Part B – Short Answer Questions (20 Marks)

1.

1.1 Define the term "Pre- formulation studies". (02 marks)

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1.2 List two (02) factors to be considered before conducting pre-formulation studies.

(02 marks)

I. .....

II. .....

1.3 List two (02) types of stability studies for pharmaceutical products.

(02 marks)

I. .....

II. .....

1.4 List two (02) importance of conducting stability tests during pre-formulation studies.

(02 marks)

I. .....

II. .....

1.5 List two (02) techniques used to determine the melting point of a drug substance.

(02 marks)

I. .....

II. .....

2.

2.1 State two (02) methods that can be used to prepare suspensions. (02 marks)

I. .....

II. .....

2.2 List two (02) basic components in transdermal patches in drug delivery systems. (02 marks)

I. .....

II. .....

2.3 List two (02) ideal properties of penetration enhancers used in transdermal drug delivery systems. (02 marks)

I. .....

II. .....

2.4 List two (02) types of equipment used to manufacture transdermal patches in drug delivery systems. (02 marks)

I. .....

II. .....

2.5 List two (02) common ingredients that can be incorporated into skin care preparations during manufacturing. (02 marks)

I. .....

II. .....

Part C – Structured Essay Questions (60 Marks)

1.

1.1. List two (02) reasons for tablet coating. (02 marks)

1.2. List three (03) important properties to be considered for effective coating. (03 marks)

1.3. List two (02) basic components of a conventional pan coating system. (02 marks)

1.4. Briefly explain the working principle of a conventional pan coating system. (08 marks)

2.

2.1. List two (02) advantages of a soft gelatin capsule (02 marks)

2.2. List two (02) quality control tests carried out during the encapsulation process for soft gelatin capsules. (02 marks)

2.3. Briefly describe the five (05) reasons for using gelatin as the main ingredient to manufacture hard and soft gelatin capsule shells. (05 marks)

2.4. Briefly explain the manufacturing process of soft gelatin capsules. (06 marks)

3.

3.1. Define "pharmaceutical plant layout". (02 marks)

3.2. List two (02) factors influencing manufacturing plant layout. (02 marks)

3.3. Compare and contrast the product (line) layout and process (functional) layout in a pharmaceutical manufacturing plant. (05 marks)

3.4. Briefly describe six (06) advantages of a proper manufacturing plant layout. (06 marks)

4.

4.1. Write a brief account on "Occupational Health and Safety". (03 marks)

4.2. List four (04) categories of industrial hazards. (04 marks)

4.3 Cyclone separators can serve as air pollution control devices in pharmaceutical manufacturing plants. Describe the mechanism by which this equipment eliminates air pollutants. (08 marks)