THE OPEN UNIVERSITY OF SRI LANKA
FACULTY OF HEALTH SCIENCES
DEPARTMENT OF PHARMACY
THE ACADEMIC YEAR 2024/2025 – SEMESTER I

BACHELOR OF PHARMACY HONOURS
FMU4501- PHARMACEUTICS II - LEVEL 4
FINAL EXAMINATION
DURATION: THREE (03) HOURS

DATE: 15TH MARCH 2025 TIME: 9.30 A.M.- 12.30 P.M.

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Part B – Short Answer Questions (20 Marks)

1.

1.1 Write the following in exponential form.

I. 14, 665 – ..... (02 marks)

II. 0.008467 – .....(02 marks)

1.2 The child dose for a given cough syrup is ¼ of teaspoonful and it represents 1/8 of the adult dose. Calculate the corresponding adult dose. (03 marks)

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1.3 If an insulin injection contains 100 units of insulin in each millilitre. How many millilitres should be injected to give a dose of 40 units? (03 marks)

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2.

1.1. What are the three (03) types of glass used for pharmaceutical packaging. (03 marks)

I. .....

II. .....

III. .....

2.2. List four (04) quality aspects of medical devices. (04 marks)

I. .....

II. .....

III. .....

IV. .....

2.3. Define Transdermal Drug Delivery Systems (TDDS). (03 marks)

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Part C- Structured Essay Questions (60 Marks)

1.

1.1. What are the essential facilities required for the production of parenteral products. (03 marks)

1.2. Describe the general steps involved in the production of parenteral products. (05 marks)

1.3. Discuss the importance of environmental control in the manufacturing of parenteral products. (07 marks)

2.

2.1. Define Controlled Drug Delivery Systems. (02 marks)

2.2. Classify Controlled Drug Delivery Systems based on their mechanism and drug release pattern, providing examples for each. (04 marks)

2.3. Discuss the advantages and disadvantages of Controlled Drug Delivery Systems.(05 marks)

2.4. Explain the concept of Gastro Retentive Drug Delivery Systems (GRDDS) and describe two (02) mechanisms used for prolonging gastric retention. (04 marks)

3.

3.1. Define an emulsion. (02 marks)

3.2. Explain the role of emulsifying agents in the formulation of emulsions and classify emulsifying agents and give one (01) example for each class. (04 marks)

3.3. Describe the tests that can be used to identify the type of emulsion. (04 marks)

3.4. Discuss the physical instability problems associated with emulsions and briefly explain how they can be minimized. (05 marks)

4.

4.1. If 230 mL of alcohol weighs 205 g, what is the density of alcohol? (03 marks)

4.2. A cough syrup contains 1 mg of chlorpheniramine maleate in each teaspoon. If double strength of cough syrup is required in each teaspoon; how many milligrams of the ingredient is required to be added to the 60 mL syrup? (04 marks)

4.3. If 200 mLof 10% v/v solution is diluted to 1000 mL what will be the percentage strength (v/v)? (04 marks)

4.4 A doctor prescribes 20 mEq of potassium chloride to a patient.
Calculate the amount of potassium chloride in mg. Molecular weight of potassium chloride is 74.5 g. (04 marks)