



UNIVERSITY OF RUHUNA – FACULTY OF ALLIED HEALTH SCIENCES

DEPARTMENT OF PHARMACY

SECOND BPHARM PART I EXAMINATION – JULY 2018

PH 2153 PHARMACEUTICAL MICROBIOLOGY(SEQ)

TIME: TWOHOURS

INSTRUCTIONS

- There are **four** questions in A,B,C and D parts of the SEQ paper.
- Answer **each** part in a separate booklet.
- No paper should be removed from the examination hall.
- Do not use any correction fluid.
- Use illustrations where necessary.

PART A

- 1.1. Define normal flora of humans and give **three** examples. (15 marks)
- 1.2. List **three** advantages of normal flora. (15 marks)
- 1.3. Explain how the normal flora could be altered and state the consequences in relation to antimicrobial resistance. (20 marks)
- 1.4. State **five** modes of transmission of infection to man and give **one** example for each mode. (10 marks)
- 1.5. Define endogenous infection and exogenous infection. (10 marks)
- 1.6. Explain how wound infection occurs endogenously and state **three** measures taken to minimize this. (15 marks)
- 1.7. Explain how wound infection occurs exogenously and state **three** measures taken to minimize this. (15 marks)

PART B

- 2.1. Discuss the mechanisms of microbiological spoilage of pharmaceutical formulations. (30marks)
- 2.2. Explain briefly how you would minimize the microbial spoilage during manufacturing of creams and ointments. (20 marks)

PART C

- 2.3. Name **two** thermal sterilization methods and **three** non-thermal sterilization methods used in pharmaceutical industry. (10 marks)
- 2.4. Define the term "Bioautography" in antimicrobial susceptibility testing. (10 marks)
- 2.5. Describe briefly the method of performing agar well diffusion assay. (20 marks)
- 2.6. Mention the **two** types of intestinal nematodes and give **two** examples for each. (10 marks)

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PART D

- 3.
- 3.1. Define the term sterilization. (10 marks)
 - 3.2. List **four** methods of sterilization and state **two** items being sterilized by each of the methods listed. (20 marks)
 - 3.3. List **two** chemicals used for skin antiseptics. (10 marks)
 - 3.4. Name **two** high level disinfectants and briefly describe the applications of those named high level disinfectants. (20 marks)
 - 3.5. List **four** examples of hospital associated infections. (10 marks)
 - 3.6. Briefly describe the measures that are adopted to control the transmission of hospital associated infections. (30 marks)

- 4.
- 4.1. Outline the phases of bacterial growth curve. (10 marks)
 - 4.2. Briefly describe the infectious cycle of a virus with possible outcome/s. (25 marks)
 - 4.3. List **four** mechanisms of antibiotic resistance giving **one** example of an antibiotic for each mechanism listed. (20 marks)
 - 4.4. List **two** antiviral agents and indicate their mechanism of action. (10 marks)
 - 4.5. Briefly explain the microbiological laboratory techniques used in the diagnosis of infectious diseases. (35 marks)

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