

UNIVERSITY OF JAFFNA, SRI LANKA
FACULTY OF ALLIED HEALTH SCIENCES
SECOND YEAR FIRST SEMESTER EXAMINATION IN BPharmHons-2023
PHAPM 2144 PHARMACEUTICAL MICROBIOLOGY

Date: 09. 12. 2024

Time: 03 hours

ANSWER ALL SIX QUESTIONS.

ANSWER PART A & B IN SEPARATE ANSWER BOOKS.

Part A

1.
 - 1.1 Name two (02) DNA viruses and two (02) RNA viruses. (10 Marks)
 - 1.2 List five (05) characteristics that differentiate viruses from other living organisms. (20 Marks)
 - 1.3 Describe the stages in one-step growth curve of viruses. (30 Marks)
 - 1.4 Briefly describe the potential clinical outcomes of a viral infection. (40 Marks)

2. Write an account on
 - 2.1 differential media. (30 Marks)
 - 2.2 dermatophytosis. (30 Marks)
 - 2.3 innate immunity. (40 Marks)

3.
 - 3.1 Name the intestinal parasites causing infections in human. (20 Marks)
 - 3.2 Name the parasite that causes itching in the anal area (pruritis) in human among the intestinal parasites mentioned in 3.1. (10 Marks)
 - 3.3 Briefly describe the diagnosis of the parasite mentioned in 3.2. (25 Marks)
 - 3.4 Briefly explain the difficulties in treating a patient infected with the parasite mentioned in 3.2 (20 Marks)
 - 3.5 Outline the prevention and control measures for the infections caused by the parasite mentioned in 3.2. (25 Marks)

Part B

4.

- 4.1 Mention the temperature and time requirement for the following heat sterilization methods.
- 4.1.1 Dry heat sterilization (05 Marks)
- 4.1.2 Tyndallisation (05 Marks)
- 4.2 Mention two (02) examples for the materials that can be sterilized using the
- 4.2.1 autoclave. (10 Marks)
- 4.2.2 ionizing radiation. (10 Marks)
- 4.3 List four (04) ideal properties of preservatives. (20 Marks)
- 4.4 List four (04) observable effects of microbial spoilage of pharmaceuticals with an example for each. (20 Marks)
- 4.5 Briefly describe the factors affecting the microbial spoilage of pharmaceuticals. (30 Marks)

5.

- 5.1 List five (05) types of vaccines with an example for each. (20 Marks)
- 5.2 Briefly explain herd immunity with regard to vaccination. (15 Marks)
- 5.3 List five (05) factors which affect the activity of biocides. (15 Marks)
- 5.4 Briefly describe the broth microdilution method which is used for evaluating the antimicrobial susceptibility of microorganisms. (25 Marks)
- 5.5 Briefly explain the role of a pharmacist in minimizing antimicrobial resistance. (25 Marks)

6.

- 6.1 Mention the reason for conducting the following pharmaceutical quality control tests.
- 6.1.1 Growth promotion test (10 Marks)
- 6.1.2 Antimicrobial preservative efficacy test (10 Marks)
- 6.1.3 Microbial enumeration test (10 Marks)
- 6.2 Mention the microorganisms and the standard growth media recommended for the growth promotion test. (20 Marks)
- 6.3 Briefly describe the limulus amebocyte lysate (LAL) assay which is used to assess the presence of endotoxins in pharmaceuticals. (25 Marks)
- 6.4 Briefly describe the membrane filtration method used for the microbial enumeration testing of pharmaceuticals. (25 Marks)