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Faculty of Health Sciences
Bachelor of Science Honors in Industrial Pharmaceutical Science
IPS 2233 Industrial Pharmaceutics I
Batch 06
2nd Year 2nd Semester
End Semester Examination - SEQ

INDEX NUMBER:

Date : 23rd of October 2024

Time : 9.00 a.m. - 12.00 noon (Three hours)

INSTRUCTIONS TO CANDIDATES

- This question paper consists of **SIX** questions.
- Answer **ALL** the questions on this paper itself.
- Final answers should be given legibly in black or blue ink.

Question 01

(100 marks)

1.1 State the importance of pharmacopoeia in pharmaceutical industry.

(15 marks)

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1.2 Briefly describe tertiary information sources in science.

(20 marks)

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1.3 Outline different parenteral dosage forms.

(30 marks)

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(35 marks)

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(100 marks)

(10 marks)

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(20 marks)

[illegible]

2.3.1 What is ‘delinquescence’?

(10 marks)

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2.3.2 State how **sorbents and humectants** can be used to overcome pharmaceutical problems associated with hygroscopic materials, giving **one (01)** example for each type. (25 marks)

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2.4 Describe the importance of determining swelling capacity of excipients. (35 marks)

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Question 03

(100 marks)

3.1 List **three (03)** types of pharmaceutical powders. (15 marks)

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3.2 State **four (04)** advantages of powder dosage form over liquid dosage forms. (20 marks)

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3.3 Mention the importance of following powder parameters in pharmaceuticals.

3.3.1 Carr's index

(15 marks)

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3.3.2 Angle of repose

(20 marks)

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3.4 Distinguish between petrolatum and white soft paraffin.

(30 marks)

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Question 04

(100 marks)

4.1 What are the primary methods of ointment preparation?

(10 marks)

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4.2 State the importance of maintaining sterility in ophthalmic ointments.

(25 marks)

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4.3 Suppositories are dosage forms intended for insertion into body orifices.

4.3.1 List **two (02)** body organs which suppositories be inserted. (10 marks)

4.3.2 Write an account on cocoa butter as a suppository base. (25 marks)

4.4 Briefly describe the packaging and labelling requirements of suppositories. (30 marks)

Question 05 (100 marks)

5.1 Mention **two (02)** applications of multiple compressed tablets. (10 marks)

5.2 State **four (04)** factors that affect the selection of method for tablet manufacturing. (20 marks)

5.3 Outline the compression process of tablet.

(35 marks)

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5.4 Briefly explain the forces that facilitate the particle aggregation in dry granulation. (35 marks)

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Question 06

(100 marks)

6.1 Mention **four (04)** types of cutting machines used in the tablet manufacturing process. (20 marks)

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6.2 Briefly explain the advantages and disadvantages of fluidized bed drying.

(25 marks)

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6.3 Outline the cold process method used in formulating creams.

(25 marks)

6.4 Compare and contrast single phase and two phase gels.

(30 marks)

Faculty of Health Sciences
Bachelor of Science Honors in Industrial Pharmaceutical Science
IPS 2233 Industrial Pharmaceutics I
Batch 04
2nd Year 2nd Semester
End Semester (Special Resit) Examination - SEQ

INDEX NUMBER:

Date : 26th of June 2025

Time : 9.00 a.m. - 12.00 noon (Three hours)

INSTRUCTIONS TO CANDIDATES

- This question paper consists of **SIX** questions.
- Answer **ALL** the questions on this paper itself.
- Final answers should be given legibly in black or blue ink.

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1.3 Outline different parenteral dosage forms.

(30 marks)

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1.4 Briefly describe the mechanism of surface-active agents.

(35 marks)

Question 02

(100 marks)

2.1 List **two (02)** methods to determine partition co-efficient of drugs.

(10 marks)

2.2 How pH of surrounding medium influences the solubility of weak acidic drugs?

(20 marks)

2.3 Deliquescence and hygroscopicity often affect the quality of pharmaceutical materials.

2.3.1 What is 'delinquescence'?

(10 marks)

2.3.2 State how **sorbents and humectants** can be used to overcome pharmaceutical problems associated with hygroscopic materials, giving **one (01)** example for each type. (25 marks)

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(30 marks)

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Faculty of Health Sciences
Bachelor of Science Honours in Industrial Pharmaceutical Sciences
IPS 2223 – Biochemistry II
2nd Year 2nd Semester
Batch 04
End Semester Special Repeat SEQ Examination

Date : 24th of June 2025
Time : 9.00 a.m. to 12.00 p.m.

INSTRUCTIONS TO CANDIDATES

- This question paper consists of **SIX** questions.
- Answer **ALL** questions.
- You should write legibly in black or blue ink.
- You are allowed used a scientific calculator for the examination.

QUESTION 01

(100 marks)

1.1.Outline the reactions involved in denovo synthesis of purine nucleotides.

(35 marks)

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1.2.Compare and contrast between nucleotides and nucleosides.

(30 marks)

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1.3. Write a short note on metabolic defects associated with purine metabolism.

(35 marks)

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QUESTION 02

(100 marks)

2.1. State the types of bonds involved in stabilizing the tertiary structure of proteins.

(15 marks)

2.2. . Classify proteins based on their solubility and provide an example.

(25 marks)

2.3. State the structure and significance of beta sheet in proteins.

(30 marks)

2.4. Differentiate between protein motifs and protein domains.

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(30 marks)

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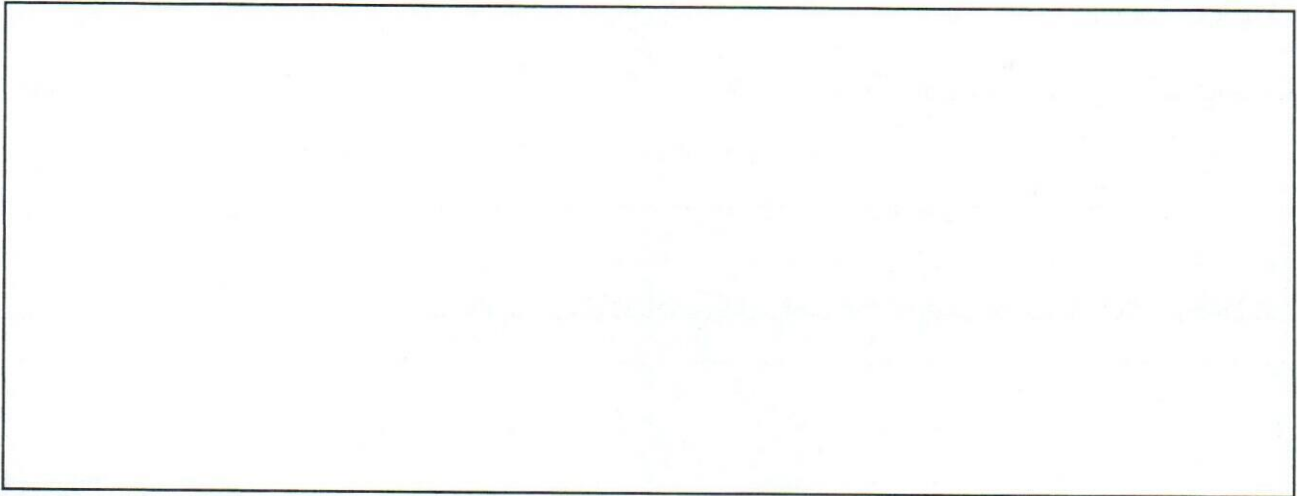
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QUESTION 03

(100 marks)

3.1. Draw flow chart to denote the digestion of proteins.

(30 marks)



3.2. Discuss the metabolic fate of amino acids during prolonged fasting.

(35 marks)

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3.3. Differentiate the roles of transamination and deamination of protein metabolism.

(35 marks)

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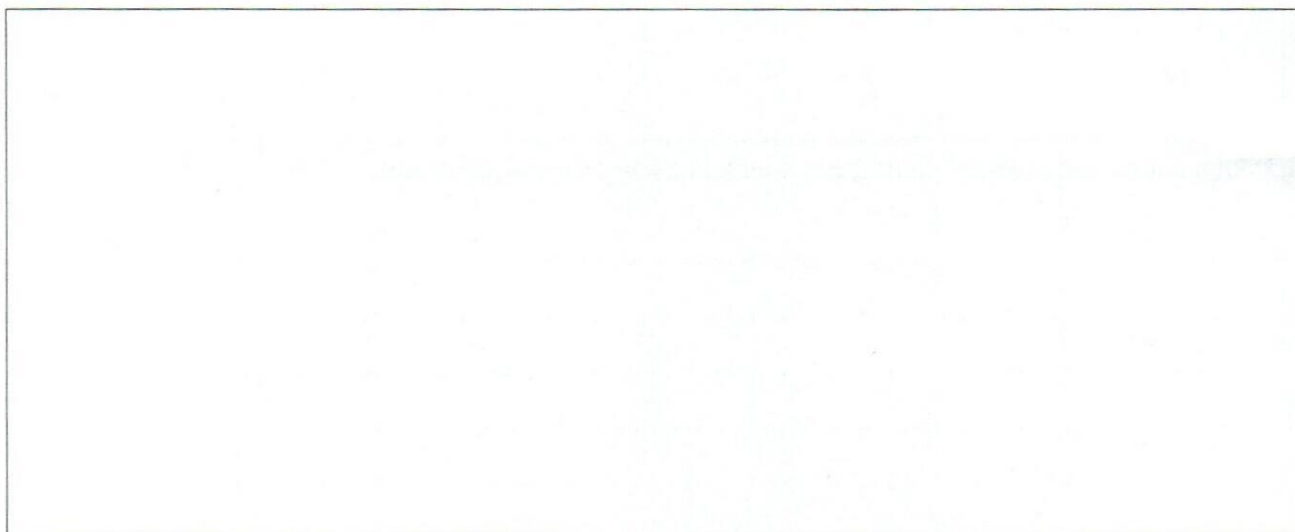
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QUESTION 04**(100 marks)**

4.1. Mention three non-essential amino acids.

(15 marks)

4.2. Draw a flow chart to denote the basic reactions of the urea cycle.

(30 marks)

4.3. Compare the biochemical basis of alkaptonuria and cystinuria. (30 marks)

4.4. Justify the following statement. "Untreated Phenylketonuria (PKU) leads to hypopigmentation".
(25 marks)

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QUESTION 05

(100 marks)

5.1. Define the isoelectric point (pI) and its importance in amino acid behavior. (25 marks)

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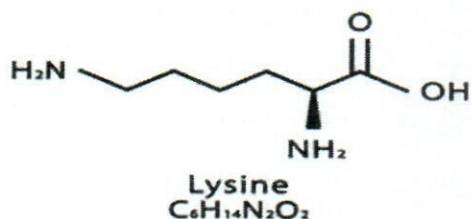
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5.2. Given the structure of the amino acid lysine, determine its form at the following pH values with explanations (pI = 9.74):



i. pH = 1

(25 marks)

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ii. pH = 9.74

(25 marks)

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iii. pH = 12

(25 marks)

QUESTION 06

(100 marks)

6.1. State the role of amino acid side chains in the buffering capacity of proteins.

(20 marks)

6.2. Write short notes on the following.

i. Protein buffer system in intracellular fluid

(30 marks)

ii. Phosphate buffer system

(20 marks)

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iii. Hemoglobin as a buffer

(30 marks)