UNIVERSITY OF RUHUNA – FACULTY OF ALLIED HEALTH SCIENCES
DEPARTMENT OF PHARMACY

FIRST BPHARM PART II EXAMINATION – JANUARY 2019

PH 1242 PHARMACEUTICS IB (SEQ)

TIME: TWO HOURS

INSTRUCTIONS

- There are four (**04**) questions in Part A and B of the SEQ paper.
- Answer **each** part in separate booklet provided.
- No paper should be removed from the examination hall.
- Do not use any correction fluid.
- Use illustrations where necessary.

Part A

01.

1.1. List **five** bulk characteristics of drugs. (***10 marks***)

1.2. Briefly describe **two** bulk characteristics which you mentioned in 1.1. (***30 marks***)

1.3. List **five** characteristic features of an ideal pharmaceutical suspension. (***20 marks***

1.4. Describe **four** differences between a flocculated system and a deflocculated system. (***40 marks***)

02.

2.1. Differentiate lyophilic sols and lyophobic sols. (***30 marks***)

2.2. List **four** types of dispersion methods that are used to prepare lyophobic sols. (***20 marks***)

2.3. Briefly describe **one** method you mentioned in 2.2. (***20 marks***)

2.4. Write a short note on "vacuum distillation". (***30 marks***)

03.

3.1. Define the following terms.

3.1.1. Half-life of a drug (***10 marks***)

3.1.2. Shelf-life of a drug (***10 marks***)

3.2. State **three** methods which are used to determine order of a reaction. (***15 marks***)

3.3. List **three** important reasons for testing drug stability. (***15 marks***)

Part B

3.4. Define "**one** Becquerel" (1Bq) radioactivity. (***10 marks***)

3.5. Briefly explain the beta (β^-) decay process and give an example. (***16 marks***)

3.6. Describe **three** basic methods which are used to reduce the radiation exposure when handling radiopharmaceuticals. (***24 marks***)

04.

4.1. What is meant by Newtonian and non-Newtonian fluids? (***10 marks***)

4.2. How does the viscosity vary with shear rate for question 4.1 fluids? (***10 marks***)

4.3. Briefly explain the following.

4.3.1. Thixotrophic fluid (***15 marks***)

4.3.2. Rheopectic fluid (***15 marks***)

4.4. Explain the half-life of a first order reaction. (***15 marks***)

4.5. The half-life of a first order reaction was found to be 3 hours at a certain temperature. What is its rate constant? (***10 marks***)

4.6. 6.0 g of X substance was decomposed for 48 minutes and found the mass of un-reacted X remaining was 0.375 g. What is the half-life of this reaction, if it follows the **first order** kinetics? (***15 marks***)

4.7. Describe the concept of pseudo order reaction. (***10 marks***)

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