

FACULTY OF PHARMACY

B. Pharmacy II-Semester (PCI) (Backlog) Examination, March 2025

Subject: Human Anatomy and Physiology - II

Time: 3 Hours

Max. Marks: 75

PART – A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. Discuss the functions of basal ganglia .
2. Define reflex and reflex arc. Discuss the functional components of reflex arc.
3. Write the compositions and functions of bile juice.
4. Write the composition and functions of gastric juice.
5. What is the pheocromocytoma and explain it.
6. Explain resuscitation methods.
7. Explain metabolic acidosis and alkalosis.
8. Write the functions of adrenal gland.
9. Discuss the functions of estrogen and progesterone.
10. Explain the structure of gene.

PART – B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. Enumerate the events in detailed in the process of respiration.
12. Explain oogenesis and menstruation and in detail.
13. A) Discuss the structure of thyroid gland and enumerate the synthesis and functions of thyroid hormone with a neat labeled diagram.
B) Explain the structures and functions of accessory organs of digestive system with a neat labelled diagram.

PART – C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Explain the structural components and functions of sympathetic nervous system.
15. Enumerate the steps involved in neurohumoral transmission.
16. Discuss the structure and functions of thymus with a neat labelled diagram.
17. Discuss the role of Kidneys in acid base balance.
18. Give a detailed note on structure and functions of pancreas.
19. Discuss the structure and functions of female reproductive system with a neat labelled diagram
20. Describe the structure and functions of nephron in detail with a neat labelled diagram.
21. Explain protein synthesis in detail.
22. Enumerate events in pulmonary respiration in detail.

FACULTY OF PHARMACY

B. Pharmacy II - Semester (PCI) (Backlog) Examination, March 2025

Subject: Environmental Science

Time: 2 Hours

Max. Marks: 50

PART – A

Note: Answer any two questions.

(2 x 10 = 20 Marks)

1. Explain the food chain and food web with examples.
2. What are the causes of air pollution? What measures should be taken to reduce air pollution?
3. Classify aquatic ecosystems and explain each one in detail.

PART – B

Note: Answer any six questions.

(6 x 5 = 30 Marks)

4. Explain the economic importance of mineral resources.
5. What are the different types of deserts? Explain the adaptation of plants and animals for desert life.
6. Explain the structure and functions of the forest ecosystem.
7. What are the reasons for soil pollution? What is its impact on human health?
8. What are the various water resources? Add a note on the conservation of water resources.
9. What are the environmental problems caused by mining of minerals?
10. What are the functions of an ecosystem?
11. List and differentiate between renewable and non-renewable resources with examples.

FACULTY OF PHARMACY

B. Pharmacy (PCI) II - Semester (Backlog) Examination, March 2025

Subject: Computer Applications in Pharmacy

Time: 2 Hours

Max Marks: 50

PART - A

Note: Answer any two questions from the following.

(2 x 10 = 20 Marks)

1. (i) Write short notes on the applications of mobile technology in healthcare industry.
(ii) Describe the Objectives for Input and Out Put Design
- 2.(i) What is SQL? List the features of SQL.
(ii) Explain computer applications in clinical studies.
3. Write about the databases MYSQL and MS ACCESS and their applications.

PART - B

Note: Answer any six questions from the following.

(6 x 5 = 30 Marks)

4. Explain the one's and two's complement representation of a binary number.
5. Explain about listing tags with attributes
6. Write in detail about patient monitoring system.
7. Write the impact of bioinformatics in the discovery of vaccines.
8. What is LIMS? Mention its various types.
9. Explain about process specifications.
10. Convert the following decimal numbers into their equivalent octal number.
(i) $(4429.625)_{10}$ (ii) $(55)_{10}$
11. What is electronic prescribing? Add a note on its advantages.

FACULTY OF PHARMACY
B. Pharmacy II - Semester (PCI) (Backlog) Examination, March 2025
Subject: Biochemistry

Time: 3 Hours

Max. Marks: 75

PART – A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. Explain the biological significance of ATP and cyclic AMP.
2. Explain in brief G6PD deficiency.
3. Explain redox potential.
4. Write the difference between DNA & RNA.
5. Explain the biological significance of cholesterol.
6. Define enthalpy and entropy.
7. Explain biochemical functions of coenzyme.
8. What is Albinism and tyrosinemia?
9. What is atherosclerosis.
10. What is a genetic code?

PART – B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. What are enzymes? Explain in detail about enzyme kinetics.
12. Explain electron transport chain (ETC) and Inhibitors of ETC.
13. Write the short notes on
(i) Allosteric enzymes regulation (ii) Gout disease (iii) Glycogen storage diseases.

PART – C

Note: Answer any seven questions.

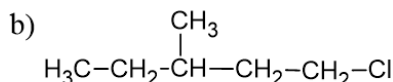
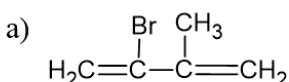
(7 x 5 = 35 Marks)

14. Write about β -Oxidation of saturated fatty acid.
15. Explain the mechanism of hormones regulation of blood glucose levels.
16. Write the synthesis and significance of melatonin.
17. Write about fatty liver.
18. Explain the semi conservative model of DNA.
19. Explain in detail about protein synthesis.
20. Write in detail about glycolysis pathway and its significance.
21. Write the process of conversion of cholesterol into bile acids and write its biological significance.
22. Explain urea cycle and its disorder.

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FACULTY OF PHARMACY**B. Pharmacy (PCI) II - Semester (Backlog) Examination, March 2025****Subject: Pharmaceutical Organic Chemistry-I****Time: 3 Hours****Max. Marks: 75****PART – A****Note: Answer all the questions.****(10 x 2 = 20 Marks)**

1. Define the following terms: Functional group and Hybridization.
2. Write the IUPAC names for the following structures:



3. Classify alkadienes with examples.
4. Explain Saytzeff's rule with an example.
5. What is an esterification test?
6. Write the structure and uses of iodoform.
7. Explain the perkin reaction with an example.
8. Write the structure and uses of acetone.
9. Explain the significance of tollen's test.
10. Write the structure and uses of salicylic acid.

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

11. Explain the acidity of carboxylic acids with special emphasis on the effect of substituents on their acidity. Write the structure and uses of benzoic acid and acetylsalicylic acid.
12. Explain the mechanism involved in aldol condensation and crossed-aldol condensation with relevant examples.
13. Describe structural isomerism with examples.

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

14. Explain the IUPAC rules for alkenes with examples.
15. Explain the stability of conjugated dienes.
16. Describe Markovnikov's addition of alkenes with an example.
17. Describe the mechanism and stereochemistry of S_N^2 reactions.
18. Write the structure for any five alcohols and provide their uses.
19. Explain the mechanism involved in nucleophilic addition reactions of carbonyls with two examples.
20. Describe the mechanism involved in perkin condensation.
21. Write the methods of preparation (any two) and qualitative tests (any two) for carboxylic acids.
22. Explain the basicity of amine with special emphasis on the effect of substituents on their basicity.

FACULTY OF PHARMACY
B. Pharmacy II - Semester (PCI) (Backlog) Examination, March 2025
Subject: Pathophysiology

Time: 3 Hours

Max. Marks: 75

PART - A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. What are causes of cell injury?
2. What are signs and symptoms of asthma?
3. Mention the parts of heart.
4. Define the following terms
(a) Haemophilia (b) Sickle cell anaemia
5. What is neoplasm? List out the types of neoplasms?
6. What are the patterns of cell death?
7. What is Jaundice?
8. Differentiate between asthma and COPD.
9. What are causes and symptoms of typhoid?
10. Define cell death acidosis and calcification.

PART - B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. Discuss neural basis of epilepsy. Add a note on types of epilepsies.
12. Define hypertension. Discuss etiology and pathogenesis of hypertension.
13. Define cell injury. Explain the mechanism of cell injury.

PART - C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Write a note on metaplasia.
15. Discuss in brief about electrolyte balance.
16. Discuss the pathogenesis of tuberculosis.
17. Explain the role of H. Pylori in peptic ulcer.
18. Discuss the pathogenesis of anaemia.
19. Write a note on chemical mediators of acute inflammation.
20. Explain the pathogenesis of osteoporosis.
21. Discuss alcoholic liver disease in detail.
22. What is the role of hypertrophy in congestive heart failure?

FACULTY OF PHARMACY

B. Pharmacy II - Semester (PCI) (Main & Backlog) Examination, October 2024

Subject: Computer Application in Pharmacy

Time: 2 Hours

Max. Marks: 50

PART – A

Note: Answer any two questions from the following.

(2 x 10 = 20 Marks)

1. (i) Illustrate Objectives for Input and output Design.
(ii) List the different types of Cascading Style Sheets.
2. (i) How Barcode Labels Work?
(ii) Discuss the impact of bioinformatics on vaccine design and development.
3. (i) Develop the importance of Standard operating procedures (SOP).
(ii) Write about HTML.

PART – B

Note: Answer any five questions from following.

(6 x 5 = 30 Marks)

4. Estimate the equivalent decimal, octal and hexadecimal values for the 10101011 binary numbers.
5. Find difference between Low level programming language and high level programming language.
6. Illustrate the Importance of medication monitoring.
7. Explain the various types of databases in bioinformatics.
8. Judge the importance of chromatographic data system.
9. Illustrate the benefits of Electronic prescribing system.
10. Analyze the components of data flow diagram. And list its Strengths and Weaknesses.
11. Design major components to Microsoft Access.

FACULTY OF PHARMACY

B. Pharmacy II - Semester (PCI) (Main & Backlog) Examination, September 2024

Subject: Biochemistry

Time: 3 Hours

Max.Marks:75

PART - A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. What are holoenzymes? Give examples.
2. Write the uncouplers of ETC.
3. What is denaturation and renaturation of proteins?
4. What are isoenzymes? Give examples.
5. What is albinism?
6. Write the biological significance of proteins.
7. Write the types of diabetic mellitus.
8. What are okazaki fragments?
9. Define free energy and redox potential.
10. What is Gout?

PART - B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. Explain the various reactions involved in the Citric acid cycle.
12. Write the biological significance of cholesterol and explain the conversion of cholesterol into bile acids.
13. Explain the biosynthesis of pyrimidine nucleotides in the body.

PART - C

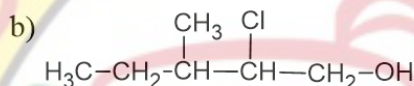
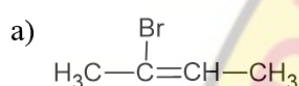
Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Explain the synthesis of bile acids.
15. Give the reaction sequence in HMP shunt.
16. Give the salient features of Genetic code.
17. Explain disorders of lipid metabolism.
18. Give biological significance of ATP and Cyclic AMP.
19. Explain Glycogenesis and Glycogenolysis.
20. Describe the process of transcription.
21. Discuss about urea cycle.
22. Write the synthesis and significance of dopamine.

FACULTY OF PHARMACY**B. Pharmacy II - Semester (PCI) (Main & Backlog) Examination, September 2024****Subject: Pharmaceutical Organic Chemistry-I****Time: 3 Hours****Max. Marks: 75****PART – A****Note: Answer all the questions.****(10 x 2 = 20 Marks)**

1. Define the terms: Electrophile and Homologues
2. Write the IUPAC names for the following structures:



3. Explain sp^2 hybridization with an example.
4. What is peroxide effect?
5. Classify alcohols with examples.
6. Write the structure and uses of chloroform.
7. Explain benzoin condensation with an example.
8. Write the structure and uses of vanillin.
9. Write the structure and uses of citric acid.
10. Write the structure and uses of amphetamine.

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

11. Explain the mechanism involved in Cannizzaro condensation and crossed- Cannizzaro condensation with relevant examples.
12. Explain the mechanism, kinetics and stereochemistry involved in S_N^2 reactions of alkyl halides.
13. (a) Explain Markovnikov's addition of alkenes with special emphasis on stability of carbocations. 6 M
(b) Explain 1,2/1,4-addition reactions of conjugated dienes. 4 M

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

14. Write the IUPAC rules for alcohols with suitable examples.
15. Describe various types of structural isomerism.
16. Explain the mechanism involved in free radical substitution reactions of alkanes with example.
17. Differentiate between E_1 and E_2 reactions.
18. Explain the acidity of carboxylic acids with special emphasis on the effect of substituents on their acidity.
19. Write any two qualitative tests to differentiate various classes of alcohols.
20. Explain the mechanism involved in the aldol condensation with examples.
21. Describe the Hinsberg method of separation of amines with examples.
22. Write any three qualitative tests for carbonyl compounds.

FACULTY OF PHARMACY

B. Pharmacy II - Semester (PCI) (Main & Backlog) Examination, September 2024

Subject: Human Anatomy Physiology - II

Time: 3 Hours

Max.Marks:75

PART - A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. Write the differences between parasympathetic and sympathetic nervous systems.
2. Define reflex and reflex arc. Discuss the functional components of reflex arc.
3. Write the composition and functions of saliva.
4. Write the composition and functions of pancreatic juice.
5. What is the difference between lung volume and lung capacity.
6. Explain resuscitation methods.
7. Explain metabolic acidosis and alkalosis.
8. Write the functions of posterior pituitary gland.
9. Discuss the functions of testosterone, estrogen and progesterone.
10. Explain the structure of chromosome.

PART - B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. Enumerate the events in detail in the process of respiration.
12. Explain spermatogenesis and oogenesis in detail.
13. (a) List out the different components of pituitary gland and enumerate the functions of each component.
(b) Explain the structure and functions of small intestine with a neat labeled diagram.

PART - C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Explain the structural components and functions of parasympathetic nervous system.
15. Enumerate the steps involved in neurohumoral transmission.
16. Discuss the structure and functions of thymus with a neat labeled diagram.
17. Discuss the role of kidneys in acid base balance.
18. Give a detailed note on structure and functions of pancreas.
19. Discuss the structure and functions of female reproductive system with a neat labeled diagram.
20. Describe the structure and functions of nephron in detail with a neat labeled diagram.
21. Explain protein synthesis in detail.
22. Enumerate events in internal respiration in detail.

FACULTY OF PHARMACY

B. Pharmacy II - Semester (PCI) (Main & Backlog) Examination, October 2024

Subject: Pathophysiology

Time: 3 Hours

Max. Marks: 75

PART – A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. Define the following terms
(a) Hypertrophy (b) Acidosis
2. What are signs and symptoms of asthma?
3. Define gout and write its symptoms
4. What is diabetes? How it is caused?
5. Define the following terms
(a) Haemophilia (b) Sickle cell anaemia
6. Mention the types of anaemia.
7. What are the patterns of cell death?
8. What is Jaundice?
9. Differentiate between asthma and COPD.
10. What are different types of STD's and their causative agents?

PART – B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. Describe pathogenesis of depression in detail.
12. Define hypertension. Discuss etiology and pathogenesis of hypertension.
13. Define cell injury. Explain the mechanism of cell injury.

PART – C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Write a note on metaplasia.
15. Discuss briefly about electrolyte balance.
16. Explain the pathogenesis of asthma.
17. Discuss the pathogenesis of anaemia.
18. Explain the role of H. Pylori in peptic ulcer.
19. Write a note on chemical mediators of acute inflammation.
20. Explain the pathogenesis of osteoporosis.
21. Discuss alcoholic liver disease in detail.
22. What is the role of hypertrophy in congestive heart failure?

Code No: F-7165/PCI

FACULTY OF PHARMACY

B. Pharmacy II - Semester (PCI) (Backlog) Examination, March 2024

Subject: Human Anatomy and Physiology-II

Time: 3 Hours

Max Marks: 75

PART – A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. Write the function of cerebrospinal fluid.
2. What is the role of enzymes in digestion?
3. Write a note on posterior pituitary hormones.
4. Define receptors. List the type of receptors.
5. Enlist the resuscitation methods?
6. Enlist the functions of male reproductive system.
7. Draw the neat labelled diagram of stomach.
8. List the disorders of kidney.
9. Write the functions of female sex hormones.
10. Define (a) Gene (b) Parturition.

PART – B

Note: Answer any two questions.

(2 x 10 = 20 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 x 5 = 35 Marks)

14. What are the three ways that ATP can be generated?
15. Explain how respiratory areas control respiration.
16. Discuss about the adrenal gland.
17. Write about genetic pattern of inheritance.
18. Write a note on mechanism of hormone action
19. Write a note on components of reflex arc.
20. Define neurotransmitter. Add a note on biogenic amines.
21. Discuss about the physiology of urine formation.
22. Write a note on physiology of menstruation.

FACULTY OF PHARMACY

B. Pharmacy II - Semester (PCI) (Backlog) Examination, March 2024

Subject: Environmental Sciences

Time: 2 Hours

Max. Marks: 50

PART-A

Note: Answer any two questions.

(2 x 10 = 20 Marks)

1. What are the causes of air pollution? What are the measures to be taken to reduce air pollution?
2. a) Explain the forest resources in detail.
b) What is the role of an individual in the conservation of natural resources? (6+4)
3. Classify aquatic ecosystems and explain each one in detail.

PART-B

Note: Answer any six questions.

(6 x 5 = 30 Marks)

4. Explain the mineral resources. What are the health problems due to the mining of minerals?
5. Explain in detail the structure and functions of ecosystem.
6. What are the reasons for soil pollution? What is its impact on the health?
7. What are the various water resources? Add a note on the conservation of water resources.
8. Explain any 5 sources of water pollution.
9. What are the different types of deserts? Explain the adaptation of plants and animals for desert life.
10. Explain the various grass land ecosystems.
11. List the natural resources. Differentiate between renewable and non renewable resources citing examples.

FACULTY OF PHARMACY

B. Pharmacy II – Semester (PCI) (Backlog) Examination, March 2024

Subject: Computer Application in Pharmacy

Time: 2 Hours

Max. Marks: 50

PART – A

Note: Answer any two questions.

(2 x 10 = 20 Marks)

1. Define number system. Explain the concept of One's complement and Two's complements with examples.
2. (i) Write a note on pharmacy drug database.
(ii) Explain the need of hospital and clinical pharmacy.
3. (i) What is bioinformatics? Explain its applications.
(ii) Write note on CDS (Chromatographic data systems).

PART – B

Note: Answer any six questions.

(6 x 5 = 30 Marks)

4. Explain the importance of data flow diagrams.
5. Write about syntax rules for Extensible Mark-up Language declaration.
6. Explain any 5 HTML tags with examples.
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 process life cycle of software.
11. Explain the process of Medication monitoring.

FACULTY OF PHARMACY
B. Pharmacy II - Semester (PCI) (Backlog) Examination, March 2024
Subject: Pathophysiology

Time: 3 Hours

Max. Marks: 75

PART – A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. What are causes of cell injury?
2. Mention the parts of heart.
3. What are the causes of hepatitis B?
4. Define (a) Myocarditis (b) Cardiomyopathy
5. Distinguish between exocrine and endocrine gland.
6. What is neoplasm? List out the types of neoplasms.
7. Differentiate Atherosclerosis & Arteriosclerosis.
8. Explain alcoholic liver disease.
9. Define osteoporosis and osteoarthritis.
10. What are different types of stroke?

PART – B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. Write briefly about the principle of wound healing in the skin.
12. Discuss neural basis of epilepsy. Add a note on types of epilepsies.
13. Explain in detail various cellular events of inflammation.

PART – C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

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

FACULTY OF PHARMACY

B. Pharmacy II - Semester (PCI) (Backlog) Examination, March 2024

Subject: Biochemistry

Time: 3 Hours

Max.Marks:75

PART - A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. Define isoenzyme with examples.
2. What is denaturation and renaturation of proteins?
3. What are cofactors? Give examples.
4. What is alkaptonuria?
5. Write the inhibitors of ETC.
6. Write any two biochemical functions of cholesterol.
7. Define nucleosides and nucleotides.
8. What is Gout?
9. What are okazaki fragments.
10. Define free energy and redox potential.

PART - B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. Describe the reactions involved in the de novo biosynthesis of fatty acids.
12. Explain citric acid cycle.
13. Explain the biological significance of Cholesterol and write the conversion of cholesterol into bile acids.

PART - C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Explain the synthesis of bile acids.
15. Describe the structure and functions of tRNA.
16. Give the salient features of Genetic code.
17. Explain disorders of lipid metabolism.
18. Give biological significance of ATP and Cyclic AMP.
19. Explain Glycogenesis and Glycogenolysis.
20. Write the chemical classification of amino acids.
21. Write the synthesis and significance of melatonin.
22. Discuss about urea cycle.

FACULTY OF PHARMACY

B. Pharmacy II - Semester (PCI) (Backlog) Examination, March 2024

Subject: Pharmaceutical Organic Chemistry-I

Time: 3 Hours

Max. Marks: 75

PART – A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. Define the terms: Nucleophile and Homologues.
2. Write the structure for the following compounds: 2-Chloro-but-2-ene, 3-Methyl-2-pentanol.
3. Define 'free radical'. Explain its formation with an example.
4. Classify alkadienes with examples.
5. Explain the significance of the esterification test.
6. Write the structure and uses of chloroform.
7. Explain perkin condensation with an example.
8. Write the structure and uses of hexamine.
9. Write the structure and uses of amphetamine.
10. Explain the significance of tollen's test.

PART – B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. Describe structural isomerism with examples.
12. Explain the mechanism, kinetics and stereochemistry involved in SN^1 reactions of alkyl halides.
13. Explain the acidity of carboxylic acids with special emphasis on the effect of substituent on their acidity. Write the structure and uses of benzoic acid and acetyl salicylic acid.

PART – C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Write the IUPAC rules for alkenes with suitable examples.
15. Explain about halogenation of alkanes with examples.
16. Explain Markovnikov's addition of alkenes with special emphasis on stability of carbocations.
17. Describe the mechanism and stereochemistry of SN^2 reactions.
18. Write any two qualitative tests to differentiate various classes of alcohols.
19. Explain the mechanism involved in the Cannizzaro reaction with examples.
20. Describe the Hinsberg method of separation of amines with examples.
21. Write any two methods of preparation each for aliphatic amines and carboxylic acids.
22. Explain the mechanism involved in the nucleophilic addition reactions of carbonyl compounds with an example.

Library

**G.Pulla Reddy College of Pharmacy
Hyderabad**

FACULTY OF PHARMACY

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

Subject: Pharmaceutical Organic Chemistry-I

Time: 3 Hours

Max. Marks: 75

PART-A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

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

PART-B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

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

PART-C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

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

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G.Pulla Reddy College of Pharmacy
Hyderabad

FACULTY OF PHARMACY

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

Subject: Bio Chemistry

Time: 3 Hours

Max.Marks:75

PART-A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

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

PART-B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

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

PART-C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

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

FACULTY OF PHARMACY

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

Subject: Human Anatomy and Physiology-II

Time: 3 Hours

Max Marks: 75

PART – A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

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

PART – B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

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

PART – C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

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

FACULTY OF PHARMACY

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

Subject: Pathophysiology

Time: 3 Hours

Max. Marks: 75

PART - A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

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

PART-B

Note: Answer any two questions.

(2 x 10=20 Marks)

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

PART-C

Note: Answer any seven questions.

(7 x 5 =35 Marks)

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

FACULTY OF PHARMACY

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

Subject: Computer Application in Pharmacy

Time: 2 Hours

Max. Marks: 50

PART – A

Note: Answer any two questions from following.

(2 x 10 = 20 Marks)

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

PART – B

Note: Answer any five questions from following.

(6 x 5 = 30 Marks)

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

Code No: E12400/PCI

FACULTY OF PHARMACY

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

Subject: Environmental Sciences

Time: 2 Hours

Max. Marks: 50

PART-A

Note: Answer any two questions.

(2 x 10 = 20 Marks)

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

PART-B

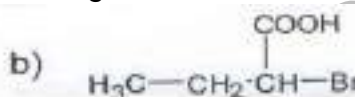
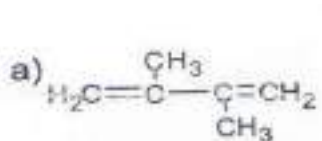
Note: Answer any six questions.

(6 x 5 = 30 Marks)

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

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

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



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

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

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

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

- Write the IUPAC rules for aliphatic carboxylic acids with suitable examples.
- Write the preparation (any two) and reactions of alkanes with examples.
- Explain the electrophilic addition reactions of conjugated dienes with examples.
- Differentiate between SN_1 and SN_2 reactions of alkyl halides.
- Explain any two qualitative tests to differentiate various classes of alcohols.
- Describe the mechanism involved in aldol condensation with examples.
- Explain the general mechanism involved in nucleophilic addition reactions of carbonyl compounds. Provide two examples of the same.
- Explain the basicity of aliphatic amines with special emphasis on effect of substituent on their basicity.
- Write the structure, IUPAC name, preparation and uses of acetic acid.

Code No: E-12215/PCI

FACULTY OF PHARMACY

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

Subject: Pathophysiology

Time: 3 Hours

Max. Marks: 75

PART-A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

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

Note: Answer any two questions.

(2 x 10 = 20 Marks)

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

PART-C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Write a note on metaplasia.
15. Write a note on jaundice.
16. 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-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 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

Note: Answer any six questions.

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

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 x 10 = 20 Marks)

1. 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 x 5 = 30 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
7. 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-12212/PCI

FACULTY OF PHARMACY

B. Pharmacy II Semester (PCI) (Backlog) Examination, April / May 2023

Subject: Human Anatomy and Physiology-II

Time: 3 Hours

Max. Marks: 75

PART-A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. 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 x 10 = 20 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 x 5 = 35 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-12214/PCI

FACULTY OF PHARMACY

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

Subject: Biochemistry

Time: 3 Hours

Max. Marks: 75

PART-A

Note: Answer all the questions.

(10 x 2 = 20 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 x 10 = 20 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 x 5 = 35 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.

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FACULTY OF PHARMACY

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

Subject: Human Anatomy and Physiology-II

Time: 3 Hours

Max. Marks: 75

PART - A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

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

PART - B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

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

PART - C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

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

FACULTY OF PHARMACY

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

Time: 3 Hours

Max. Marks: 75

PART - A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

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

PART - B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

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

PART - C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

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

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

Time: 2 Hours

Max. Marks: 50

PART - A

Note: Answer any two questions.

(2 x 10 = 20 Marks)

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

PART - B

Note: Answer any six questions.

(6 x 5 = 30 Marks)

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

FACULTY OF PHARMACY

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

Subject: Computer Application in Pharmacy

Time: 2 Hours

Max. Marks: 50

PART - A

Note: Answer any two questions.

(2 x 10 = 20 Marks)

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

PART - B

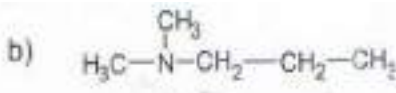
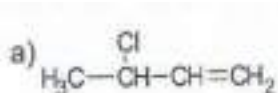
Note: Answer any six questions.

(6 x 5 = 30 Marks)

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

FACULTY OF PHARMACY**B. Pharmacy II Semester (PCI) (Main & Backlog) Examination, November 2022****Subject: Pharmaceutical Organic Chemistry - I****Time: 3 Hours****Max. Marks: 75****PART - A****Note: Answer all questions.****(10 x 2 = 20 Marks)**

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



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

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

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

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

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

FACULTY OF PHARMACY

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

Time: 3 Hours

Max. Marks: 75

PART - A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

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

PART - B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

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

PART - C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

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

FACULTY OF PHARMACY

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

Subject: Computer Application in Pharmacy

Time: 2 Hours

Max. Marks: 50

PART - A

Note: Answer any two questions.

(2 x 10 = 20 Marks)

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

PART - B

Note: Answer any six questions.

(6 x 5 = 30 Marks)

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

FACULTY OF PHARMACY

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

Subject: Environmental Sciences

Time: 2 Hours

Max. Marks: 50

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

PART- A (2 x 10 = 20 Marks)

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

PART- B (6 x 5 = 30 Marks)

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

FACULTY OF PHARMACY

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

Subject: Computer Application in Pharmacy

Time: 2 Hours

Max. Marks: 50

PART - A

Note: Answer any two questions.

(2 x 10 = 20 Marks)

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

PART - B

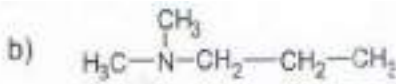
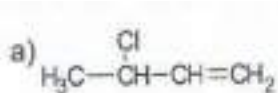
Note: Answer any six questions.

(6 x 5 = 30 Marks)

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

FACULTY OF PHARMACY**B. Pharmacy II Semester (PCI) (Backlog) Examination, March 2022****Subject: Pharmaceutical Organic Chemistry - I****Time: 3 Hours****Max. Marks: 75****PART - A****Note: Answer all questions.****(10 x 2 = 20 Marks)**

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



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

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

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

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

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

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FACULTY OF PHARMACY

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

Subject: Human Anatomy and Physiology-II

Time: 3 Hours

Max. Marks: 75

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

PART – A (2x10 = 20 Marks)

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

PART – B (2x10 = 20 Marks)

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

PART – C (7x5 = 35 Marks)

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

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FACULTY OF PHARMACY

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

Subject: Biochemistry

Time: 3 Hours

Max. Marks: 75

PART - A

Note: Answer all questions.

(10 x 2 = 20 Marks)

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

PART - B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

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

PART - C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

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

FACULTY OF PHARMACY

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

Subject: Pathophysiology

Time: 2 Hours

Max. Marks: 75

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

PART- A (7 X 3 = 21 MARKS)

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

PART- B (1 X 14 = 14 MARKS)

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

PART- C (5 X 8 = 40 MARKS)

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

FACULTY OF PHARMACY

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

December 2021

Subject: Human Anatomy and physiology - II

Time: 2 Hours

Max. Marks: 75

PART – A

Note: Answer any seven questions.

(7 x 3 = 21 Marks)

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

PART – B

Note: Answer any one question.

(1 x 14 = 14 Marks)

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

PART – C

Note: Answer any five questions.

(5 x 8 = 40 Marks)

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

FACULTY OF PHARMACY

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

Subject: Environmental Sciences

Time: 2 Hours

Max. Marks: 50

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

PART- A (2 X 10 = 20 Marks)

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

PART- B (6 X 5 = 30 Marks)

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

FACULTY OF PHARMACY

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

Subject: Compute Application in Pharmacy

Time: 2 Hours

Max. Marks: 50

PART - A

Note: Answer any two questions.

(2 x 10 = 20 Marks)

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

PART - B

Note: Answer any six questions.

(6 x 5 = 30 Marks)

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

FACULTY OF PHARMACY

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

Subject: Biochemistry

Time: 2 Hours

Max. Marks: 75

PART – A

Note: Answer any seven questions.

(7 x 3 = 21 Marks)

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

PART - B

Note: Answer any one questions.

(1 x 14 = 14 Marks)

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

PART - C

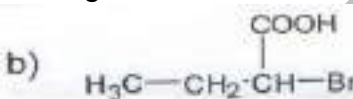
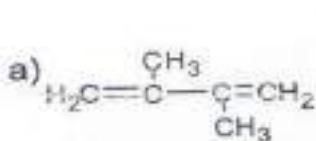
Note: Answer any five questions.

(5 x 8 = 40 Marks)

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

FACULTY OF PHARMACY**B. Pharmacy II Semester (PCI) (Main & Backlog) Examination, December 2021****Subject: Pharmaceutical Organic Chemistry - I****Time: 2 Hours****Max. Marks: 75****PART - A****Note: Answer any seven questions.****(7 x 3 = 21 Marks)**

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



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

PART - B**Note: Answer any one question.****(1 x 14 = 14 Marks)**

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

PART - C**Note: Answer any five questions.****(5 x 8 = 40 Marks)**

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

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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) Haemophilia (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.

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FACULTY OF PHARMACY

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

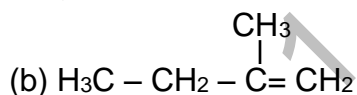
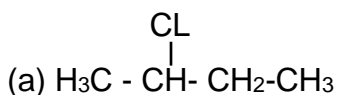
Max. Marks: 75

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:



3. Explain Sp^3 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 Iodoform.
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 Condensation 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 SN^2 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 carboxylic 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.

FACULTY OF PHARMACY

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.

FACULTY OF PHARMACY

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 arthritis?
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 pathophysiology 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.

FACULTY OF PHARMACY

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?

FACULTY OF PHARMACY**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.**

- Define the following terms with examples.
 - Aromatic compounds
 - Functional group
- Write the common name and IUPAC name for the following structures.
 - $$\begin{array}{c} \text{H}_3\text{C} - \text{CH}_2 - \text{CH} - \text{CHO} \\ | \\ \text{CH}_3 \end{array}$$
 - $\text{H}_3\text{C} - \text{CH}_2 - \text{O} - \text{CH}_2 - \text{CH}_3$
- Give an example for a cis and trans isomer.
- Write the structures and uses of any two carboxylic acid compounds.
- Classify alcohols with relevant examples.
- Explain the significance of Tollen's test.
- Write the structure and uses of acetone and hexamine.
- Write the structure uses of benzoic acid and acetyl salicylic acid.
- What is an amine? Give structures and uses of any two amines.
- 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.**

- Define 'isomerism'. Explain various types of structural isomerism with relevant examples. 10
- Differentiate between SN^1 and SN^2 reactions and discuss their mechanisms with examples. 10
- Explain the mechanism involved in aldol condensation and mention about crossed-aldol condensation. 10

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.

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 pancreas 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 (2x10 = 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 (7x5 = 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.

FACULTY OF PHARMACY

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.

FACULTY OF PHARMACY

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 two 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 its 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 anaemia? 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 hormones? Discuss any one sex hormone 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.

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)

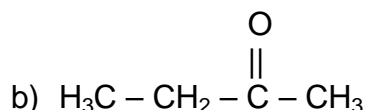
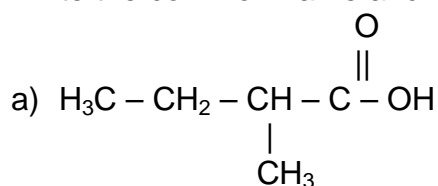
11. (a) Write about the biological significance of ATP and cyclic AMP (3)
(b) Write about Citric acid cycle pathway, energetics and significance (7)
12. Write a note on lipid metabolism. Explain various lipid metabolism disorders (10)
13. (a) Explain about amino acid metabolism (5)
(b) Write about Urea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

PART – C (7X5 = 35 Marks)

14. Explain about Electron transport chain (ETC) and its mechanism.
15. Write a note on Transamination 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 regulation of Blood Glucose levels and Diabetes mellitus.
20. Explain about hyperbilirubinemia and jaundice.
21. Write about Glycolysis pathway, energetic and significance.
22. Explain about diagnostic and therapeutic applications of enzymes and isoenzymes.

FACULTY OF PHARMACY**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- 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.**

- Define the following terms with examples:
 - Aliphatic compounds
 - Aromatic compounds.
- Write the common name and IUPAC name for the following structures.



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

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

- Differentiate between Markovnikov's and Anti-Markovnikov's addition of alkenes. 5
 - Write about addition reactions of dienes. 5
- What are alkyl halides? Give examples. Discuss the SN_1 and SN_2 reactions and mechanism with examples. 10
- Discuss about various reactions (minimum 5) of aldehydes and ketones with examples. 10

..2

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.

FACULTY OF PHARMACY

**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 x 10 = 20)

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

PART - C (7 x 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.

FACULTY OF PHARMACY

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 x 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 x 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.

FACULTY OF PHARMACY

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 x 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 trophic 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?

FACULTY OF PHARMACY

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)

1. 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 x 5 = 30)

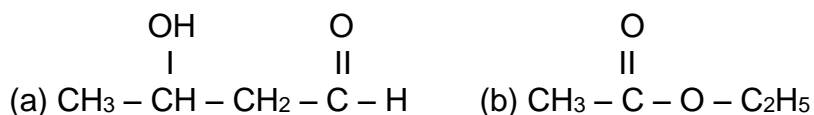
4. Define HTML and XML? Difference between HTML and XML.
5. Explain the project process life cycle.
6. Explain drug information storage and retrieval system.
7. What are the importances of clinical studies?
8. Write a short note on Bioinformatics Databases.
9. Explain laboratory information management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

FACULTY OF PHARMACY**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 SN^1 and SN^2 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)

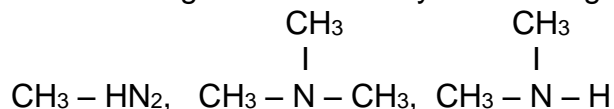
- 11 (a) Explain the mechanism and stereochemistry of SN^1 and reaction. (6)
(b) Write the factors affecting nucleophilic substitution reaction. (4)
- 12 (a) Explain the mechanism of Cannizzaro reaction. (5)
(b) Write about 1, 2, - addition and 1, 4 – addition of conjugated dienes. (5)
- 13 What is E_2 reaction? Explain its mechanism. Explain the evidences of E_2 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.

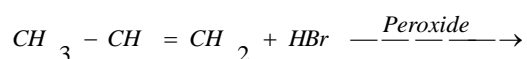
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17 Write the increasing order of basicity of following amines and justify



18 Explain the mechanism of electrophilic addition reactions of alkenes.

19 Write the product of the following reaction and explain the mechanism.



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.

FACULTY OF PHARMACY

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 O₂ and CO₂ (oxygen and carbon dioxide) in the blood. (6)
(b) Explain the factors affecting the transport of O₂ and CO₂. (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.

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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)
(b) Write about MS-ACCESS. (5)

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.

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. (10)
- 12 What are enzymes? Mention their IUB classification? Write a note on factors affecting enzyme action. (10)
- 13 Discuss the biosynthesis of purine nucleotide. (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.

FACULTY OF PHARMACY**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-1-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
 ClCH_2COOH , Cl_2CHCOOH , FCH_2COOH
- 7 Explain any two qualitative tests for carboxylic acids.
- 8 Write the structure and uses of paraldehyde and salicylic acid.
- 9 Define electrophile and nucleophile with examples.
- 10 What is diazotization reaction?

PART – B (2x10=20 Marks)

- 11 (a) Explain the mechanism and stereochemistry of SN^2 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)
(b) Write the structure and uses of (a) citric acid (b) methyl salicylate (4)

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
 $\text{CH}_3 - \text{CH} = \text{CH}_2 + \text{HBr} \longrightarrow ?$
- 19 Write the differences between substitution and elimination reactions.
- 20 Write the qualitative tests of esters.
- 21 Explain anti-Markovnikov's rule.
- 22 Explain the mechanism of crossed Cannizzaro reaction.

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 x 10 = 20)

- | | |
|--|---|
| 11. (a) Explain the mechanism involved in the formation of concentrated urine. | 7 |
| (b) Brief up about artificial respiration. | 3 |
| 12. (a) Write a detail note on pituitary gland and its hormones. | 6 |
| (b) Give a short note on hypothalamic hormones and its homeostasis with pituitary hormone. | 4 |
| 13. (a) Give the summary of digestion of carbohydrates, lipids, proteins in GIT. | 7 |
| (b) Write the formation of ATP. | 3 |

PART - C (7 x 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.

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.

FACULTY OF PHARMACY

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 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 energy rich compounds?
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 (3)
(b) Write about HMP shunt Pathway and significance (7)
- 12 (a) Write a note on Factors effecting Enzyme activity (7)
(b) Explain Coenzymes with biochemical functions (3)
- 13 (a) Write a note on lipid metabolism (4)
(b) Explain various lipid metabolism Disorders (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 Gluconeogenesis pathway and significance.
21. Write about Oxidative phosphorylation with mechanism.
22. Write about biosynthesis of pyrimidine nucleotides.

FACULTY OF PHARMACY

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 arthritis?
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 pathophysiology 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.

FACULTY OF PHARMACY

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?

FACULTY OF PHARMACY**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.**

- Define the following terms with examples.
 - Aromatic compounds
 - Functional group
- Write the common name and IUPAC name for the following structures.
 - $$\begin{array}{c} \text{H}_3\text{C} - \text{CH}_2 - \text{CH} - \text{CHO} \\ | \\ \text{CH}_3 \end{array}$$
 - $$\text{H}_3\text{C} - \text{CH}_2 - \text{O} - \text{CH}_2 - \text{CH}_3$$
- Give an example for a cis and trans isomer.
- Write the structures and uses of any two carboxylic acid compounds.
- Classify alcohols with relevant examples.
- Explain the significance of Tollen's test.
- Write the structure and uses of acetone and hexamine.
- Write the structure uses of benzoic acid and acetyl salicylic acid.
- What is an amine? Give structures and uses of any two amines.
- 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.**

- Define 'isomerism'. Explain various types of structural isomerism with relevant examples. 10
- Differentiate between SN^1 and SN^2 reactions and discuss their mechanisms with examples. 10
- Explain the mechanism involved in aldol condensation and mention about crossed-aldol condensation. 10

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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.

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 pancreas 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 (2x10 = 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 (7x5 = 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.

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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 two 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 its 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 anemia? 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 hormones? Discuss any one sex hormone 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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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.

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)

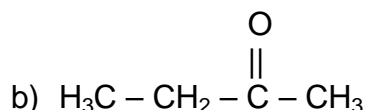
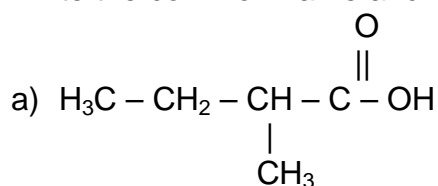
11. (a) Write about the biological significance of ATP and cyclic AMP (3)
(b) Write about Citric acid cycle pathway, energetics and significance (7)
12. Write a note on lipid metabolism. Explain various lipid metabolism disorders (10)
13. (a) Explain about amino acid metabolism (5)
(b) Write about Urea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

PART – C (7X5 = 35 Marks)

14. Explain about Electron transport chain (ETC) and its mechanism.
15. Write a note on Transamination 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 regulation of Blood Glucose levels and Diabetes mellitus.
20. Explain about hyperbilirubinemia and jaundice.
21. Write about Glycolysis pathway, energetic and significance.
22. Explain about diagnostic and therapeutic applications of enzymes and isoenzymes.

FACULTY OF PHARMACY**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- 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.**

- Define the following terms with examples:
 - Aliphatic compounds
 - Aromatic compounds.
- Write the common name and IUPAC name for the following structures.



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

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

- Differentiate between Markovnikov's and Anti-Markovnikov's addition of alkenes. 5
 - Write about addition reactions of dienes. 5
- What are alkyl halides? Give examples. Discuss the SN_1 and SN_2 reactions and mechanism with examples. 10
- Discuss about various reactions (minimum 5) of aldehydes and ketones with examples. 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.
