FACULTY OF PHARMACY
B. Pharmacy I - Semester (PCI) (Main & Backlog) Examination, March 2024
Subject: Human Anatomy and Physiology – I

Time: 3 Hours   **Max. Marks: 75**

PART – A
Note: Answer all the questions.   **(10 x 2 = 20 Marks)**

1. Name the valves of the heart and write their location in the heart.
2. Define (a) Homeostasis (b) Hemopoiesis
3. a) Explain neuromuscular junction. b) Write the composition of blood.
4. Define ganglion and write its function.
5. Explain the terms (a) Active transport and (b) Passive transport.
6. Define the following terms-myocardial infarction and angina pectoris.
7. Write the functions of the thymus gland.
8. List out the bones in the lower limb.
9. Mention the composition of lymph.
10. Write the functions of the nucleus.

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

11. Define clot. Explain various pathways in the process of blood clotting.

12. Describe the structure of the ear. Explain the physiology of hearing.

13. Describe organization of skeletal muscles and explain physiology of muscle contraction.

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

14. Explain the structure and functions of the following bones- (a) Scapula (b) Femur.

15. Describe the structure and functions of platelets.

16. Explain in detail the structure and functions of the plasma membrane with a neat labelled diagram.

17. What is a Joint? Explain different types of synovial joints with examples

18. Classify different types of connective tissues and write their functions.

19. Define anaemia and explain different types of anaemia.

20. Define coagulation and explain the coagulation mechanism.

21. Describe the elements of the conduction system of the heart.

22. Explain the structure and functions of the following bones- (a) Scapula (b) Humerus.

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FACULTY OF PHARMACY
B. Pharmacy I - Semester (PCI) (Main & Backlog) Examination, March 2024
Subject: Remedial Biology

Time: 1 ½ Hours   **Max. Marks: 35**

Note: Answer any One Question from Part – A and any five questions from Part – B. Draw neat labelled diagram where ever necessary

PART – A (1 x 10 = 10 Marks)

1. Write a descriptive note on root modification with neat labelled diagram.

2. Describe various components of blood with neat labelled diagram.

PART – B (5 x 5 = 25 Marks)

3. Write a note on nitrogen cycle and biological nitrogen fixation.

4. Write a note on Binomial method of nomenclature.

5. Differentiate between prokaryotic and eukaryotic cell.

6. Describe mechanism of breathing.

7. Write about the functions of hormones secreted by pituitary gland.

8. What are the steps involved in blood coagulations.

9. Define tissues and describe various types of plant tissues with their functions.

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FACULTY OF PHARMACY

B. Pharmacy I Semester (PCI) (Main & Backlog) Examination, March 2024
Subject: Remedial Mathematics

Time: 1 ½ Hours   **Max. Marks: 35**

PART - A

Note: Answer any one questions.   **(1 x 10 = 10 Marks)**

1 Using cramer's rule solve the system of equations 2x-y+3z=9, x+y+z=6 and x-y+z=2.

2 Resolve into partial fractions $\dfrac{(2x-1)}{(2x+3)\,(x+1)}$.

PART - B

Note: Answer any five questions.   **(5 x 5 = 25 Marks)**

3 If $x=1+\log_a bc$, $y=1+\log_b ca$ and $z=1+\log_a ab$, prove that $xyz=xy+yz+zx$.

4 Find the equation of the line dividing the line segment joining (2,3) and (4,-5) in the ratio 2:3 and having slope -3/2.

5 Find the derivative of $\dfrac{\cos x}{x^2}-\dfrac{e^x}{5x+4}$.

6 Find the Laplace transform of $3t+2\cos t+7t^3$.

7 Evaluate $\displaystyle\int \dfrac{dx}{4x^2-49}$.

8 Prove that $\dfrac{1}{\log_a bc}+\dfrac{1}{\log_b ab}=1$.

9 Show that $\displaystyle \operatorname*{Lt}_{x\to 2}\dfrac{x^2+5x+6}{2x^2-3x}=10$.

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FACULTY OF PHARMACY
B. Pharmacy I - Semester (PCI) (Main & Backlog) Examination, March 2024
Subject: Communication Skills

Time: 1½ Hours   **Max Marks: 35**

PART – A

Note: Answer any one questions   **(1 x 10 = 10 Marks)**

1. Describe the various elements of Communication.

2. What is the purpose of Group discussion? What are the do's and don'ts of group Discussion?

PART – B

Note: Answer any five questions.   **(5 x 5 = 25 Marks)**

3. Write about the Barriers of Communication.

4. Discuss the role of Verbal Communication?

5. Write about the Communication process.

6. What are the Do's and Don'ts of written communication?

7. What is the role of Body Language in Communication?

8. What are the techniques of delivering a presentation?

9. Write a Job application letter for the post of marketing executive in a reputed Pharmaceutical Company.

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FACULTY OF PHARMACY

B. Pharmacy I - Semester (PCI) (Main & Backlog) Examination, March 2024
Subject: Pharmaceutical Inorganic Chemistry

Time: 3 Hours   **Max.Marks:75**

PART - A

Note: Answer all the questions.   **(10 x 2 = 20 Marks)**

1. Define limit test and assay.
2. What are antacids? Write the ideal properties of antacids.
3. Define expectorants and emetics with one example each.
4. What are antidotes? Write the mechanism involved in cyanide poisoning.
5. What are haematenics? Give the preparation of Ferrous sulphate.
6. Define astringents with two examples.
7. Define dentrifrices and anti caries agents with one example each.
8. Add a note on ORS.
9. Write the preparation and uses of Ringer's solution.
10. What is impurity? Write the methods for purification of substances.

PART - B

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

11. Write a note on sources of impurities in detail.

12. (a) What are anti –microbial agents? Explain the mechanism of action involved in anti-microbials.
    (b) Add a note on preparation, assay and uses of boric acid.

13. What are electrolyte replenishers? Add a note on preparation, assay and uses of NaCl.

PART - C

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

14. Add a note on physiological acid-base balance.

15. Write the principle and procedure involved in Limit Test for Iron.

16. Write the preparation, assay and uses of Ammonium Chloride.

17. Add a note on role of fluorides.

18. Write the preparation, assay and uses of Sodium thiosulphate.

19. Write the preparation, assay and uses of zinc sulphate.

20. Write a note on clinical applications of radio isotopes.

21. What is buffer capacity? Add a note on methods for adjusting isotonicity.

22. Write the principles and procedure involved in Limit Test for Arsenic with neat labeled diagram.

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FACULTY OF PHARMACY
B. Pharmacy I - Semester (PCI) (Main & Backlog) Examination, March 2024
Subject: Pharmaceutics

Time: 3 Hours   **Max. Marks: 75**

PART-A

Note: Answer all the questions.   **(10 x 2 = 20 Marks)**

1. Differentiate syrups and elixirs
2. Explain the preparation of any one effervescent powder.
3. Write the types of bases used in the preparation of ointments
4. What is displacement value? Write its importance
5. Write the principle involved in the preparation of calamine lotion
6. Differentiate gargles and mouthwashes.
7. Find the strength of 85% v/v alcohol in terms of Proof spirit.
8. Define eutectic mixtures with an example.
9. Write the formula for cold cream
10. Define suspensions and give examples.

PART-B

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

11. What are Suppositories? Write a note on different bases used in preparation of Suppositories?

12. Define and classify incompatibility. Explain physical incompatibility and methods to overcome physical incompatibility with examples.

13. Explain the methods of preparation and evaluation of ointments.

PART – C

Note: Answer any seven questions   **(7 x 5 = 35 Marks)**

14. Define prescription. Explain various parts of prescription
15. Explain method of preparation of elixirs with examples
16. Classify liquid dosage forms and write a note on stability of suspensions
17. Explain in brief about factors affecting posology.
18. What are the salient features of Indian Pharmacopoeia?
19. Explain the preparation of vanishing cream
20. Prepare 900ml of 60% v/v alcohol from 90% v/v alcohol and 30% v/v alcohol.
21. Explain the tests for identification of type of emulsions
22. Write a note on dusting powders with examples.

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FACULTY OF PHARMACY

B. Pharmacy I - Semester (PCI) (Main & Backlog) Examination, March 2024
Subject: Pharmaceutical Analysis

Time: 3 Hours   Max.Marks:75

PART - A

Note: Answer all the questions.   **(10 x 2 = 20 Marks)**

1. Define Errors and mention the different methods to combat errors in Analysis.
2. What is an indicator and write about the indicators used in redox titrations.
3. Define end point and equivalence point.
4. Write the applications of potentiometry.
5. Define Accuracy and precision with example.
6. Explain the terms Co-precipitation and post precipitation.
7. Define primary standard with example.
8. Write about the source of impurities in medicinal agents.
9. Define Digestion and Nucleation in gravimetric analysis.
10. Define the Brownsted-Lowry theory with examples?

PART - B

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

11. Explain the sources of impurities in medicinal agents. Write the limit test for
    (i) Sulphates (ii) Chlorides.

12. Write the theories of acid-base indicators.

13. What is potentiomery? Explain construction and working of electrochemical cell?

PART - C

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

14. Write in detail any one method of precipitation titrations.

15. Write the Principle and applications of diazotization titrations?

16. Write about different methods of expressing concentration of solutions.

17. Write the preparation and standardization of 0.1N $KMnO_4$.

18. Explain Masking agents and Demasking agents in Complexometric titrations?

19. Write about electrodes used in polarography.

20. What is conductance? Write about conductivity cell with a neat labeled diagram.

21. Discuss the different types of solvents with examples used in Non-Aqueous titrations.

22. Write a short note on types of Complexometric titrations.

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FACULTY OF PHARMACY
B. Pharmacy I - Semester (PCI) (Backlog) Examination, October 2024
Subject: Pharmaceutical Analysis - I

Time: 3 Hours   Max.Marks:75

PART - A

Note: Answer all the questions.   **(10 x 2 = 20 Marks)**

1. Define primary standard with examples.
2. Enlist the solvents used in nonaqueos titration.
3. Mention different electrodes used in potentiometry.
4. What are metal indicators and mention any three metal indicators?
5. Explain about Significant figures with Examples.
6. Write a note on buffer solutions and their applications in Pharmaceutical Analysis.
7. Write different methods used to minimize errors.
8. Define Accuracy and precision with example.
9. Mention the source of impurities in medicinal agents.
10. Write the applications of Polarography.

PART - B

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

11. Classify acid base titrations and explain the titration of (i) Weak acid Vs Strong base (ii) Strong acid Vs Weak base with neutralization curve.

12. Discuss the principle and steps involved in gravimetric analysis with example.

13. Discuss the theory of complexometric titrations and write about estimation of Magnesium sulphate.

PART - C

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

14. What is an error and write briefly about different types of errors?

15. Explain the Preparation and standardization of EDTA solution.

16. Write in detail about the Volhard's method of precipitation titrations.

17. Write about different methods of expressing concentration of solutions.

18. Define limit test and explain the limit test for chlorides.

19. Discuss the principle and write the applications of diazotization titrations.

20. Write the construction and working of Dropping mercury electrode.

21. Write the principle involved in the conductometric titration of Strong acid vs Weak base.

22. Explain Masking agents and Demasking agents in Complexometric titrations?

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FACULTY OF PHARMACY
B. Pharmacy I - Semester (PCI) (Backlog) Examination, October 2024
Subject: Pharmaceutics

Time: 3 Hours **Max. Marks: 75**

PART - A

Note: Answer all the questions. **(10 x 2 = 20 Marks)**

1. Define lotions and Liniments
2. Calculate the dose for 9 years old boy if adult dose is 150mg
3. Describe any one test for identification of type of emulsion
4. Differentiate syrups and elixirs
5. What are isotonic solutions? Give example
6. Classify the bases used in the preparation of suppositories
7. Define eutectic mixtures with an example.
8. Give an example for physical incompatibility and how do you overcome it.
9. Define and classify powders with examples.
10. Write the formula for simple ointment

PART - B

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

11. Explain the methods of preparation of emulsions. Add a note on stability of emulsions
12. Define and classify incompatibility. Explain chemical incompatibility with examples.
13. Explain about different types of ointment bases

PART - C

Note: Answer any seven questions **(7 x 5 = 35 Marks)**

14. Explain the factors influencing dermal penetration of drugs
15. Differentiate flocculated and deflocculated suspensions.
16. Explain various solubility enhancement techniques in brief.
17. What are the salient features of Indian Pharmacopoeia?
18. Explain the preparation of cold cream
19. Write a brief note on suspending agents
20. Explain various methods to adjust isotonicity.
21. Define prescription. Explain various parts of prescription
22. Write a note on evaluation of suppositories.

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FACULTY OF PHARMACY
B. Pharmacy I - Semester (PCI) (Backlog) Examination, October 2024
Subject: Pharmaceutical Inorganic Chemistry

Time: 3 Hours   Max.Marks:75

PART - A

Note: Answer all the questions.   **(10 x 2 = 20 Marks)**

1. Define limit test and impurity.
2. What are antacids and acidifiers? Write the ideal properties of antacids.
3. Write the preparation and uses of $CuSO_4$.
4. What are cathartics? Classify with two examples.
5. What are haematenics? Give the preparation of Ferrous sulphate.
6. Define astringents with two examples.
7. Write a note on role of Fluorides.
8. What is buffer capacity? Add a note on methods for adjusting isotonicity.
9. How do you measure Radioactivity.
10. Write the methods for purification of a substance.

PART - B

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

11. Write the principle and procedure involved in Limit Test for Arsenic with neat labeled diagram.

12. What are antimicrobial agents, classify. Add a note on preparation, assay and uses of H_2O_2.

13. What are electrolyte replenishers? Add a note on preparation, assay and uses of NaCl.

PART - C

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

14. Add a note on physiological acid – base balance.

15. Write the principle and procedure involved in Limit Test for chlorides and sulphates.

16. Write the preparation, assay and uses of Ammonium Chloride and sodium bicarbonate.

17. Write preparation and assay of aluminium hydroxide gel. Add a note on acid neutralizing capacity of it.

18. Add a note on Iodine preparations.

19. Write the preparation, assay and uses of magnesium sulphate.

20. Write a note on clinical applications of radio isotopes.

21. Add a note on chemical properties of $KmnO_4$.

22. Give a brief account of pharmaceutical application of radioactive substances.

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FACULTY OF PHARMACY
B. Pharmacy I - Semester (PCI) (Backlog) Examination, October 2024
Subject: Communication Skills

Time: 1 ½ Hours   **Max Marks: 35**

PART - A

Note: Answer any one questions   **(1 x 10 = 10 Marks)**

1. What is the purpose of an interview? What are the do's and don'ts of an interview?

2. Discuss in detail the various barriers of communication and its impact.

PART - B

Note: Answer any five questions.   **(5 x 5 = 25 Marks)**

3. Discuss the role of face to face Communication?
4. What are the ways to overcome nervousness before an interview?
5. Write about the Communication styles?
6. Write about the importance of communication skills in group discussion.
7. Write about the non-verbal communication.
8. Write about dealing with fears and planning your Presentation?
9. What are the Do's and Don'ts of Group discussion?
10. How to become an Active Listener?
11. Write a Job application letter for the post of Head Production in a reputed Pharmaceutical Company.

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FACULTY OF PHARMACY
B. Pharmacy I - Semester (PCI) (Backlog) Examination, October 2024
Subject: Remedial Biology

Time: 1 ½ Hours   **Max Marks: 35**

PART - A

Note: Answer any one questions.   **(1 x 10 = 10 Marks)**

1. Write in brief about various components of blood with neat labelled diagram.

2. Describe the morphology and internal structure of dicot stem in plants with neat labelled diagram.

PART - B

Note: Answer any five questions.   **(5 x 5 = 25 Marks)**

3. Write a note on mitotic cell division in plants.

4. Differentiate between prokaryotic and eukaryotic cell.

5. Explain how fats will get digested in body.

6. Write a note on five kingdom classification.

7. Classify animal tissues and write their function.

8. Write a brief note on Photosynthesis and factors affecting photosynthesis?

9. Explain the structure of neuron with neat labeled diagram.

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FACULTY OF PHARMACY
B. Pharmacy I - Semester (PCI) (Backlog) Examination, October 2024
Subject: Remedial Mathematics

Time: 1 ½ Hours **Max Marks: 35**

PART – A

Note: Answer any one questions **(1 x 10 = 10 Marks)**

1. Solve the system of equations using Cramer's rule, $2x - y + 3z = 9$, $x + y + z = 6$ and $x - y + z = 2$.

2. Resolve $\frac{5x+6}{(2+x)\,(1-x)}$ into Partial fractions.

PART – B

Note: Answer any five questions. **(5 x 5 = 25 Marks)**

3. If $A = \begin{bmatrix} 2 & 0 \\ 3 & -5 \end{bmatrix}$ show that $A^2 + 3A - 10I = 0$.

4. If $= 1 + \log_a bc$, $y = 1 + \log_b ca$ and $z = 1 + \log_c ab$. Prove that $xyz = xy + yz + zx$.

5. Find the slopes of the lines
   (a) Parallel to and
   (b) Perpendicular to the line passing through $(6, 3)$ and $(-4, 5)$.

6. Find the derivative of $y = \tan(\sin^{-1} x)$.

7. Find the Laplace transform of $8t^4 - 2\cos t$.

8. Evaluate $\int (x^4 - 3x^2 + 4x + 6)\, dx$.

9. Evaluate $\lim_{x \to 4} \frac{x^4 - 81}{x - 3}$.

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FACULTY OF PHARMACY
B. Pharmacy I - Semester (PCI) (Backlog) Examination, October 2024
Subject: Human Anatomy and Physiology – I

Time: 3 Hours   **Max. Marks: 75**

PART – A
Note: Answer all the questions.   **(10 x 2 = 20 Marks)**

1. Define tissue and classify the tissues.
2. Write about the functions of endoplasmic reticulum.
3. Define (a) Osmosis   (b) Active transport.
4. Explain the structure and functions of smooth muscle and skeletal muscle.
5. List out examples for gliding joint and saddle joint.
6. Write the function of spleen.
7. Explain the structure location and functions of ciliated columnar epithelium.
8. Explain the terms (a) Hypertension (b) Hypotension.
9. Write the functions of platelets.
10. Write the functions of Skin.

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

11. Define cardiac cycle. Explain in detail the phases of cardiac cycle.
12. List the clotting factors. Explain in detail about the process of clotting.
13. Describe the structure of skeletal muscle and explain in detail the steps involved in muscle contraction.

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

14. Write the differences between sympathetic and para sympathetic nervous system.
15. Define blood pressure and add a note on factors effecting blood pressure.
16. Describe the anatomy of ear with a neat labelled diagram.
17. Describe about different types of taste buds.
18. Explain the structure and functions of plasma membrane.
19. Explain the following bones with neat diagrams (a) Femur   (b) Sacrum.
20. Describe the structure and functions of thymus gland.
21. What is ECG and correlate the ECG with cardiac cycle events.
22. Explain the structure of skin with a neat labelled diagram.

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