



UNIVERSITY OF RUHUNA – FACULTY OF ALLIED HEALTH SCIENCES

DEPARTMENT OF PHARMACY

SECOND BPHARM PART I EXAMINATION – JANUARY/FEBRUARY 2023

PH 2153 PHARMACEUTICAL MICROBIOLOGY – SEQ

TIME: TWO HOURS

INSTRUCTIONS

- There are **four** parts as **Part A, B, C and D** in this paper.
- Answer all questions.
- No paper should be removed from the examination hall.
- Do not use any correction fluid.
- Use illustrations where necessary.

PART A

1.

- 1.1. Define the term “microbiological assay of antibiotics”. *(10 marks)*
- 1.2. Mention three types of viruses based on the infected host. *(15 marks)*
- 1.3. Briefly explain the diagnosis, mode of transmission and treatment choices of Varicella-Zoster Virus (VZV) infection. *(25 marks)*
- 1.4. List two types of vaccines used to provide immunity against infections. *(10 marks)*
- 1.5. Give the clinical classification of fungi. *(10 marks)*
- 1.6. Briefly explain the symptoms, preventive measures, diagnostic methods and treatment choices of vaginal candidiasis. *(30 marks)*

PART B

2.

- 2.1. Describe the working principle of the following instruments to eliminate microorganisms. *(30 marks)*
 - 2.1.1. Autoclave
 - 2.1.2. Hot air oven
 - 2.1.3. Biosafety cabinet
- 2.2. Classify the disinfectants giving examples. *(30 marks)*
- 2.3. Discuss the effective practices and procedures used for infection control in a health care setting. *(40 marks)*

3.

- 3.1. Compare and contrast the prokaryotic and eukaryotic cell. *(25 marks)*

PART C

- 3.2. State the difference between the bactericidal drugs and bacteriostatic drugs. (10 marks)
- 3.3. List four mechanisms of actions of antibiotics. (10 marks)
- 3.4. List four beta lactam antibiotics. (20 marks)
- 3.5. Briefly describe four precautions that should be considered during the antibiotic treatment. (20 marks)
- 3.6. List five resistance mechanisms of antibiotics. (15 marks)

PART D

- 4. "Sterility tests are required for preparations, substances and articles which are required to be sterile, according to the Pharmacopoeia"
 - 4.1. Name five pharmaceutical products which require the sterility testing. (10 marks)
 - 4.2. What are the two methods defined in Pharmacopoeia to perform sterility test for pharmaceutical products? (10 marks)
 - 4.3. Briefly describe one method you mentioned in 4.2. (20 marks)
 - 4.4. Explain the way of confirming the suitability of the medium used for sterility testing of pharmaceutical products. (25 marks)
 - 4.5.
 - 4.5.1. What is fermentation? Briefly explain. (10 marks)
 - 4.5.2. Write five pharmaceutical products that are produced using fermentation. (10 marks)
 - 4.5.3. Draw a diagram of a fermenter and label the main parts of it. (15 marks)

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