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.

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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?

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

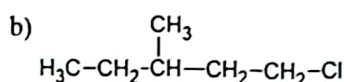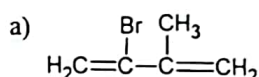**Subject: Pharmaceutical Organic Chemistry-I**

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:

   a)
   $$H_2C=C-C=CH_2$$
   with Br and CH_3 substituents

   b)
   $$H_3C-CH_2-CH-CH_2-CH_2-Cl$$
   with CH_3 substituent

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 SN^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.

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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: 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.

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Code No. G13085/PCI

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.

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