes & allosteric enzymes?
4. Mention types of RNA & their function.
5. Explain endergonic and exergonic reactions.
6. Write a note on tyrosinemia.
7. Explain the biological significances of ATP and cyclic AMP
8. What is a genetic code?
9. What is Jaundice and write its symptoms.
10. Explain Gout disease.

PART - B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. Define enzymes? Write their IUB classification and factors affecting enzyme action.
12. Write in detail about the conversion of cholesterol into vitamin D and bile acids.
13. Explain the DNA replication process and enzymes involved in this process.

PART - C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Write a note on lipid metabolism.
15. Describe various steps involved in glycolysis.
16. Write the synthesis and significance of biological adrenaline.
17. Explain the urea cycle and its disorders.
18. Explain Oxidative phosphorylation and its mechanism.
19. Explain the Citric acid pathway.
20. Explain the Structure of Coenzymes and their biochemical functions.
21. Explain the Electron transport chain.
22. Explain the biosynthesis of pyrimidine nucleotide.

FACULTY OF PHARMACY

B. Pharmacy II Semester (PCI) (Main & Backlog) Examination, November 2022

Subject: Computer Application in Pharmacy

Time: 2 Hours

Max. Marks: 50

PART - A

Note: Answer any two questions.

(2 x 10 = 20 Marks)

1. Define number system. Explain the conversion process from binary to octal and binary to hexadecimal.
2. (i) Write a note on LIMS (Laboratory Information Management Systems)
(ii) How Barcode Labels will Work?
3. (i) What is bioinformatics? Explain its applications.
(ii) Explain any 5 HTML tags with examples.

PART - B

Note: Answer any six questions.

(6 x 5 = 30 Marks)

4. Explain the concept of One's complement and Two's complements
5. Write different types of Cascading Style Sheets with examples.
6. Explain about application of computers in information storage and retrieval.
7. Explain the application of computers in Pharmacy.
8. Write about Objective of Bioinformatics.
9. Write note on CDS (Chromatographic data systems)
10. Explain the process of planning and managing the project.
11. Explain the process of Medication monitoring.

FACULTY OF PHARMACY
B. Pharmacy II Semester (PCI) (Main & Backlog) Examination, November 2022
Subject: Environmental Sciences

Time: 2 Hours

Max. Marks: 50

PART - A

Note: Answer any two questions.

(2 x 10 = 20 Marks)

1. Explain the concept of ecosystem. Give the structure and functions of ecosystem. Briefly explain any two ecosystems.
2. What are the causes of air pollution? How can we reduce air pollution?
3. Explain the Non-renewable resources. What is the role of an individual in the conservation of Non-renewable natural resources?

PART - B

Note: Answer any six questions.

(6 x 5 = 30 Marks)

4. Explain the causes of water pollution.
5. What are the different mineral resources? List the environmental problems of some minerals.
6. Explain the structure and functions of forest ecosystem.
7. Briefly explain the forest resources.
8. Explain the various renewable resources.
9. Classify the aquatic ecosystem and briefly explain each one.
10. Explain food chain and food web with examples.
11. What are the different resources of water?

FACULTY OF PHARMACY

B. Pharmacy II - Semester (PCI) (Main & Backlog) Examination, November 2022
Subject: Human Anatomy and Physiology-II

Time: 3 Hours

Max. Marks: 75

PART - A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. Enlist the function of cerebrospinal fluid.
2. Draw the neat labelled diagram of neuron.
3. What is the role of pancreas and liver in GIT?
4. What does parturition mean?
5. List the disorders of GIT.
6. What are the functions of urinary system?
7. What is artificial respiration?
8. Write a note on sex hormones.
9. Write two functions of ATP.
10. Write the function of pancreas.

PART - B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. Write in detail about Anatomy of GI Tract. Add a note on phases involved in digestion.
12. Write in detail about the hormones released by anterior pituitary gland.
13. Write a note on genetic pattern of inheritance.

PART - C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Write a note on generation of action potential.
15. Define neurotransmitter. Add a note on biogenic amines.
16. What are the various regulation centres of respiration?
17. Write a note on Formation and role of creatinine Phosphate.
18. Write a note on oogenesis.
19. Write a note on actions and production of thyroid hormones.
20. Briefly discuss about Anatomy of male and female reproductive system.
21. Define vital capacity and write about various volumes and capacities.
22. Write the steps involved in micturition process.

FACULTY OF PHARMACY

B. Pharmacy II Semester (PCI) (Main & Backlog) Examination, November 2022

Subject: Pharmaceutical Organic Chemistry - I

Time: 3 Hours

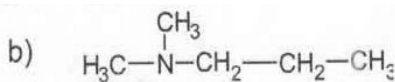
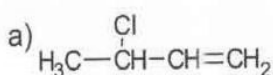
Max. Marks: 75

PART - A

Note: Answer all questions.

(10 x 2 = 20 Marks)

- Define the following terms with examples:
 - Homologues
 - Electrophiles
- Write the IUPAC name for the following structures.



- What are alkenes? Write any one method of preparation of the same.
- Define 'free radical'. Explain its formation with an example.
- Explain the significance of esterification test.
- Write the structure and uses of chlorobutanol.
- Explain about Walden inversion.
- Write the structure and uses of hexamine.
- Write the uses of amphetamine and acetylsalicylic acid.
- Explain aldol condensation with an example.

PART - B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

- Explain the mechanism involved in cannizzaro and crossed-cannizzaro condensation reactions with examples.
- Write any two methods of preparation of aliphatic carboxylic acids. Explain the acidity of carboxylic acids with special emphasis on effect of substituent on their acidity.
- Explain the mechanism, kinetics and stereochemistry involved in SN^1 reactions of alkyl halides.

PART - C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

- Explain the IUPAC rules for carbonyl compounds with examples.
- Differentiate between Markovnikov's and Anti-Markovnikov's addition reactions of alkenes.
- Classify alkenes with examples. Write any one preparation method for each class.
- Write any two methods of preparation each for aldehydes and ketones.
- Write any three qualitative tests for carbonyl compounds.
- Classify alkyl halides with examples. Write any two methods of preparation for the same.
- Write the preparation (any two) and reactions (any two) of alcohols.
- Explain any two qualitative tests to differentiate various classes of amines.
- Write the IUPAC rules and preparation methods (any two) for aliphatic carboxylic acids.

FACULTY OF PHARMACY

B. Pharmacy II-Semester (PCI) (Main & Backlog) Examination, October 2023

Subject: Bio Chemistry

Time: 3 Hours

Max.Marks:75

PART-A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. Write the biological importance of ATP.
2. Write about endergonic and exergonic reactions.
3. Explain the biological role of carbohydrates.
4. Write a note on phenylketonuria.
5. Explain the biological significance of cholesterol.
6. What is jaundice and write its symptoms.
7. Explain Gout disease.
8. Explain the De novo synthesis of fatty acids.
9. Explain redox potential.
10. What are Isoenzymes & allosteric enzymes?

PART-B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. Explain about Electron transport chain (ETC) and its mechanism.
12. Write in detail about the DNA replication process and enzymes involved in this process.
13. Explain the Citric acid cycle pathway in detail and Write its significance.

PART-C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Explain the Gluconeogenesis pathway.
15. Explain inhibitors and uncouplers of ETC.
16. Write in detail about any one disorder of lipid metabolism.
17. Discuss the urea cycle.
18. Write the synthesis and significance of dopamine.
19. Explain the Translation process.
20. Write the structure of Coenzymes and their biochemical functions.
21. Explain the biosynthesis of pyrimidine nucleotide.
22. Write about Oxidative phosphorylation with mechanism.

FACULTY OF PHARMACY

B. Pharmacy II Semester (PCI) (Main & Backlog) Examination, October 2023

Subject: Computer Application in Pharmacy

Time: 2 Hours

Max. Marks: 50

PART – A

Note: Answer any two questions from following.

(2 x 10 = 20 Marks)

1. Define number system. Explain the conversion process from binary to octal and binary to hexadecimal.
2. (i) Explain different generations of programming languages.
(ii) How Barcode Labels will Work?
3. (i) Explain the impact of bioinformatics on vaccine design and development.
(ii) Write a note on LIMS (Laboratory Information Management Systems)

PART – B

Note: Answer any five questions from following.

(6 x 5 = 30 Marks)

4. Explain the process for binary addition and binary subtraction.
5. Write different types of Cascading Style Sheets with examples.
6. What is a database? Explain about MySQL Components.
7. Explain about Mathematical modelling in drug design.
8. Explain different types of Databases in Bioinformatics.
9. Write note on CDS (Chromatographic data systems).
10. Explain the process of planning and managing the project.
11. How does Pharma information system works?

Code No: E12400/PCI

FACULTY OF PHARMACY

B. Pharmacy II-Semester (PCI) (Main & Backlog) Examination, October 2023

Subject: Environmental Sciences

Time: 2 Hours

Max. Marks: 50

PART-A

Note: Answer any two questions.

(2 x 10 = 20 Marks)

1. Explain the concept of ecosystem. Give the structure and functions of ecosystem. Briefly explain forest ecosystem.
2. What are the causes of soil pollution? How can we reduce soil pollution? What is the impact of soil pollution on human health?
3. Explain the different natural resources. Classify them into renewable and non renewable resources. What is the role of an individual in the conservation of natural resources?

PART-B

Note: Answer any six questions.

(6 x 5 = 30 Marks)

4. Explain the causes of water pollution?
5. What are the different mineral resources? List the environmental problems of some minerals.
6. Explain the structure and functions of forest ecosystem.
7. Briefly explain the grassland ecosystem.
8. Explain the major reasons for air pollution.
9. Briefly explain aquatic ecosystem. In which ways it is beneficial to mankind?
10. What are the functions of ecosystem? Explain food chain and food web with examples.
11. Explain the multi-disciplinary approach in preserving the environmental balance.

FACULTY OF PHARMACY**B. Pharmacy II-Semester (PCI) (Main & Backlog) Examination, October 2023**
Subject: Pharmaceutical Organic Chemistry-I**Time: 3 Hours****Max. Marks: 75****PART-A****Note: Answer all the questions.****(10 x 2 = 20 Marks)**

1. Define the following terms with examples:
(a) Functional group (b) Nucleophile
2. Write the structure for the following compounds: 3-bromo-1-butene & 3-Methyl-2-butanol.
3. Explain Saytzeff's rule with an example.
4. Write any one method of preparation of aliphatic carboxylic acid.
5. Explain sp^3 hybridization with an example.
6. Write the structure and uses of chloroform.
7. Classify alcohols with examples.
8. Write the structure and uses of benzaldehyde.
9. Explain Cannizzaro reaction with an example.
10. Write the uses of acetylsalicylic acid.

PART-B**Note: Answer any two questions.****(2 x 10 = 20 Marks)**

11. Explain the mechanism, kinetics and stereochemistry involved in SN^2 reactions of alkyl halides.
12. Describe various types of structural isomerism with examples.
13. Write any three methods each for preparation of aldehydes & ketones.

PART-C**Note: Answer any seven questions.****(7 x 5 = 35 Marks)**

14. Explain the IUPAC rules for aliphatic carboxylic acids with examples.
15. Describe the electrophilic addition reactions of conjugated dienes with examples.
16. Classify alkyl halides with examples. Write any two methods of preparation for the same.
17. Write methods of preparation (any two) and reactions (any two) of aliphatic amines.
18. Explain any two qualitative tests to differentiate various classes of alcohols.
19. Write any three qualitative tests for carbonyl compounds.
20. Explain Markovnikov's addition of alkenes with examples.
21. Describe the mechanism involved in aldol condensation with examples.
22. Explain the acidity of carboxylic acids & effect of substituent on their acidity.

FACULTY OF PHARMACY

B. Pharmacy II Semester (PCI) (Main & Backlog) Examination, October 2023
Subject: Human Anatomy and Physiology-II

Time: 3 Hours

Max Marks: 75

PART – A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. Enlist the function of Urinary system.
2. Draw the neat labelled diagram of neuron.
3. What is the role of pancreas and liver in GIT?
4. What does parturition mean?
5. List the disorders of GIT.
6. What are the functions of urinary system?
7. What is artificial respiration?
8. Write a note on sex hormones.
9. Write two functions of BMR.
10. Write the function of pineal gland.

PART – B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. Write in detail about Anatomy of GI Tract. Add a note on phases involved in digestion.
12. Write in detail about the hormones released by anterior pituitary gland. Add a note on reflex activity.
13. Write a note on genetic pattern of inheritance.

PART – C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Write a note on generation of action potential.
15. Define neurotransmitter. Add a note on biogenic amines.
16. What are the various regulation centres of respiration?
17. Write a note on Formation and role of creatinine Phosphate.
18. Write a note on spermatogenesis.
19. Write a note on actions and production of thyroid hormones.
20. Briefly discuss about Anatomy of male and female reproductive system.
21. Define vital capacity and write about various volumes and capacities.
22. Write the steps involved in micturition process.

FACULTY OF PHARMACY

B. Pharmacy II-Semester (PCI) (Main & Backlog) Examination, November-2023

Subject: Pathophysiology

Time: 3 Hours

Max. Marks: 75

PART - A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. Define the following terms
(a) Hypertrophy (b) Acidosis
2. What are the causes of hepatitis B?
3. Define gout and write its symptoms.
4. What is diabetes? How it is caused?
5. Distinguish between exocrine and endocrine gland.
6. Mention the types of anaemia.
7. Differentiate Atherosclerosis & Arteriosclerosis.
8. Explain alcoholic liver disease.
9. Define osteoporosis and osteoarthritis.
10. Differentiate between myocarditis and cardiomyopathy.

PART-B

Note: Answer any two questions.

(2 x 10=20 Marks)

11. Write briefly about the principle of wound healing in the skin.
12. Describe pathogenesis of depression in detail.
13. Explain in detail various cellular events of inflammation.

PART-C

Note: Answer any seven questions.

(7 x 5 =35 Marks)

14. What is Alzheimer disease? Enumerate its signs and symptoms.
15. Explain the pathogenesis of asthma.
16. What is ischemic heart disease? Explain its types.
17. Describe the pathophysiology of meningitis.
18. What are peptic ulcers? Discuss pathophysiology.
19. Mention aetiology and symptoms of inflammatory bowel disease.
20. Describe the causes and symptoms of AIDS.
21. Define homeostasis. Write various components of feedback system.
22. Explain the aetiology and pathogenesis of acute renal failure.

FACULTY OF PHARMACY
B. Pharmacy II Semester (PCI) (Backlog) Examination, March 2022

Subject: Biochemistry

Time: 3 Hours

Max. Marks: 75

PART - A

Note: Answer all questions.

(10 x 2 = 20 Marks)

- 1 Explain endergonic and exergonic reaction.
- 2 Explain biological role of carbohydrates.
- 3 What is a genetic code?
- 4 Mention types of RNA & their function.
- 5 Explain in brief G6PD deficiency.
- 6 Explain De novo synthesis of fatty acids.
- 7 Explain redox potential.
- 8 What is Albinism and phenylketonuria?
- 9 Explain biological significances of ATP and cyclic AMP.
- 10 What is atherosclerosis?

PART - B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

- 11 Discuss the bio synthesis of Pyrimidine nucleotide.
- 12 What are enzymes? Mention their IUB classification. Write in detail on factors affecting enzyme action.
- 13 Explain about Electron transport chain (ETC) and its mechanism.

PART - C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

- 14 Explain β -Oxidation of saturated fatty acid.
- 15 Write about Glycolysis pathway, energetic and significance.
- 16 Write a short note on hormonal regulation of Blood Glucose levels and Diabetes mellitus.
- 17 Write the Synthesis and significance of melatonin.
- 18 Describe Protein synthesis process in detail.
- 19 Discuss Urea cycle.
- 20 Write about Oxidative phosphorylation with mechanism.
- 21 Write about catabolism of Heme.
- 22 Explain about Gluconeogenesis pathway and significance.

FACULTY OF PHARMACY

B. Pharmacy II Semester (PCI) (Backlog) Examination, March 2022

Subject: Computer Application in Pharmacy

Time: 2 Hours

Max. Marks: 50

PART - A

Note: Answer any two questions.

(2 x 10 = 20 Marks)

- 1 Define number system. Explain the conversion process from binary to decimal and hexadecimal to binary.
- 2 (a) Explain any 5 HTML tags with examples.
(b) Explain the need of hospital and clinical pharmacy.
- 3 (a) What is bioinformatics? Explain its applications.
(b) Write note on CDS (Chromatographic data systems).

PART - B

Note: Answer any six questions.

(6 x 5 = 30 Marks)

- 4 Explain the concept of One's complement and Two's complements.
- 5 Write about syntax rules for Extensible Mark-up Language declaration.
- 6 Write a note on web server and server products.
- 7 Explain the application of computers in Pharmacy.
- 8 Write about Objective of Bioinformatics.
- 9 Explain the importance of TIMS (Text Information Management Systems).
- 10 Explain the importance of Data flow diagram.
- 11 Explain the process of Medication monitoring.

FACULTY OF PHARMACY

B. Pharmacy II - Semester (PCI) (Backlog) Examination, March 2022

Subject: Environmental Sciences

Time: 2 Hours

Max. Marks: 50

Note: Answer any two questions from Part-A any six questions Part-B

PART- A (2 x 10 = 20 Marks)

1. Explain the concept of ecosystem. Give the structure and functions of ecosystem. Briefly explain any two ecosystems.
2. What are the causes of air pollution? How can we reduce air pollution?
3. Explain the different natural resources. What is the role of an individual in the conservation of natural resources?

PART- B (6 x 5 = 30 Marks)

4. Explain the causes of water pollution?
5. What are the different mineral resources? List the environmental problems of some minerals.
6. Explain the structure and functions of forest ecosystem.
7. Briefly explain the forest resources.
8. Explain the various renewable resources
9. Classify the aquatic ecosystem and briefly explain each one.
10. Explain food chain and food web with examples.
11. What are the different resources of water?

FACULTY OF PHARMACY

B. Pharmacy II – Semester (PCI) (Backlog) Examination, March 2022

Subject: Human Anatomy and Physiology-II

Time: 3 Hours

Max. Marks: 75

**Note: Answer all Questions from part-A,
any two Questions from part-B & Seven Question from part-C**

PART – A (2x10 = 20 Marks)

1. Enlist the neuroglia of the CNS.
2. Mention parts of brain their major functions.
3. What is the role of pepsin?
4. What does deglutition mean.
5. List the disorders of GIT.
6. What are the functions of urinary system?
7. What is a spirometer.
8. Write a note on sex hormones.
9. Write two functions of BMR.
10. Write the function of ADH.

PART – B (2x10 = 20 Marks)

11. Write in detail about urine formation. Add a note on RAAS.
12. Write in detail about the hormones released by anterior pituitary gland.
13. Write a note on pregnancy and parturition.

PART – C (7x5 = 35 Marks)

14. Write a note on generation of action potential.
15. Define neurotransmitter. Add a note on biogenic amines.
16. What are the various phases involved in digestion?
17. Write a note on spermatogenesis.
18. Write a note on oogenesis.
19. Write a note on actions and production of thyroid hormones.
20. Briefly discuss about genetic pattern of inheritance.
21. Draw the neat diagram of spiograph and write about various volumes and capacities.
22. Write the steps involved in micturition process.

FACULTY OF PHARMACY

B. Pharmacy II - Semester (PCI) (Backlog) Examination, April 2022

Subject: Pathophysiology

Time: 3 Hours

Max. Marks: 75

Note: Answer all Questions Part - A, any two questions from Part – B, and any Seven questions from Part - C

PART - A (2 x 10 = 20 Marks)

1. Define the following terms
a. Atrophy b. Necrosis
2. Mentions various causes of acute renal failure.
3. Define thalassemia and classify it.
4. Define the following terms
a. Haemophilia b. sickle cell anaemia
5. What are the causative organisms of syphilis and gonorrhoea?
6. Enumerate various thyroid diseases.
7. What are the four principal effects of acute inflammation?
8. Write a note on AIDS.
9. What are causes and symptoms of typhoid?
10. Define cell death acidosis and calcification.

PART - B (2 x 10 = 20 Marks)

11. Classify cancer and explain etiopathogenesis of cancer.
12. Define hypertension. Discuss etiology and pathogenesis of hypertension.
13. Define cell injury. Explain the mechanism of cell injury.

PART - C (7 x 5 = 35 Marks)

14. Write a note on metaplasia.
15. Explain in brief about Alzheimer's disease.
16. Describe the pathophysiology of congestive heart failure.
17. Describe the pathophysiology of meningitis.
18. Explain the causes and pathophysiology of peptic ulcer.
19. Write a note on chemical mediators of acute inflammation.
20. Define osteoporosis. Write its pathogenesis.
21. Define homeostasis. Write various components of feedback system.
22. Write about urinary tract infections.

FACULTY OF PHARMACY

B. Pharmacy II Semester (PCI) (Backlog) Examination, March 2022

Subject: Pharmaceutical Organic Chemistry - I

Time: 3 Hours

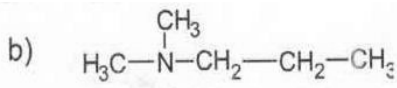
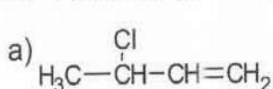
Max. Marks: 75

PART - A

Note: Answer all questions.

(10 x 2 = 20 Marks)

- Define the following terms with examples:
 - Homologues
 - Electrophiles
- Write the IUPAC name for the following structures.



- What are alkenes? Write any one method of preparation of the same.
- Define 'free radical'. Explain its formation with an example.
- Explain the significance of esterification test.
- Write the structure and uses of chlorobutanol.
- Explain about Walden in version.
- Write the structure and uses of hexamine.
- Write the uses of amphetamine and acetylsalicylic acid.
- Explain aldol condensation with an example.

PART - B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

- Explain the mechanism involved in cannizzaro and crossed-cannizzaro condensation reactions with examples.
- Write any two methods of preparation of aliphatic carboxylic acids. Explain the acidity of carboxylic acids with special emphasis on effect of substituent on their acidity.
- Explain the mechanism, kinetics and stereochemistry involved in SN^1 reactions of alkyl halides.

PART - C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

- Explain the IUPAC rules for carbonyl compounds with examples.
- Differentiate between Markovnikov's and Anti-Markovnikov's addition reactions of alkenes.
- Classify alkadienes with examples. Write any one preparation method for each class.
- Write any two methods of preparation each for aldehydes and ketones.
- Write any three qualitative tests for carbonyl compounds.
- Classify alkyl halides with examples. Write any two methods of preparation for the same.
- Write the preparation (any two) and reactions (any two) of alcohols.
- Explain any two qualitative tests to differentiate various classes of amines.
- Write the IUPAC rules and preparation methods (any two) for aliphatic carboxylic acids.