



UNIVERSITY OF RUHUNA – FACULTY OF MEDICINE  
ALLIED HEALTH SCIENCES DEGREE PROGRAMME  
SECOND B. PHARM PART I EXAMINATION – JULY 2017  
PH 2114 PHARMACEUTICS II A (SEQ)

TIME: THREE HOURS

INSTRUCTIONS

- Answer all questions in the given space.
- No paper should be removed from the examination hall.
- Do not use any correction fluid.
- Use illustrations where necessary.

1. Answer **all** questions

1.1. Name **three** theories of emulsification. (10 marks)

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1.2. List **four** advantages of emulsion dosage form. (10 marks)

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1.3. Briefly describe the available tests for the identification of an emulsion type. (20 marks)

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1.4. A powder has a density of  $1.3 \text{ g/cm}^3$  and an average particle diameter of  $2.5 \mu\text{m}$  (assuming the particles to be spheres).

1.4.1 Calculate the rate of settling of this powder in water at room temperature, using Stokes' equation.

(Density of water is  $1.0 \text{ g/cm}^3$  at room temperature and viscosity of the medium  $0.01 \text{ g/cm sec}$ , gravitational constant is  $980 \text{ cm sec}^{-2}$ ). (20 marks)

(20 marks)

(20 marks)

1.4.2 In order to reduce the rate of settling of this suspension by a factor of 100, calculate the average particle diameter of the powder required. (20 marks)

(20 marks)

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1.4.3 Calculate the rate of settling of the powder which has particle size calculated in question 1.4.2 in glycerin. (Glycerin has density of 1.25 g/mL and a viscosity is 4 g/cm sec). (20 marks)

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2.1. Classify pharmaceutical powders based on the method of dispensing. (10 marks)

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2.2. State the mechanism of size reduction in Pharmacy. (10 marks)

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2.3. Briefly describe the fluid energy mill. (40 marks)

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2.4. Briefly describe wet granulation method. (40 marks)

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3. (10 marks)

3.1. Define the term "transdermal drug delivery system".

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3.2. List five factors affecting for percutaneous absorption.

(10 marks)

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3.3. Briefly describe the advantages of transdermal drug delivery system over the other pharmaceutical dosage forms.

(40 marks)

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3.4. Briefly describe advices on general the clinical considerations, when dispensing a transdermal drug delivery system to a patient.

(40 marks)

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4.1. Define the term "Surgical aids".

(10 marks)

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4.2. List five properties of surgical dressings.

(10 marks)

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4.3. Briefly describe functions of wound dressings.

(30 marks)

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4.4. Briefly describe the **three** types of suppositories.

**(30 marks)**

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4.5. Write **four** properties of suppository base.

**(20 marks)**

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6.2. Briefly describe **five** advantages of liquid dosage forms. **(50 marks)**

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6.3. Briefly describe the monophasic dosage forms. **(30 marks)**

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