

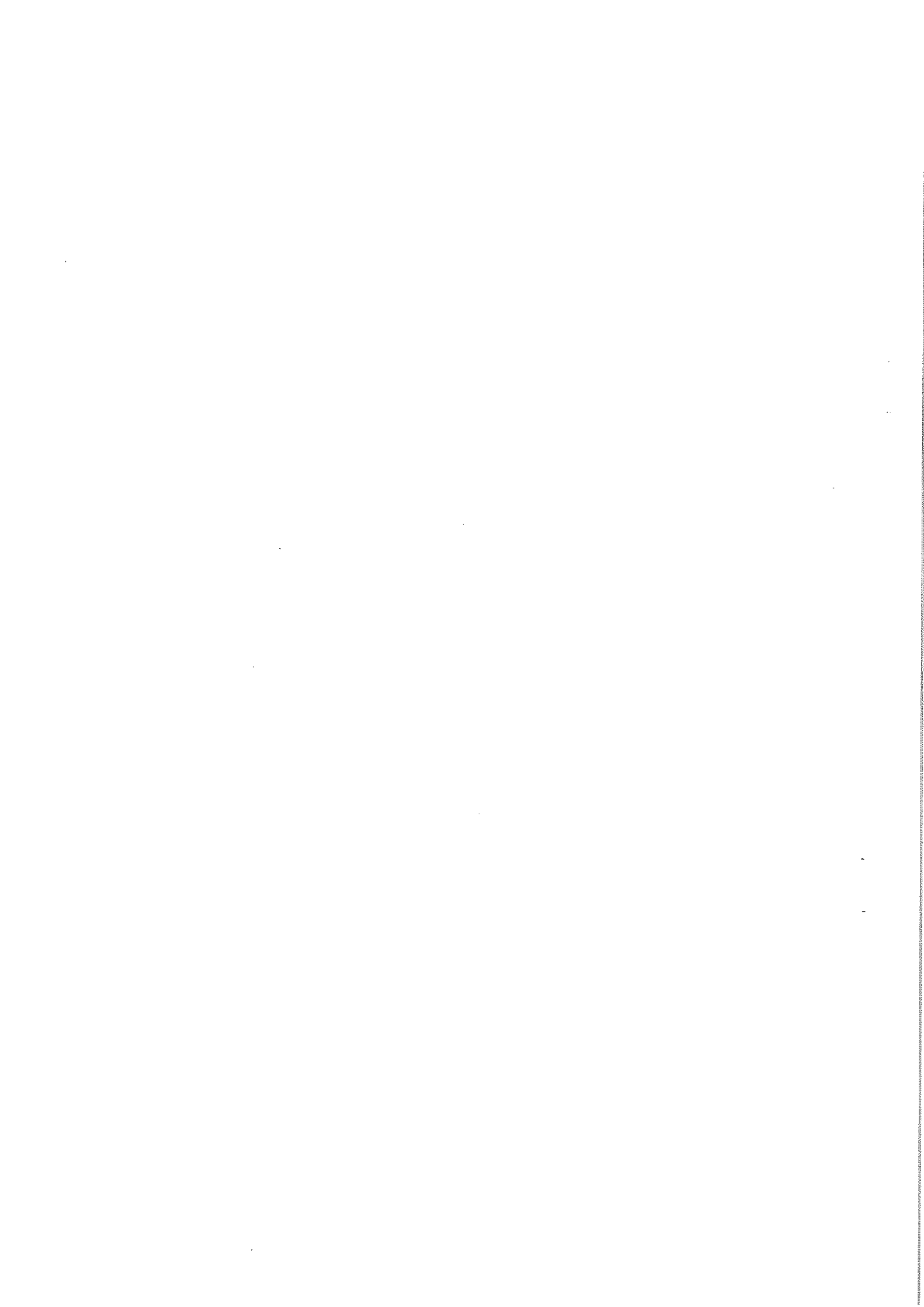
THE OPEN UNIVERSITY OF SRI LANKA
FACULTY OF HEALTH SCIENCES
DEPARTMENT OF PHARMACY
ACADEMIC YEAR 2018/ 2019 – SEMSETER I



BACHELOR OF PHARMACY HONOURS
FMU4501 – PHARMCEUTICS II – LEVEL 4
FINAL EXAMINATION
DURATION: THREE HOURS

DATE: 12th MARCH 2019

TIME: 09.30 A.M. – 12.30 P.M.



Part B: Short Answer Questions (20 Marks)

1.

1.1 An emulsifying system consists of potassium oleate 60% (HLB = 20) and sorbitan monostearate 40% (HLB = 4.7). Calculate the HLB of the system. **(05 Marks)**

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1.2 List three (03) types of suppositories based on route of administration with an example for each type. **(03 Marks)**

- i.
- ii.
- iii.

1.3 List two (02) specifications of suppository bases. **(02 Marks)**

- i.
- ii.

2.

2.1 List three (03) equipment used with medical gases. **(03 Marks)**

- i.
- ii.
- iii.

2.2 List three (03) ways used to identify medical gases. **(03 Marks)**

- i.
- ii.
- iii.

2.3 List two (02) general controls on devices stipulated by the Food and Drug Administration. (04 Marks)

- i.
- ii.

Part C: Structured Essay Questions (60 Marks)

1.

1.1 List three (03) formulation techniques used to make slow release of the maintenance dose in modified release dosage forms. (03 Marks)

1.2 State four (04) factors influence on the designing strategy of oral modified release drug delivery systems. (04 Marks)

1.3 Explain the advantages of modified release dosage forms over conventional dosage forms. (08 Marks)

2.

2.1 Write a short note on 'blister pack' used in pharmaceutical packaging. (07 Marks)

2.2 Discuss the characteristics of 'polyethylene' used in pharmaceutical packaging. (08 Marks)

3.

3.1

A hospital Pharmacist is requested to prepare an intravenous infusion solution of dopamine using a dopamine infusion of 400 mg/250 mL. Based on the patient's weight, he should receive a dose of 500 mcg/min for continuous infusion.

3.1.1 What is the concentration of the required infusion for this patient on a mcg/mL basis? (04 Marks)

3.1.2 How many milligrams of dopamine is received by the patient in the first hour of the treatment? (03 Marks)

3.1.3 Calculate the total duration of the above infusion. (02 Marks)

3.2. A 37% w/w hydrochloric acid solution has a specific gravity of 1.2. How many milliliters of the above hydrochloric acid solution are required to make 1000 mL of diluted hydrochloric acid solution having concentration 10% w/v? (06 Marks)

4. An intravenous fluid contained 0.9% w/v sodium chloride and 40 mEq of potassium chloride in a total volume of 1000 mL. This intravenous infusion was administered through an IV set that delivers 15 drops per milliliter. The infusion has been running at a rate of 12 drops per minute for 15 hours.

Note: Molecular weight of KCl = 74.5 g per mole

Molecular weight of NaCl = 58.5 g per mole

Both NaCl and KCl are monovalent salts.

- 4.1 How many mEq of KCl have been administered? (03 Marks)
- 4.2 How many grams of KCl have been administered? (03 Marks)
- 4.3 How many millimoles of KCl have been administered? (03 Marks)
- 4.4. Calculate the **total osmolarity** of the above intravenous fluid in **milliosmoles per liter**. (06 Marks)

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