

Code No: E-12212/PCI

FACULTY OF PHARMACY

B. Pharmacy II Semester (PCI) (Backlog) Examination, April / May 2023 Subject: Human Anatomy and Physiology-II

Time: 3 Hours

PART-A

Max. Marks: 75

Note: Answer all the questions.

 $(10 \times 2 = 20 \text{ Marks})$

- 1. Write the function of neuroglia.
- 2. What is the role of enzymes in digestion?
- 3. Write a note on posterior pituitary hormones.
- 4. Define vital capacity and its value.
- 5. Enlist the resuscitation methods?
- 6. Enlist the functions of female reproductive system.
- 7. Draw the neat labelled diagram of kidney.
- 8. List the disorders of thyroid glands.
- 9. Write the functions of male sex hormones.
- 10. Define gene. List two genetic disorders.

PART-B

Note: Answer any two questions.

 $(2 \times 10 = 20 \text{ Marks})$

- 11. Write a note on lung volumes and capacities with the help of Spiro graph and neat labelled diagram of spirometer.
- 12. Discuss about Anatomy of male and female reproductive system.
- 13. Discuss about the structure and function of brain with the help of diagram.

PART-C

Note: Answer any seven questions.

 $(7 \times 5 = 35 \text{ Marks})$

- 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 adrenal gland.
- 18. Write about genetic pattern of inheritance.
- 19. Write a note on mechanism of hormone action
- 20. Write a note on components of reflex arc.
- 21. Define neurotransmitter. Add a note on biogenic amines.
- 22. Discuss about the physiology of urine formation.

Code No: E-12215/PCI

FACULTY OF PHARMACY

B. Pharmacy II-Semester (PCI) (Backlog) Examination, April / May 2023
Subject: Pathophysiology

Time: 3 Hours

PART-A

Max. Marks: 75

KI-A

Note: Answer all the questions.

 $(10 \times 2 = 20 \text{ Marks})$

- 1. What are causes of cell injury?
- 2. What are signs and symptoms of asthma?
- 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

Note: Answer any two questions.

 $(2 \times 10 = 20 \text{ Marks})$

- 11. Define hypertension. Discuss etiology and pathogenesis of hypertension.
- 12. Describe the pathogenesis of atherosclerosis with neat labelled diagram.
- Define cell injury. Explain the mechanism of cell injury.

PART-C

Note: Answer any seven questions.

 $(7 \times 5 = 35 \text{ Marks})$

- 14. Write a note on metaplasia.
- 15. Write a note on jaundice.
- Discuss the pathogenesis of tuberculosis.
- 17. Describe the pathophysiology of congestive heart failure.
- 18. What is megaloblastic anaemia? Discuss its pathophysiology.
- 19. Write a note on chemical mediators of acute inflammation,
- 20. Define osteoporosis. Write its pathogenesis.
- 21. Discuss alcoholic liver disease in detail.
- 22. What is the role of hypertrophy in congestive heart failure?

Code No: E-12214/PCI
April / May 2023

FACULTY OF PHARMACY

B. Pharmacy II-Semester (PCI) (Backlog) Examination, April / May 2023 Subject: Biochemistry

Time: 3 Hours

PART-A

Max. Marks: 75

Note: Answer all the questions.

 $(10 \times 2 = 20 \text{ Marks})$

- 1. What are Isoenzymes & allosteric enzymes?
- 2. Write the significance of gluconeogenesis.
- 3. Explain the role of nucleic acids.
- 4. Write the difference between DNA & RNA.
- 5. Explain in brief G6PD deficiency.
- 6. What is Ketoacidosis?
- 7. Write the biological significance of ATP.
- 8. What is Albinism and alkaptonuria?
- 9. Explain the biological significance of cholesterol.
- 10. Explain in brief about fatty liver.

PART-B

Note: Answer any two questions.

 $(2 \times 10 = 20 \text{ Marks})$

- 11. Discuss the biosynthesis of Purine nucleotide.
- 12. Explain about Electron transport chain (ETC) and its mechanism.
- 13. a) Explain the urea cycle.
 - b) What are enzymes? Mention their IUB classification?

PART-C

Note: Answer any seven questions.

 $(7 \times 5 = 35 \text{ Marks})$

- 14. Explain the Glycolysis pathway in detail.
- 15. How the hormones regulate blood glucose levels and Diabetes mellitus.
- 16. Explain β -Oxidation of saturated fatty acid.
- 17. Explain the catabolic process involved in Gout disease.
- 18. Write the synthesis and significance of Dopamine.
- 19. Explain the Protein synthesis process.
- 20. Explain Oxidative phosphorylation and its mechanism.
- 21. Write De novo synthesis of fatty acid.
- 22. Write a short note on redox potential.

256521881086 Code No: E-12213/PCI

FACULTY OF PHARMACY

B. Pharmacy II Semester (PCI) (Backlog) Examination, April / May 2023
Subject: Pharmaceutical Organic Chemistry - I

Time: 3 Hours

PART - A

Max. Marks: 75

Note: Answer all questions.

 $(10 \times 2 = 20 \text{ Marks})$

1 Define the following terms with examples:

- (a) Hybridization
- (b) Functional group
- 2 Write the IUPAC name for the following structures.

a)
$$_{\text{H}_2\text{C}}=_{\text{C}}^{\text{CH}_3}=_{\text{CH}_2}^{\text{COOH}}$$
 b) $_{\text{H}_3\text{C}}=_{\text{CH}_2}^{\text{COOH}}=_{\text{CH}_2}^{\text{CO$

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

PART - B

Note: Answer any two questions.

 $(2 \times 10 = 20 \text{ Marks})$

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

PART - C

Note: Answer any seven questions.

 $(7 \times 5 = 35 \text{ Marks})$

- 14 Write the IUPAC rules for aliphatic carboxylic acids with suitable examples.
- 15 Write the preparation (any two) and reactions of alkanes with examples.
- 16 Explain the electrophilic addition reactions of conjugated dienes with examples.
- 17 Differentiate between SN₁ and SN₂ reactions of alkyl halides.
- 18 Explain any two qualitative tests to differentiate various classes of alcohols.
- 19 Describe the mechanism involved in aldol condensation with examples.
- 20 Explain the general mechanism involved in nucleophilic addition reactions of carbonyl compounds. Provide two examples of the same.
- 21 Explain the basicity of aliphatic amines with special emphasis on effect of substituent on their basicity.
- 22 Write the structure, IUPAC name, preparation and uses of acetic acid.



Code No: E-12217/PCI

FACULTY OF PHARMACY

B. Pharmacy II Semester (PCI) (Backlog) Examination, April / May 2023
Subject: Environmental Sciences

Time: 2 Hours

Max. Marks: 50

PART - A

Note: Answer any two questions.

 $(2 \times 10 = 20 \text{ Marks})$

- 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

Note: Answer any six questions.

 $(6 \times 5 = 30 \text{ Marks})$

- 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 impact on the health?
- 11. What are the functional of food? Add a note on the world food problem.

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Code No: E-12216/PCI

FACULTY OF PHARMACY

B. Pharmacy II Semester (PCI) (Backlog) Examination, April / May 2023
Subject: Computer Application in Pharmacy

Time: 2 Hours

Max. Marks: 50

PART-A

Note: Answer any two questions.

 $(2 \times 10 = 20 \text{ Marks})$

- Define number system. Explain the conversion process from binary to decimal and Hexadecimal to binary.
- 2. (i) Explain major components of Microsoft Access.
 - (ii) Explain the application of computers in hospital and clinical pharmacy.
- 3. (i) Explain different types of Databases in Bioinformatics.
 - (ii) Write note on CDS (Chromatographic data systems)

PART-B

Note: Answer any six questions.

 $(6 \times 5 = 30 \text{ Marks})$

- 4. Explain the process for binary addition and binary subtraction.
- 5. Write about syntax rules for Extensible Mark-up Language declaration.
- 6. What is a database? Explain about MySQL Components
- Write a note on web server and server products.
- 8. Explain about the drug information storage & retrieval.
- 9. Explain the importance of TIMS (Text Information Management Systems)
- 10. Explain the importance of Data flow diagram.
- 11. How does patient monitoring system works?

Code No: E-12010/PCI

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.

 $(10 \times 2 = 20 \text{ Marks})$

- 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.

 $(2 \times 10 = 20 \text{ Marks})$

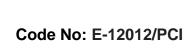
- 11. Define enzymes? Write their IUB classification and factors affecting enzyme action.
- 12. Write in detail about the conversion of cholesterol into vitamin D and bile acids.
- 13. Explain the DNA replication process and enzymes involved in this process.

PART - C

Note: Answer any seven questions.

 $(7 \times 5 = 35 \text{ Marks})$

- 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.



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.

 $(2 \times 10 = 20 \text{ Marks})$

- 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.

 $(6 \times 5 = 30 \text{ Marks})$

- 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.



Code No: E-12013/PCI

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.

 $(2 \times 10 = 20 \text{ Marks})$

- 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.

 $(6 \times 5 = 30 \text{ Marks})$

- 4. Explain the causes of water pollution.
- 5. What are the different mineral rescues? 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?



Code No: E12008/PCI

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.

 $(10 \times 2 = 20 \text{ Marks})$

- 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.

 $(2 \times 10 = 20 \text{ Marks})$

- 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.

 $(7 \times 5 = 35 \text{ Marks})$

- 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.

Code No: E-12011/PCI

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.

 $(10 \times 2 = 20 \text{ Marks})$

- 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.

 $(2 \times 10 = 20 \text{ Marks})$

- 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.

 $(7 \times 5 = 35 \text{ Marks})$

- 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.

Code No: E-12009/ PCI

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. $(10 \times 2 = 20 \text{ Marks})$

- 1 Define the following terms with examples:
 - (a) Homologues
 - (b) Electrophiles
- 2 Write the IUPAC name for the following structures.

a)
$$_{\rm H_3C-CH-CH=CH_2}^{\rm Cl}$$
 b) $_{\rm H_3C-N-CH_2-CH_2-CH_2}^{\rm CH_3}$

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

PART - B

Note: Answer any two questions.

 $(2 \times 10 = 20 \text{ Marks})$

- 11 Explain the mechanism involved in cannizzaro and crossed-cannizzaro condensation reactions with examples.
- 12 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.
- 13 Explain the mechanism, kinetics and stereochemistry involved in SN¹ reactions of alkyl halides.

PART - C

Note: Answer any seven questions.

 $(7 \times 5 = 35 \text{ Marks})$

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

Code No: D-8162/PCI

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 $(2 \times 10 = 20 \text{ Marks})$

- 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: Biochemistry

Time: 3 Hours Max. Marks: 75

PART - A

Note: Answer all questions.

 $(10 \times 2 = 20 \text{ Marks})$

- 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.

 $(2 \times 10 = 20 \text{ Marks})$

- 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.

 $(7 \times 5 = 35 \text{ Marks})$

- 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.

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.

 $(2 \times 10 = 20 \text{ Marks})$

- 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.

 $(6 \times 5 = 30 \text{ Marks})$

- 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.

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Code No: D-8161/PCI

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?

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 spirograph and write about various volumes and capacities.
- 22. Write the steps involved in micturition process.

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. $(10 \times 2 = 20 \text{ Marks})$

1 Define the following terms with examples:

- (a) Homologues
- (b) Electrophiles
- 2 Write the IUPAC name for the following structures.

a)
$$_{\text{H}_{3}\text{C}-\text{CH}-\text{CH}=\text{CH}_{2}}^{\text{CI}}$$
 b) $_{\text{H}_{3}\text{C}-\text{N}-\text{CH}_{2}-\text{CH}_{2}-\text{CH}_{2}-\text{CH}_{2}}^{\text{CH}_{3}}$

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

PART - B

Note: Answer any two questions.

 $(2 \times 10 = 20 \text{ Marks})$

- 11 Explain the mechanism involved in cannizzaro and crossed-cannizzaro condensation reactions with examples.
- 12 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.
- 13 Explain the mechanism, kinetics and stereochemistry involved in SN¹ reactions of alkyl halides.

PART - C

Note: Answer any seven questions.

 $(7 \times 5 = 35 \text{ Marks})$

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



Code No: D8085/PCI

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 \times 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?

SNVPMV Library

Code No: D 8082/PCI

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.

 $(7 \times 3 = 21 \text{ Marks})$

- 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.

 $(1 \times 14 = 14 \text{ Marks})$

- 11. Write a note on lung volumes and capacities with the help of spirograph 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.

 $(5 \times 8 = 40 \text{ Marks})$

- 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?

SNVPMV Library

Code No: D8087/PCI

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

Subject: Environmental Sciences

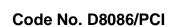
Time: 2 Hours Max. Marks: 50

Note: Answer any <u>two</u> questions from Part-A any <u>six</u> 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?





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.

 $(2 \times 10 = 20 \text{ Marks})$

- 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.

 $(6 \times 5 = 30 \text{ Marks})$

- 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?

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.

 $(7 \times 3 = 21 \text{ Marks})$

- 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.

 $(1 \times 14 = 14 \text{ Marks})$

- 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.

 $(5 \times 8 = 40 \text{ Marks})$

- 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.



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.

 $(7 \times 3 = 21 \text{ Marks})$

- 1 Define the following terms with examples:
 - (a) Hybridization
 - (b) Functional group.
- 2 Write the IUPAC name for the following structures.

a)
$$CH_3$$
 b) CH_2 CH_2 CH_3

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

PART - B

Note: Answer any one question.

 $(1 \times 14 = 14 \text{ Marks})$

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

PART - C

Note: Answer any five questions.

 $(5 \times 8 = 40 \text{ Marks})$

- 14 Write the IUPAC rules for aliphatic carboxylic acids with suitable examples.
- 15 Write the preparation (any two) and reactions of alkanes with examples.
- 16 Explain the electrophilic addition reactions of conjugated dienes with examples.
- 17 Differentiate between SN₁ and SN₂ reactions of alkyl halides.
- 18 Explain any two qualitative tests to differentiate various classes of alcohols.
- 19 Describe the mechanism involved in aldol condensation with examples.
- 20 Explain the general mechanism involved in nucleophilic addition reactions of carbonyl compounds. Provide two examples of the same.
- 21 Explain the basicity of aliphatic amines with special emphasis on effect of substituent on their basicity.
- 22 Write the structure, IUPAC name, preparation and uses of acetic acid.

Code: 12057/PCI



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?

$PART - B (1 \times 14 = 14 Marks)$

- 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.

Code: 12058/PCI

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) $H_3C CH_2 C = CH_2$
- 3. Explain Sp² 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 benzeldehyde 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: 12059/PCI

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 (palmiticacid).
- 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, noradrenatine and adrenatine.
- 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.



Code: 12061/PCI

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.

$$PART - B (6 \times 5 = 30)$$

- 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.

$PART - B (6 \times 5 = 30)$

- 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.



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 gonorrhea?
- 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.

$PART - B (1 \times 14 = 14 Marks)$

- 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?



Code:6275/PCI

FACULTY OF PHARMACY

B. Pharmacy II - Semester (PCI) (Main & Backlog) Examination, December 2020

Subject: Patho Physiology

Time: 2 Hours Max. Marks: 75

PART – A

Note: Answer any Seven questions.

(7 x3=21 Marks)

- 1. What are causes of cell injury?
- 2. Mention various causes of acute renal failure.
- 3. Differentiate between myocarditis and cardiomyopathy.
- 4. Define the following terms
 - (a) Haemohpilia (b) Sickle cell anaemia
- 5. What is jaundice?
- 6. Enumerate various thyroid diseases.
- 7. Define gout and write its symptoms.
- 8. What is peptic ulcer?
- 9. What are the causes of meningitis?
- 10. Define cell death acidosis and calcification.

PART - B

Note: Answer One question.

(1 x14=14 Marks)

- 11. Describe pathogenesis of depression in detail.
- 12. Define hypertension. Discuss etiology and pathogenesis of hypertension.
- 13. Explain in detail various cellular events of inflammation.

PART - C

Note: Answer any Five questions.

(5x8=40 Marks)

- 14. Write a note on metaplasia.
- 15. Explain the pathogenesis of asthma.
- 16. Describe the pathophysiology of congestive heart failure.
- 17. Write a brief note on schizophrenia.
- 18. Explain the causes and pathophysiology of peptic ulcer.
- 19. Mention etiology and symptoms of inflammatory bowel disease.
- 20. Define osteoporosis. Write its pathogenesis.
- 21. Discuss alcoholic liver disease in detail.
- 22. Write about urinary tract infections.

SNVPMV Library

Code:6276/PCI

B. Pharmacy II-Sem. (PCI) (Main & Backlog) Examination, November 2020 Subject: Computer Applications in Pharmacy

Time: 2 Hours Max. Marks: 50

Note: Answer any TWO Questions from Part - A, and SIX questions from Part - B.

PART – A (2 X 10 = 20) Answer any TWO questions from the following.

- 1. What is number system? Explain converting binary to decimal and decimal to binary.
- 2. What is DBMS? Explain characteristics and applications of DBMS.
- 3. Write about MS ACCESS and databases.

PART – B (6 x 5 = 30) Answer any SIX questions from the following.

- 4. Explain about Data flow diagrams.
- 5. Explain about HTML.
- 6. Write about major components of Microsoft Access with its advantages and disadvantages.
- 7. How does the Barcode Labels Work? Write benefits of Barcodes.
- 8. Explain the concept of diagnostic and lab diagnostic systems.
- 9. Write about application of Bioinformatics.
- 10. Explain about Chromatographic data analysis (CDS).
- 11. Describe drug information storage and retrieval with different types of storage media's.



Code: 6273/PCI

FACULTY OF PHARMACY

B. Pharmacy II-Semester (PCI)(Main & Backlog)Examination, November 2020

Subject: Pharmaceutical Organic Chemistry - I

Time: 2 Hours Max. Marks: 75

PART - A

Note: Answer Seven Questions.

(7 X 3 = 21 Marks)

- 1. Define the following terms with examples:
 - (a) Aliphatic compounds (b) Homologues.
- 2. Write the IUPAC name for the following structures:

(a)
$$H_3C$$
 - CH_2 - CH_3 (b) H_3C - CH_2 - $C=CH_2$

- 3. Explain Sp³ hybridization with an example.
- 4. Define 'Carbocation'. Explain its formation with an example.
- 5. Give the classification of alkadienes with examples.
- 6. Write the structure and uses of ethylchloride and lodoform.
- 7. Classify alcohols with examples.
- 8. Explain the significance of Tollen's test.
- 9. Write the structure and uses of acetyl salicylic acid and ethanolamine.
- 10. Explain benzoin Gondensation with an example.

PART - B

Note: Answer One Question.

(1X14 = 14 Marks)

- 11. Define 'isomerism'. Explain various types of structural isomerism with examples.
- 12.(a) Write any two methods of preparation of alkylhalides.
 - (b) Explain SN² reactions of alkyl halides giving special emphasis on Walden inversion.
- 13. Explain the mechanism involved in aldol condensation and crossed-aldol condensation with relevant examples.

PART - C

Note: Answer Five Question.

(5X8 = 40 Marks)

- 14. Explain the IUPAC rules for alkylhalides with examples.
- 15. Describe about free-radical substitution reactions of alkanes with examples.
- 16. Explain about electrophilic addition reactions of alkenes with examples.
- 17. Write a note on stability of conjugated dienes.
- 18. Give any two methods of preparation each for aldehydes & Ketones.
- 19. Describe the Hinsberg method of separation of amines with examples.
- 20. Explain the acidity of carborylic acids with special emphasis on effect of substituents on their acidity.
- 21. Write the structure and uses of any five Carbonyl Compounds.
- 22. How do you differentiate among primary, secondary and tertiary alcohols? Give any two qualitative tests.

SNVPMV Library

Code: 6272/PCI

B. Pharmacy II-Sem. (PCI) (Main & Backlog) Examination, November 2020

Subject: Human Anatomy and Physiology - II

Time: 2 Hours Max. Marks: 75

PART - A

Note: Answer Seven Questions.

(7 X 3 = 21 Marks)

- 1. Write the function of nervous system.
- 2. What are the functions of spinal cord?
- 3. What is the role of pepsin?
- 4. Enlist the disorders of GIT.
- 5. Mention important functions (three) of thyroid gland.
- 6. Write the functions of female reproductive system.
- 7. Define BMR, mention the factors affecting it.
- 8. Define micturition.
- 9. Mention any four important functions of Liver.
- 10. Mention the Male and Female sex hormones.

PART - B

Note: Answer One Question.

(1X14 = 14 Marks)

- 11. Discuss the process of digestion in detail along with anatomical diagram and functions of stomach.
- 12. Draw the anatomical diagram of brain and label various parts. Explain the functions of cerebellum.
- 13. Mention various endocrine glands. Discuss the anatomy and physiological functions of thyroid and parathyroid gland.

PART - C

Note: Answer Five Question.

(5X8 = 40 Marks)

- 14. Explain how nervous system controls respiratory system.
- 15. Describe three phases of digestion.
- 16. List the sequence of events that generate action potential.
- 17. Explain RAS pathway in regulation of kidney function.
- 18. Discuss the process of spermatogenesis in the testis.
- 19. Write a note on protein synthesis.
- 20. Explain the release and functions of growth hormones.
- 21. Explain in detail about oxidative phosphorylation.
- 22. Describe the structure and function of brain stem.

SNVPMV Library

B. Pharmacy II - Semester (PCI) (Suppl.) Examination, February 2019

Subject: Pathophysiology

Time: 3 Hours Max. Marks: 75

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

PART - A (10X2 = 20 Marks)

- 1. Define cell injury
- 2. What causes arthiritis?
- 3. Define the following.
 - a) Angina pectoris
- b) Congestive heart failure
- 4. Mention the parts of heart.
- 5. What is the role of mast cells in asthma?
- 6. Mention the types of anaemia.
- 7. What are the causes of the chronic renal failure?
- 8. Distinguish between exocrine and endocrine gland.
- 9. What are the signs and symptoms of peptic ulcer.
- 10. What is the cause of jaundice?

PART - B (2X10 = 20 Marks)

- 11. Define cell injury. Explain the mechanisms of cell injury.
- 12 What is hypertension? Explain the pathophysiology of hypertension.
- 13 Discuss neural basis of epilepsy. Add a note on types of epilepsies.

PART - C (7X5 = 35 Marks)

- 14. Explain the role of various chemical mediators of inflammation.
- 15. Explain briefly about hyperplasia.
- 16. Describe the pathophsiology of thalassemia
- 17. What is ischemic heart disease? Explain its types.
- 18. Discuss the pathogenesis of bronchial asthma.
- 19. Write a note on hypo and hyperthyroidism.
- 20. What is Alzheimer disease? Enumerate its signs and symptoms.
- 21. What are peptic ulcers? Discuss pathophysiology.
- 22. Describe the causes and symptoms of AIDS.



B. Pharmacy II - Semester (PCI) (Suppl.) Examination, February 2019

Subject: Computer Applications in Pharmacy

Time: 2 Hours Max.Marks: 50

Note: Answer any two questions from Part – A and any six questions from Part – B. PART - A (10x2 = 20 Marks)

- 1 Explain different number systems used in computer's (binary, decimal, octal, hexadecimal).
- 2 Describe about laboratory information management system.
- 3 Write about XML.

PART - B (6x5 = 30 Marks)

- 4 Explain the concept of data flow diagrams.
- 5 Discuss about web servers and server products.
- 6 Differentiate hospital and clinical pharmacy.
- 7 Discuss about databases of bioinformatics.
- 8 Write about electronic prescribing and discharge systems.
- 9 Explain about HTML.
- 10 Write a note on biological databases.
- 11 What are objectives of bioinformatics?

B. Pharmacy II Semester (PCI) (Suppl.) Examination, February 2019

Subject: Pharmaceutical Organic Chemistry - I

Time: 3 Hours Max. Marks: 75

Note: Answer all questions from Part – A, Any two questions from Part – B and Any seven questions from Part – C.

PART – A (10 x 2 = 20 Marks) Answer ALL questions. All questions carry equal marks.

- 1. Define the following terms with examples.
 - a) Aromatic compounds
 - b) Functional group
- 2. Write the common name and IUPAC name for the following structures.

a)
$$H_3C - CH_2 - CH - CHO$$

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b)
$$H_3C - CH_2 - O - CH_2 - CH_3$$

- 3. Give an example for a cis and trans isomer.
- 4. Write the structures and uses of any two carboxylic acid compounds.
- 5. Classify alcohols with relevant examples.
- 6. Explain the significance of Tollen's test.
- 7. Write the structure and uses of acetone and hexamine.
- 8. Write the structure uses of benzoic acid and acetyl salicylic acid.
- 9. What is an amine? Give structures and uses of any two amines.
- 10 Write the structures and uses of ethyl alcohol and glycerol.

PART – B (2 x 10 = 20 Marks) Answer any TWO questions. All questions carry equal marks.

11 Define 'isomerism'. Explain various types of structural isomerism with relevant examples.

12 Differentiate between SN¹ and SN² reactions and discuss their mechanisms with examples.

10

10

10

13 Explain the mechanism involved in aldol condensation and mention about crossed-aldol condensation.



PART – C (7x 5 = 35 Marks) Answer any SEVEN questions. All questions carry equal marks.

- 14 Explain the IUPAC rules for alkenes with suitable examples.
- 15 Explain the 1,2 / 1,4-addition reactions of alkadienes.
- 16 Write any two methods for synthesis of alkyl halides with suitable examples.
- 17 How do you distinguish among primary, secondary and tertiary alcohols based on chemical reactions?
- 18 Explain the mechanism involved in nucleophilic addition reactions of carbonyl compounds. Give any two examples.
- 19 Write any two qualitative tests of carbonyls.
- 20 Write the preparation of esters and amides with suitable examples.
- 21 Explain the Hinsberg method of separation of amines.
- 22 Explain in detail about stability of conjugated dienes.

Code No. 1225 / PCI

FACULTY OF PHARMACY

B. Pharmacy II - Semester (PCI)(Main) Examination, July 2018

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 and any seven questions from Part-C.

PART – A (10x2 = 20 Marks) Answer all questions. All questions carry equal marks.

- 1 Write a note on role of pepsin in digestion.
- 2 What are the various neurotransmitters?
- 3 Mention the physiological significance of BMR.
- 4 What is artificial respiration?
- 5 Enlist the hormones of pancrease with their function.
- 6 List out the functions of DNA.
- 7 Name few disorders of kidney.
- 8 What are the functions of female reproductive system?
- 9 Discuss the role of ATP in biological system.
- 10 Explain the disorders related to thyroid gland.

PART – B (2×10 = 20 Marks) Answer any two questions. All questions carry equal marks.

- 11 Discuss the anatomy and functions of GI tract with a neat labelled diagram.
- 12 Discuss the anatomy and functions of kidney with a neat labelled diagram.
- 13 a) Write a note on various respiratory centers.
 - b) Add a note on lung volumes and capacities of spirogram with a neat labelled diagram.

PART – C (7×5 = 35 Marks) Answer any seven questions. All questions carry equal marks.

- 14 Define reflex action. Add a note on various components of reflex arc.
- 15 Explain the various parts of brain with a labelled diagram.\
- 16 Write a note on physiology of urine formation.
- 17 Write a note on a role of RAS in kidneys.
- 18 What are the various evaluation techniques used to know the kidney functions?
- 19 Write a note on anatomy of male reproductive system.
- 20 Write in detail about Oogenesis.
- 21 What are the hormones secreted by pituitary gland and their functions.
- 22 Explain the genetic pattern of inheritance.

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B. Pharmacy II - Semester (PCI) (Main) Examination, August 2018

Subject: Computer Applications in Pharmacy

Time: 2 Hours Max.Marks: 50

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

PART - A (10x2 = 20 Marks)

- 1 What is a number system? Convert binary number into decimal, octal, hexadecimal and vice versa with example.
- 2 Describe any 10 HTML tags
- 3 Write about electronic prescribing and discharge system.

PART - B (6x5 = 30 Marks)

- 4 Write a note on Web servers and server products.
- 5 what is database? Explain about MS Access database.
- 6 Write about diagnostic and lab-diagnostic system.
- 7 Write a note on data flow diagrams.
- 8 Explain the concept of chromatographic data analysis.
- 9 Discuss about applications of computers in pharmacy.
- 10 Illustrate text information management system.
- 11 Write about XML.

B. Pharmacy II - Semester (PCI) (Main) Examination, August 2018

Subject: Patho Physiology

Time: 3 Hours Max. Marks: 75

Note: Answer all questions from Part – A, Any twp questions from Part – B and any Seven questions from Part - C.

PART - A (10X2 = 20 Marks)

- 1. What are the patterns of cell death?
- 2. Define the following:
 - (a) Hyperplasia (b) Atrophy
- 3. What is diabetes? How it is caused?
- 4. Differentiate between asthma and COPD.
- 5. Define Angina pectoris and congestive heart failure.
- 6. Explain the pathophysiology of Parkinson's disease.
- 7. What are the causes of hepatitis B?
- 8. Define osteoporosis and osteoarthritis.
- 9. What is neoplasm? List out the types of neoplasm's.
- 10. What is meningitis and it's symptoms?

PART - B (2X10 = 20 Marks)

- 11. Write briefly about the principle of wound healing in the skin.
- 12 Describe the reversible and irreversible cell injury
- 13 Discuss the pathophysiology of any one disease.

PART - C (7X5 = 35 Marks)

- 14. Define hypertension. Explain the factors affecting it.
- 15. What is aneamia? Classify various types of anemia.
- 16. Discuss the pathogenesis of bronchial asthma.
- 17. What is Parkinson's disease? Enumerate its signs and symptoms.
- 18. What are sex harmones? Disuss any one sex harmone disorder.
- 19. Define gout? Discuss its causes and symptoms.
- 20. Explain etiology and pathogenesis of schizophrenia.
- 21. Define inflammation. Explain the causes of chronic inflammation.
- 22. What are the causes of liver cirrhosis?

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Code No. 1229/PCI

FACULTY OF PHARMACY

B. Pharmacy II - Semester (PCI) (Main) Examination, August 2018

Subject: Environmental Sciences

Time: 2 Hours Max. Marks: 50

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

PART - A (2X10 = 20 Marks)

- 1. Classify the different types of forests. What are the resources that we get from forest.
- 2. Explain the different aquatic ecosystems. Explain each one in detail.
- 3. Classify the natural resources. Briefly explain each one.

PART - B (6X5 = 30 Marks)

- 4. Define ecosystem. What is the structure of an ecosystem?
- 5. Briefly explain the reasons for water stress.
- 6. Explain the different desert ecosystems.
- 7. What are the causes of air pollution?
- 8. What are the different mineral resources? List and give the uses of some minerals.
- 9. Why land is considered as a natural resource? What is weathering?
- 10. Explain the different grass land ecosystems.
- 11. What are the different energy resources? Explain any two in detail.

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FACULTY OF PHARMACY

B. Pharmacy II - Semester (PCI) (Main) Examination, August 2018

Subject: Biochemistry

Time: 3 Hours Max. Marks: 75

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

PART - A (10X2 = 20 Marks)

- 1. What is a Carbohydrate and its function in human body?
- 2. What are glycogen storage disease?
- 3. Define protein and write its functions in human body
- 4. What is atherosclerosis.
- 5. What are energy rich compounds?
- 6. What is a genetic code?
- 7. Define Enzyme induction.
- 8. Define coenzymes with biochemical functions.
- 9. What is jaundice and its symptoms?
- 10. Define De novo synthesis of fatty acids...

PART - B (2X10 = 20 Marks)

- 11. (a) Write about the biological significance of ATP and cyclic AMP (3)
 (b) Write about Citric acid cycle pathway, energetics and significance (7)
- 12 Write a note on lipid metabolism. Explain various lipid metabolism disorders (10)
- 13 (a) Explain about amino acid metabolism (5)
 - (b) Write about Urea cycle and its disorders

PART - C (7X5 = 35 Marks)

- 14. Explain about Electr in transport chain (ETC) and its mechanism.
- 15. Write a note on Transmination and deamination of aminoacid metabolism
- 16. Write about catabolism of purine nucleotides.
- 17. Write in detail about β Oxidation of saturated fatty acids.
- 18. Write a short note on Enzyme inhibitors with examples.
- 19. Write a short note on hormonal hormonal regulation of Blood Glucose levels and Diabetes mellitus.
- 20. Explain about hyperbilirubinemia and jaundice.
- 21. Write about Glycosis pathway, energetic and significance.
- 22. Explain about diagnostic and therapeutic applications of enzymes and isoenzymes.

B. Pharmacy II-Semester (PCI) (Main) Examination, August 2018

Subject: Pharmaceutical Organic Chemistry - I

Time: 3 Hours Max. Marks: 75

Note: Answer all questions from Part – B and Any seven questions from Part – C.

PART – A (10 x 2 = 20 Marks) Answer ALL guestions. All guestions carry equal marks.

- 1 Define the following terms with examples:
 - a) Aliphatic compounds
 - b) Aromatic compounds.
- 2 Write the common name and IUPAC name for the following structures.

O || a)
$$H_3C - CH_2 - CH - C - OH$$
 | CH₃
O || b) $H_3C - CH_2 - C - CH_3$

- 3 Write the structures and uses of any two aldehydes or ketones.
- 4 What is a carbocation? Give two examples.
- 5 Write the structure and uses of benzoic acid and salicylic acid.
- 6 Write the general structures of an amide and an ester by giving examples.
- 7 What is hydridization.
- 8 Explain the significance of esterification test.
- 9 Aliphatic amines are more basic than aromatic amines. Justify.
- 10 What is an electrophile? Give examples.

PART – B (2x10 = 20 Marks) Answer any TWO questions. All questions carry equal marks.

- 11 a) Differentiate between Markovnikov's and Anti-Markovnikov's addition of alkenes.
 - b) Write about addition reactions of dienes.

12 What are alkyl halides? Give examples. Discuss the SN₁ and SN₂ reactions and mechanism with examples.

13 Discuss about various reactions (minimum 5) of aldehydes and ketones with examples.

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10

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Part – C (7x5 = 35 Marks) Answer any SEVEN questions. All questions carry equal marks.

- 14 Write the IUPAC rules for nomenclature of carbonyls compounds (aldehydes & ketones) with examples.
- 15 Write the structures and uses of any five alcohol compounds.
- 16 Describe the mechanism involved in halogenation of alkanes with special emphasis on chlorination of propane.
- 17 Give a note on oxidation of alcohols.
- 18 Write the structure, IUPAC name and uses of chloroform and tetrachloroethylene.
- 19 Write any two methods of preparation for each of aldehydes and ketones.
- 20 Explain the mechanism involved in cannizzaro reaction with examples.
- 21 Classify amines with examples and give the structures and uses of any two amine compounds.
- 22 Explain the acidity of carboxylic acids with special emphasis on effect of substituent on their acidity.



B. Pharmacy II - Semester (PCI) (Supplementary) Examination, February 2020

Subject: Biochemistry

Time: 3 Hours Max. Marks: 75

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

PART - A (10 X 2 = 20)

- 1. Define Transamination & Deamination.
- 2. What is ketoacidosis?
- 3. Write the functions of Nucleic acids.
- 4. Define & classify carbohydrates.
- 5. What are Isoenzymes & allosteric enzymes?
- 6. Enlist metabolic disorders of phenylalanine & tyrosine.
- 7. Give biological significance of proteins.
- 8. What are essential fatty acids? Give two examples.
- 9. Mention types of RNA & their function.
- 10. Explain in brief G6PD deficiency.

$PART - B (2 \times 10 = 20)$

- 11. Discuss the bio synthesis of Pyrimidine nucleotide.
- 12. Write an essay on electron transport chain & oxidative physphorylation.
- 13. What are enzymes? Mention their IUB classification. Write a note on factors affecting enzyme action.

$PART - C (7 \times 5 = 35)$

- 14. Describe various steps involved in glycolysis.
- 15. Explain in brief, β -oxidation of fatty acids.
- 16. Write a note on Enzyme inhibition.
- 17. Discuss about energy rich compounds & redox potential.
- 18. Describe RNA synthesis.
- 19. Explain the physiological importance of pentose phosphate pathway.
- 20. Write a note on synthesis & significance of 5-HT (serotonin).
- 21. Discuss urea cycle.
- 22. Write a note on conversion of cholesterol into vitamin D.



B. Pharmacy II-Semester (PCI) (Supplementary) Examination, January 2020

Subject: Patho Physiology

Time: 3 Hours Max. Marks: 75

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

PART - A (10 X 2 = 20)

- 1. Write a note on thyrotoxicosis.
- 2. Define the terms Invasion & Metastasis.
- 3. Explain the clinical features of acute renal failure.
- 4. What are autoimmune disorders?
- 5. Differentiate Atherosclerosis & Arteriosclerosis.
- 6. Write the pathogenesis of sickle cell anemia.
- 7. Explain Atrophy & Anaplasia.
- 8. Mention the Etiological factors for asthma.
- 9. What is gout, explain?
- 10. Mention the chemical mediators in inflammation.

$PART - B (2 \times 10 = 20)$

- 11. Write in detail about pathogenesis of COPD.
- 12. Enumerate the events in pathogenesis of cancer.
- 13. Discuss the etiopathogenesis of Epilepsy & Alzheimer's disease.

$PART - C (7 \times 5 = 35)$

- 14. Explain the role of H. Pylori in peptic ulcer.
- 15. Write a note on ischemic heart disease.
- 16. Discuss the pathogenesis of anemia.
- 17. Write a note on lymphocytes.
- 18. Explain the etiopathogenesis of tuberculosis.
- 19. Define stroke and explain its pathogenesis.
- 20. Write a note on irritable bowel syndrome.
- 21. Explain the pathogenesis of osteoporosis.
- 22. Discuss in briefly about electrolyte balance.



B. Pharmacy II-Semester (PCI) (Supplementary) Examination, January 2020

Subject: Environmental Sciences

Time: 2 Hours Max. Marks: 50

Note: Answer any Two Questions from Part – A, and Six questions from Part – B.

PART - A (2 X 10 = 20)

- 1. Explain the role of an individual in conservation of Natural resources.
- 2. Describe the concept of an Ecosystem.
- 3. Describe the sources of Air pollution.

$PART - B (6 \times 5 = 30)$

- 4. Write briefly about scope of Environmental sciences.
- 5. What are the functions of Forest resources?
- 6. Describe the Desert Ecosystem.
- 7. Distinguish between Renewable and Non-Renewable resources with example.
- 8. "Flow of energy through various tropic levels in an ecosystem is unidirectional and non-cyclic":- Explain.
- 9. Write a note on pyramid of Numbers and pyramid of Biomass.
- 10. Explain causes of Water pollution.
- 11. What are measures to control soil pollution?



B. Pharmacy II-Semester (PCI) (Supplementary) Examination, January 2020

Subject: Computer Applications in Pharmacy

Time: 2 Hours Max. Marks: 50

Note: Answer any Two Questions from Part – A, and Six questions from Part – B.

PART - A (2 X 10 = 20)

- What is number system? Write Decimal to Binary conversion, Octal to Binary Conversion.
- 2. (i) Discuss briefly about the applications of computers in drug designing and validation.
 - (ii) Mention the application of computers in hospital and clinical pharmacy.
- 3. (i) Write a note on web servers and server products.
 - (ii) Write about various databases.

 $PART - B (6 \times 5 = 30)$

- 4. Define HTML and XML? Difference between HTML and XML.
- 5. Explain the project process life cycle.
- 6. Explain drug information storage and retrieval system.
- 7. What are the importances of clinical studies?
- 8. Write a short note on Bioinformatics Databases.
- 9. Explain laboratory information management system.
- 10. How to create a Data base table in MS ACESS.
- 11. Write a note on TIMS (Text Information Management System).

B. Pharmacy II-Semester (PCI) (Suppl.) Examination, January 2020

Subject: Pharmaceutical Organic Chemistry - I

Time: 3 Hours Max. Marks: 75

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

PART – A (10x2=20 Marks)

- 1 What is Isomerism? Explain with examples.
- 2 Write the IUPAC names of the following structures.

- 3 Write any two preparation methods of Olefins.
- 4 Write the structure and uses of (a) Chloroform (b) Propylene glycol
- 5 What is Saytzeff's rule?
- 6 Write any two qualitative tests of esters.
- 7 Write the differences between SN¹ and SN² reactions.
- 8 What is Walden inversion?
- 9 Write the structures of citric acid and amphetamine.
- 10 What is a carbocation? How it is formed?

PART – B (2x10=20 Marks)

- 11 (a) Explain the mechanism and stereochemistry of SN¹ and reaction. (6)
 - (b) Write the factors affecting nucleophilic substitution reaction. (4)
- 12 (a) Explain the mechanism of Cannizaro reaction. (5)
 - (b) Write about 1, 2, addition and 1, 4 addition of conjugated dienes. (5)
- 13 What is E₂ reaction? Explain its mechanism. Explain the evidences of E₂ reaction? (2+3+5)

PART – C (7x5=35 Marks)

- 14 Write the preparation methods of alkylhalides.
- 15 Write any five nucleophilic addition reactions of aldehydes followed by loss of water molecule.
- 16 Explain the mechanism of benzoin condensation.



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17 Write the increasing order of basicity of following amines and justify

$$\begin{array}{ccc} CH_3 & CH_3 \\ I & I \\ CH_3-HN_2, & CH_3-N-CH_3, & CH_3-N-H \end{array}$$

- 18 Explain the mechanism of electrophilic addition reactions of alkenes.
- 19 Write the product of the following reaction and explain the mechanism.

$$CH_{3} - CH = CH_{2} + HBr - \frac{Peroxide}{} \rightarrow$$

20 Write the structures and uses of :

(2+1+2)

- (a) Formaldehyde
- (b) Acetone
- (c) Hexamine
- 21 Explain the chemical reactions of carboxylic acids.
- 22 Explain in detail about stability of primary, secondary and tertiary carbocations.

B. Pharmacy II-Semester (PCI) (Suppl.) Examination, January 2020

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 and any seven questions from Part - C.

PART – A (10x2=20 Marks)

1	Define the terms Reflex and Reflex arc.
2	What is the importance of salivary glands?
3	Define the term Asthma, what are symptoms?
4	Explain Maturation reflex.
5	What is circadian rhythm?
6	What is homeostasis?

- 7 Define the term Osmosis, osmotic pressure. 8 What is BMR? Explain its importance.
- 9 Mention the components of WBCs. 10 What is the importance of sperm?

PART - B (2x10=20 Marks)

11	(a) Write in detail about "Diencephalon".	(6)
	(b) Enumerate the functions of thalamus.	(4)
12	(a) Write in detail about the transport of O ₂ and CO ₂ (oxygen and carbon dioxide)	
	in the blood.	(6)
	(b) Explain the factors affecting the transport of O ₂ and CO ₂ .	(4)
13	(a) Explain about female reproductive cycle with diagram.	(5)
	(b) Give a note on sex hormones.	(5)

PART - C (7x5=35 Marks)

- 14 Write a note on Neurotransmission with a neat labeled diagram.
- 15 Write short notes on digestion of proteins in GIT.
- 16 Briefly write about formation, storage and release of Thyroid hormones.
- 17 Write a internal and external respiration with suitable diagrams.
- 18 Explain Oogenesis with a diagram.
- 19 Write a note on different types of peristalses in GIT.
- 20 Write the role of ADH in formation of Urine.
- 21 What is monosynaptic reflex? Explain it with suitable example with the help of a diagram?
- 22 Discuss protein synthesis with a diagram.

Code No. 13233 / PCI

FACULTY OF PHARMACY

B. Pharmacy II-Semester (PCI) (Main & Backlog) Examination, August 2019

Subject: Computer Applications in Pharmacy

Time: 2 Hours Max. Marks: 50

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

PART – A (2x10=20 Marks)

Answer any Two of the following:

1 What is number system? Write Binary to Decimal conversion and Decimal to Binary conversion.

(10)

2 Write a note on Drug information storage and discuss briefly about applications of computer in Dispensing of Drugs.

(10)

3 (a) Write a note on web servers and server products.

(5) (5)

(b) Write about MS-ACCESS.

PART - B (6x5=30 Marks)

Answer any Six of the following:

- 4 What is HTML? Application of HTML.
- 5 How to plan and manage the New Project?
- 6 What is the importance of Drug Database system in MYSQL
- 7 What is the importance of Clinical studies?
- 8 Write a short notes on Bioinformatics.
- 9 Explain chromatographic data analysis system.
- 10 Explain Text Information Management System.
- 11 Explain Electronic prescribing and Discharging system.

Code No. 13231 / PCI

FACULTY OF PHARMACY

B. Pharmacy II-Semester (PCI) (Main & Backlog) Examination, July 2019

Subject: Biochemistry

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 (10x2=20 Marks)

- 1 Define glycolysis and gluconeogenesis.
- 2 Write the functions of cholesterol.
- 3 What are coenzymes?
- 4 Differentiate between DNA & RNA.
- 5 What is substrate level phosphorylation?
- 6 Define and classify carbohydrates.
- 7 Write a note on phenyl ketonuria.
- 8 What are essential and non-essential amino acids? Give two examples of each.
- 9 Explain in brief G6PD deficiency.
- 10 Give biological significance of Lipids.

PART - B (2x10=20 Marks)

- 11 Write an essay on electron transport chain and oxidative phosphorylation.
 12 What are enzymes? Mention their IUB classification? Write a note on factors affecting enzyme action.
 13 Discuss the biosynthesis of purine nucleotide.
 (10)
 (10)
 - **PART C (7x5=35 Marks)**
- 14 Explain in brief, β -oxidation of fatty acids.
- 15 Write a note on clinical applications of enzymes.
- 16 Discuss Urea cycle.
- 17 Explain the physiological importance of pentose phosphate pathway.
- 18 Discuss about energy rich compounds and redox potential.
- 19 Write a note on conversion of cholesterol to bile acids.
- 20 Describe RNA synthesis.
- 21 Write a note on ketogenesis.
- 22 Discuss TCA cycle in brief.

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B. Pharmacy II-Semester (PCI) (Main & Backlog) Examination, July 2019

Subject: Pharmaceutical Organic Chemistry - I

Time: 3 Hours Max. Marks: 75

Note: Answer all questions Part - A, any two questions from Part - B and any five question from Part - C.

PART – A (10x2=20 Marks)

- 1 Define Isomerism. Give some examples. 2 Write the structure of the following organic compounds. (a) 3, 4-dibromo-l-butene (b) 2 – butyne 3 Write any two preparation methods of Paraffins. 4 Write the structure and use of (a) Dichloromethane (b) Glycerol 5 What is a carbocation? How it is formed?
- 6 Write the increasing order of acidity of the following CI CH2 COOH, CI2 CH COOH, F CH2 COOH
- 7 Explain any two qualitative tests for carboxylic acids.
- 8 Write the structure and uses of paraldehyde and salicylic acid.
- 9 Define electrophile and nucelophile with examples.
- 10 What is diazotization reaction?

PART - B (2x10=20 Marks)

- 11 (a) Explain the mechanism and stereochemistry of SN² reaction. (3+3)(b) Explain any two tests used to differentiate primary, secondary and tertiary
 - alcohols. (4)
- 12 (a) Explain the mechanism involved in aldol condensation. (5)
 - (b) Write a short note on stability of conjugated dienes. (5)
- 13 (a) Explain the qualitative tests used to detect carbonyl compounds. (6)(4)
 - (b) Write the structure and uses of (a) citric acid (b) methyl salicylate

PART – C (7x5=35 Marks)

- 14 Explain the mechanism of free radical substitution reaction of alkanes.
- 15 Write a short note on basicity of amines.
- 16 Explain Perkin condensation.
- 17 Write the preparation methods of aldehydes.
- 18 Write the product of the following reaction and explain

$$CH_3 - CH = CH_2 + HBr \longrightarrow ?$$

- 19 Write the differences between substitution and elimination reactions.
- 20 Write the qualitative tests of esters.
- 21 Explain anti-Markovnikoff's rule.
- 22 Explain the mechanism of crossed Cannizaro reaction.

Code No. 13229/PCI

FACULTY OF PHARMACY

B. Pharmacy II-Sem. (PCI) (Main & Backlog) Examination, July 2019

Subject: Human Anatomy and Physiology - II

Time: 3 Hours Max. Marks: 75

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

PART - A (10 X 2 = 20)

- 1. Describe the structure of spinal cord.
- 2. Write about the formation of bile salts.
- 3. Mention kidney function tests. What is the importance of serum creatine?
- 4. What are the hormones secreted by adrenal gland? What are their actions?
- 5. Brief about pulmonary ventilation.
- 6. Write a note on mechanism of hormones.
- 7. Write the function of pineal gland.
- 8. Briefly explain about nerve action potential.
- 9. Give a note on chromosomes.
- 10. Which chromosome determines the sex?

$PART - B (2 \times 10 = 20)$

11.(a) Explain the mechanism involved in the formation of concentrated urine.
(b) Brief up about artificial respiration.
12.(a) Write a detail note on pituitary gland and its hormones.
(b) Give a short note on hypothalamic hormones and its homeostasis with pituitary hormone.
13.(a) Give the summary of digestion of carbohydrates, lipids, proteins in GIT.
(b) Write the formation of ATP.

$PART - C (7 \times 5 = 35)$

- 14. Give a note on hypothalamus.
- 15. Discuss about the role of Boyels law in respiration.
- 16. Write a note on physiology of urine formation.
- 17. Explain the function of pancreatic juice in the process of digestion.
- 18. Discuss about calcium homeortasi by the endocrine system using a diagram.
- 19. Write a note on peristalsis in GIT.
- 20. Explain RAS (Renin Angiotensin aldosterone pathway) pathway in regulation of kidney functions.
- 21. Write about parturition and role of different hormones involved.
- 22. Give a note on spermatogenesis with suitable diagram.

Code No. 13232 / PCI

FACULTY OF PHARMACY

B. Pharmacy II-Semester (PCI) (Main & Backlog) Examination, August 2019

Subject : Patho Physiology

Time: 3 Hours Max. Marks: 75

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

PART – A (10x2=20 Marks)

- 1 What are T-lymphocytes and their functions?
- 2 What is calcification?
- 3 What are peptic ulcers?
- 4 Mention different types of Hepatitis.
- 5 Name the types of STD's with their causative agents.
- 6 Write different types of angina pectoris in briefly.
- 7 Define the terms Metaplasia and Hyperplasia.
- 8 Differentiate mania and depression.
- 9 Enumerate different types of anaemia.
- 10 Explain scar formation in tissue repair.

PART - B (2x10=20 Marks)

11 Write the pathogenesis of Diabetes mellitus in detail. (10)
12 (a) Explain the pathogenesis of HIV infection. (6)
(b) Write a note on Hemophilia. (4)
13 Enumerate the cellular events in inflammation in detail. (10)

PART - C (7x5=35 Marks)

- 14 Write about pathogenesis of acute renal failure.
- 15 What is hepatitis? Explain different types of hepatitis.
- 16 Explain the basic principles in wound healing.
- 17 Write a note on meningitis.
- 18 Discuss the etiopathogenesis of Parkinson's disease.
- 19 Explain the pathogenesis of Congestive heart failure.
- 20 Write a note on syphilis.
- 21 What are different types of feedback systems and explain in briefly?
- 22 Discuss the pathogenesis of hypertension.

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B. Pharmacy II - Semester (PCI) (Suppl.) Examination, February 2019

Subject: Biochemistry

Time: 3 Hours Max. Marks: 75

Note: Answer all questions from Part – A, Any twp questions from Part – B and any Seven questions from Part - C.

PART - A (10X2 = 20 Marks)

1.	What is a carbohydrate and its function in human body?
2.	What are energy rich compounds?
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- 3. What are lipids and their function in human body?
- 4. What are Glycogen storage disease (GSD)?
- 5. What is Albinism and phenylketonuria?
- 6. What is Ketoacidosis?
- 7. What is enzyme inhibition?
- 8. Define Isoenzymes with examples.
- 9. What is Jaundice and its symptoms?
- 10. Define Transcription and Translation.

PART - B (2X10 = 20 Marks)

11. (a) What is Diabetes mellitus (b) Write about HMP shunt Pathway and significance	(3) (7)
12 (a) Write a note on Factors effecting Enzyme activity (b) Explain Coenzymes with biochemical functions	(7) (3)
13 (a) Write a note on lipid metabolism (b) Explain various lipid metabolism Disorders	(4) (6)

PART - C (7X5 = 35 Marks)

- 14. Explain about DNA replication.
- 15. Write a note on conversion of Cholesterol into bile acids and its biological significance.
- 16. Write about catabolism of Heme.
- 17. Write in detail about oxidation of saturated fatty acids.
- 18. Write short note on IUB system of classification of enzymes with examples.
- 19. Write short note on classification of carbohydrates and their biological significance.
- 20. Explain about Gluconeogensis pathway and significance.
- 21. Write about Oxidative phosphorylation with mechanism.
- 22 Write about biosynthesis of pyrimidine nucleotides.

B. Pharmacy II - Semester (PCI) (Suppl.) Examination, February 2019

Subject: Pathophysiology

Time: 3 Hours Max. Marks: 75

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

PART - A (10X2 = 20 Marks)

- 1. Define cell injury
- 2. What causes arthiritis?
- 3. Define the following.
 - a) Angina pectoris b) Congestive heart failure
- 4. Mention the parts of heart.
- 5. What is the role of mast cells in asthma?
- 6. Mention the types of anaemia.
- 7. What are the causes of the chronic renal failure?
- 8. Distinguish between exocrine and endocrine gland.
- 9. What are the signs and symptoms of peptic ulcer.
- 10. What is the cause of jaundice?

PART - B (2X10 = 20 Marks)

- 11. Define cell injury. Explain the mechanisms of cell injury.
- 12 What is hypertension? Explain the pathophysiology of hypertension.
- 13 Discuss neural basis of epilepsy. Add a note on types of epilepsies.

PART - C (7X5 = 35 Marks)

- 14. Explain the role of various chemical mediators of inflammation.
- 15. Explain briefly about hyperplasia.
- 16. Describe the pathophsiology of thalassemia
- 17. What is ischemic heart disease? Explain its types.
- 18. Discuss the pathogenesis of bronchial asthma.
- 19. Write a note on hypo and hyperthyroidism.
- 20. What is Alzheimer disease? Enumerate its signs and symptoms.
- 21. What are peptic ulcers? Discuss pathophysiology.
- 22. Describe the causes and symptoms of AIDS.



B. Pharmacy II - Semester (PCI) (Suppl.) Examination, February 2019

Subject: Computer Applications in Pharmacy

Time: 2 Hours Max.Marks: 50

Note: Answer any two questions from Part – A and any six questions from Part – B. PART - A (10x2 = 20 Marks)

- 1 Explain different number systems used in computer's (binary, decimal, octal, hexadecimal).
- 2 Describe about laboratory information management system.
- 3 Write about XML.

PART - B (6x5 = 30 Marks)

- 4 Explain the concept of data flow diagrams.
- 5 Discuss about web servers and server products.
- 6 Differentiate hospital and clinical pharmacy.
- 7 Discuss about databases of bioinformatics.
- 8 Write about electronic prescribing and discharge systems.
- 9 Explain about HTML.
- 10 Write a note on biological databases.
- 11 What are objectives of bioinformatics?

B. Pharmacy II Semester (PCI) (Suppl.) Examination, February 2019

Subject: Pharmaceutical Organic Chemistry - I

Time: 3 Hours Max. Marks: 75

Note: Answer all questions from Part – A, Any two questions from Part – B and Any seven questions from Part – C.

PART – A (10 x 2 = 20 Marks) Answer ALL questions. All questions carry equal marks.

- 1. Define the following terms with examples.
 - a) Aromatic compounds
 - b) Functional group
- 2. Write the common name and IUPAC name for the following structures.

b)
$$H_3C - CH_2 - O - CH_2 - CH_3$$

- 3. Give an example for a cis and trans isomer.
- 4. Write the structures and uses of any two carboxylic acid compounds.
- 5. Classify alcohols with relevant examples.
- 6. Explain the significance of Tollen's test.
- 7. Write the structure and uses of acetone and hexamine.
- 8. Write the structure uses of benzoic acid and acetyl salicylic acid.
- 9. What is an amine? Give structures and uses of any two amines.
- 10 Write the structures and uses of ethyl alcohol and glycerol.

PART – B (2 x 10 = 20 Marks) Answer any TWO questions. All questions carry equal marks.

11 Define 'isomerism'. Explain various types of structural isomerism with relevant examples.

ıth 10

12 Differentiate between SN¹ and SN² reactions and discuss their mechanisms with examples.

ol 10

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13 Explain the mechanism involved in aldol condensation and mention about crossed-aldol condensation.



PART – C (7x 5 = 35 Marks)Answer any SEVEN questions. All questions carry equal marks.

- 14 Explain the IUPAC rules for alkenes with suitable examples.
- 15 Explain the 1,2 / 1,4-addition reactions of alkadienes.
- 16 Write any two methods for synthesis of alkyl halides with suitable examples.
- 17 How do you distinguish among primary, secondary and tertiary alcohols based on chemical reactions?
- 18 Explain the mechanism involved in nucleophilic addition reactions of carbonyl compounds. Give any two examples.
- 19 Write any two qualitative tests of carbonyls.
- 20 Write the preparation of esters and amides with suitable examples.
- 21 Explain the Hinsberg method of separation of amines.
- 22 Explain in detail about stability of conjugated dienes.

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FACULTY OF PHARMACY

B. Pharmacy II - Semester (PCI)(Main) Examination, July 2018

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 and any seven questions from Part-C.

PART – A (10x2 = 20 Marks) Answer all questions. All questions carry equal marks.

- 1 Write a note on role of pepsin in digestion.
- 2 What are the various neurotransmitters?
- 3 Mention the physiological significance of BMR.
- 4 What is artificial respiration?
- 5 Enlist the hormones of pancrease with their function.
- 6 List out the functions of DNA.
- 7 Name few disorders of kidney.
- 8 What are the functions of female reproductive system?
- 9 Discuss the role of ATP in biological system.
- 10 Explain the disorders related to thyroid gland.

PART – B (2×10 = 20 Marks) Answer any two questions. All questions carry equal marks.

- 11 Discuss the anatomy and functions of GI tract with a neat labelled diagram.
- 12 Discuss the anatomy and functions of kidney with a neat labelled diagram.
- 13 a) Write a note on various respiratory centers.
 - b) Add a note on lung volumes and capacities of spirogram with a neat labelled diagram.

PART – C $(7 \times 5 = 35 \text{ Marks})$ Answer any seven questions. All questions carry equal marks.

- 14 Define reflex action. Add a note on various components of reflex arc.
- 15 Explain the various parts of brain with a labelled diagram.\
- 16 Write a note on physiology of urine formation.
- 17 Write a note on a role of RAS in kidneys.
- 18 What are the various evaluation techniques used to know the kidney functions?
- 19 Write a note on anatomy of male reproductive system.
- 20 Write in detail about Oogenesis.
- 21 What are the hormones secreted by pituitary gland and their functions.
- 22 Explain the genetic pattern of inheritance.

B. Pharmacy II - Semester (PCI) (Main) Examination, August 2018

Subject: Computer Applications in Pharmacy

Time: 2 Hours Max.Marks: 50

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

PART - A (10x2 = 20 Marks)

- 1 What is a number system? Convert binary number into decimal, octal, hexadecimal and vice versa with example.
- 2 Describe any 10 HTML tags
- 3 Write about electronic prescribing and discharge system.

PART - B (6x5 = 30 Marks)

- 4 Write a note on Web servers and server products.
- 5 what is database? Explain about MS Access database.
- 6 Write about diagnostic and lab-diagnostic system.
- 7 Write a note on data flow diagrams.
- 8 Explain the concept of chromatographic data analysis.
- 9 Discuss about applications of computers in pharmacy.
- 10 Illustrate text information management system.
- 11 Write about XML.

B. Pharmacy II - Semester (PCI) (Main) Examination, August 2018

Subject: Patho Physiology

Time: 3 Hours Max. Marks: 75

Note: Answer all questions from Part – A, Any twp questions from Part – B and any Seven questions from Part - C.

PART - A (10X2 = 20 Marks)

- 1. What are the patterns of cell death?
- 2. Define the following:
 - (a) Hyperplasia (b) Atrophy
- 3. What is diabetes? How it is caused?
- 4. Differentiate between asthma and COPD.
- 5. Define Angina pectoris and congestive heart failure.
- 6. Explain the pathophysiology of Parkinson's disease.
- 7. What are the causes of hepatitis B?
- 8. Define osteoporosis and osteoarthritis.
- 9. What is neoplasm? List out the types of neoplasm's.
- 10. What is meningitis and it's symptoms?

PART - B (2X10 = 20 Marks)

- 11. Write briefly about the principle of wound healing in the skin.
- 12 Describe the reversible and irreversible cell injury
- 13 Discuss the pathophysiology of any one disease.

PART - C (7X5 = 35 Marks)

- 14. Define hypertension. Explain the factors affecting it.
- 15. What is aneamia? Classify various types of anemia.
- 16. Discuss the pathogenesis of bronchial asthma.
- 17. What is Parkinson's disease? Enumerate its signs and symptoms.
- 18. What are sex harmones? Disuss any one sex harmone disorder.
- 19. Define gout? Discuss its causes and symptoms.
- 20. Explain etiology and pathogenesis of schizophrenia.
- 21. Define inflammation. Explain the causes of chronic inflammation.
- 22. What are the causes of liver cirrhosis?

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FACULTY OF PHARMACY

B. Pharmacy II - Semester (PCI) (Main) Examination, August 2018

Subject: Environmental Sciences

Time: 2 Hours Max. Marks: 50

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

PART - A (2X10 = 20 Marks)

- 1. Classify the different types of forests. What are the resources that we get from forest.
- 2. Explain the different aquatic ecosystems. Explain each one in detail.
- 3. Classify the natural resources. Briefly explain each one.

PART - B (6X5 = 30 Marks)

- 4. Define ecosystem. What is the structure of an ecosystem?
- 5. Briefly explain the reasons for water stress.
- 6. Explain the different desert ecosystems.
- 7. What are the causes of air pollution?
- 8. What are the different mineral resources? List and give the uses of some minerals.
- 9. Why land is considered as a natural resource? What is weathering?
- 10. Explain the different grass land ecosystems.
- 11. What are the different energy resources? Explain any two in detail.

B. Pharmacy II - Semester (PCI) (Main) Examination, August 2018

Subject: Biochemistry

Time: 3 Hours Max. Marks: 75

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

PART - A (10X2 = 20 Marks)

- 1. What is a Carbohydrate and its function in human body?
- 2. What are glycogen storage disease?
- 3. Define protein and write its functions in human body
- 4. What is atherosclerosis.
- 5. What are energy rich compounds?
- 6. What is a genetic code?
- 7. Define Enzyme induction.
- 8. Define coenzymes with biochemical functions.
- 9. What is jaundice and its symptoms?
- 10. Define De novo synthesis of fatty acids...

PART - B (2X10 = 20 Marks)

- 11. (a) Write about the biological significance of ATP and cyclic AMP (3)
 (b) Write about Citric acid cycle pathway, energetics and significance (7)
- 12 Write a note on lipid metabolism. Explain various lipid metabolism disorders (10)
- 13 (a) Explain about amino acid metabolism (5)
 - (b) Write about Urea cycle and its disorders (5)

PART - C (7X5 = 35 Marks)

- 14. Explain about Electr on transport chain (ETC) and its mechanism.
- 15. Write a note on Transmination and deamination of aminoacid metabolism
- 16. Write about catabolism of purine nucleotides.
- 17. Write in detail about β Oxidation of saturated fatty acids.
- 18. Write a short note on Enzyme inhibitors with examples.
- 19. Write a short note on hormonal hormonal regulation of Blood Glucose levels and Diabetes mellitus.
- 20. Explain about hyperbilirubinemia and jaundice.
- 21. Write about Glycosis pathway, energetic and significance.
- 22. Explain about diagnostic and therapeutic applications of enzymes and isoenzymes.

B. Pharmacy II-Semester (PCI) (Main) Examination, August 2018

Subject: Pharmaceutical Organic Chemistry - I

Time: 3 Hours Max. Marks: 75

Note: Answer all questions from Part – B and Any seven questions from Part – C.

PART – A (10 x 2 = 20 Marks) Answer ALL guestions. All guestions carry equal marks.

- 1 Define the following terms with examples:
 - a) Aliphatic compounds
 - b) Aromatic compounds.
- 2 Write the common name and IUPAC name for the following structures.

- 3 Write the structures and uses of any two aldehydes or ketones.
- 4 What is a carbocation? Give two examples.
- 5 Write the structure and uses of benzoic acid and salicylic acid.
- 6 Write the general structures of an amide and an ester by giving examples.
- 7 What is hydridization.
- 8 Explain the significance of esterification test.
- 9 Aliphatic amines are more basic than aromatic amines. Justify.
- 10 What is an electrophile? Give examples.

PART – B (2x10 = 20 Marks) Answer any TWO questions. All questions carry equal marks.

- 11 a) Differentiate between Markovnikov's and Anti-Markovnikov's addition of alkenes.
 - b) Write about addition reactions of dienes.

12 What are alkyl halides? Give examples. Discuss the SN₁ and SN₂ reactions and mechanism with examples.

13 Discuss about various reactions (minimum 5) of aldehydes and ketones with examples.

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Part – C (7x5 = 35 Marks) Answer any SEVEN questions. All questions carry equal marks.

- 14 Write the IUPAC rules for nomenclature of carbonyls compounds (aldehydes & ketones) with examples.
- 15 Write the structures and uses of any five alcohol compounds.
- 16 Describe the mechanism involved in halogenation of alkanes with special emphasis on chlorination of propane.
- 17 Give a note on oxidation of alcohols.
- 18 Write the structure, IUPAC name and uses of chloroform and tetrachloroethylene.
- 19 Write any two methods of preparation for each of aldehydes and ketones.
- 20 Explain the mechanism involved in cannizzaro reaction with examples.
- 21 Classify amines with examples and give the structures and uses of any two amine compounds.
- 22 Explain the acidity of carboxylic acids with special emphasis on effect of substituent on their acidity.