



UNIVERSITY OF RUHUNA – FACULTY OF MEDICINE

ALLIED HEALTH SCIENCES DEGREE PROGRAMME

SECOND BPHARM PART I EXAMINATION – JULY 2017

PH 2153 PHARMACEUTICAL MICROBIOLOGY (SEQ)

TIME: TWO HOURS

INSTRUCTIONS

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

1.

1.1. List the different classes of antifungal agents and give one example for each class.

(15 marks)

1.2. Briefly describe the mode of action of each class of antifungal agent listed in 1.1. above.

(30 marks)

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- 1.3. Briefly describe the spectrum of activity of each class of antifungal agent listed in 1.1. above. (15 marks)

(15 marks)

- 1.4. Outline the normal bacterial flora of the human body and discuss how the normal flora contributes to infection in the host. (40 marks)

(40 marks)

2.1 Outline the phases of bacterial growth curve. (20 marks)

2.2 List differences between a prokaryotic cell and an eukaryote cell. (20 marks)

2.3 Briefly explain the laboratory techniques used for the diagnosis of viral infections. (25 marks)

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2.4 Briefly explain the method of transporting an infectious material using the triple package?

(20 marks)

2.5 List indications to use antibiotics in combination giving examples?

(15 marks)

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3.1 List five factors contributing to the microbial spoilage of pharmaceutical products. (15 marks)

3.2 List **five** different preservatives commonly used in the pharmaceutical products. (15 marks)

3.3 Describe briefly, how to determine the minimum inhibitory concentration (MIC) of an antibiotic using broth dilution method. (25 marks)

3.4 State two disadvantages of broth dilution method. (10 marks)

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3.5 Write three types of pathogenic flagellates and name one species for each type. (18 marks)

3.6 What is the pharmacological treatment for acute, fulminating amoebiasis? (17 marks)

4.

4.1 List the steps involved in the fermentation process. (10 marks)

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4.2

4.2.1 List the characteristics of continuous (*Chemostat*) fermentors. (10 marks)

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4.2.2 Draw a diagram of a continuous (*Chemostat*) fermentor.

(10 marks)

4.3 List the characteristics of a Batch Fermentation System?

(10 marks)

4.4 List **five** antibiotics produced using fermentation method together with the corresponding microorganism.

(10 marks)

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4.5. List the **four** main methods of sterilization and state **two** articles sterilized by each method.

(24 marks)

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4.6 List **four** examples of hospital associated infections and state the mode of transmission of these infections.

(16 marks)

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4.7 Briefly describe how a pharmacist can contribute to minimize the spread of health care associated infections.

(10 marks)

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