UNIVERSITY OF JAFFNA, SRI LANKA
FACULTY OF ALLIED HEALTH SCIENCES
FIRST YEAR SECOND SEMESTER EXAMINATION IN BPharmHons – 2023
PHACE 1254 PHYSICAL PHARMACEUTICS

Date: 20.06.2025 **Time: 03 Hours**

Answer All Six Questions,

1.

1.1 Define the following terms.
- 1.1.1 Solution **(10 Marks)**
- 1.1.2 Diffusion **(10 Marks)**

1.2 Explain the different units used to express the concentration of solution. **(30 Marks)**

1.3 Briefly describe the pH partition principle for the transport of drugs across biological membranes. **(50 Marks)**

2.

2.1
- 2.1.1 Briefly discuss the pharmaceutical importance of particle size of drugs. **(30 Marks)**
- 2.1.2 List the methods used to determine the particle size of powder. **(10 Marks)**
- 2.1.3 List the factors that affect the flow property of powder. **(20 Marks)**

2.2 Give the pharmaceutical uses of
- 2.2.1 metal ion complexes. **(20 Marks)**
- 2.2.2 β – cyclodextrins. **(20 Marks)**

3.

3.1 List the interfacial properties that are important in the pharmaceutical formulations. **(20 Marks)**

3.2 Write an account on
- 3.2.1 micellar solubilisation. **(50 Marks)**
- 3.2.2 wettability. **(30 Marks)**

4.

4.1 Define the following terms.
- 4.1.1 Protective colloids **(10 Marks)**
- 4.1.2 Gold number **(10 Marks)**

4.2 Differentiate hydrophilic and hydrophobic colloids. **(40 Marks)**

4.3 Give the pharmaceutical uses of colloids. **(40 Marks)**

5.

5.1 What are coarse dispersions? (10 Marks)

5.2

5.2.1 What are emulsifying agents? (10 Marks)

5.2.2 List the desirable properties of emulsifying agents. (30 Marks)

5.3

5.3.1 Differentiate flocculated and deflocculated suspensions. (30 Marks)

5.3.2 Explain the sedimentation parameters of suspensions. (20 Marks)

6.

6.1

6.1.1 Classify rheological systems. (10 Marks)

6.1.2 Explain the importance of thixotropy in oral suspension. (30 Marks)

6.2

6.2.1 Define the following terms.

6.2.1.1 Self-life (10 Marks)

6.2.1.2 Overages (10 Marks)

6.2.2 What is an accelerated stability study? (10 Marks)

6.2.3 Briefly discuss the limitations of accelerated stability study. (30 Marks)