

The Open University of Sri Lanka

Faculty of Health Sciences

Bachelor of Medical Laboratory Sciences (B.MLS)

MLU2345 – Systematic and Clinical Microbiology 1

Semester 02- Academic year 2015/2016

Final Examination

*Return your question papers with the answer sheets*

Date: 27. 07. 2016

Duration: 3 hours

Time: 09.30 a.m. - 12.30 p.m.

Index No:.....

Please read the following instructions carefully before you answer the paper.

Answer all the questions.

**Part A: Multiple Choice Questions (30 marks)**

There are thirty multiple choice questions in this paper, each question with four responses. Select the **best response** and put 'X' mark for the correct answer in the given answer sheet.

**Part B: Structured Essay Questions (40 marks)**

You are given four questions each question contains three parts. Answer all the questions in given answer sheets.

**Part C: Essay Questions (30 marks)**

There are two essay questions. Answer the questions in given answer sheets.

*Good Luck*

Index No : .....

**Part B: Structured Essay Questions (40 marks)**

1.

1.1. Define the term antibiotic. (2 marks)

1.2. Briefly explain the different ways of classifying antibacterial agents. (4 marks)

1.3. Discuss the advantages and disadvantages of Clinical Laboratory Standard Institute (CLSI) method and Comparative method (Stokes) in detecting antibiotic sensitivity. (4 marks)

2.

2.1. Explain how emergence of antimicrobial resistance is linked to the clinical or other use of that antimicrobial agent. (2 marks)

2.2. Briefly explain how microorganisms acquire genes related to antibiotic resistance. (4 marks)

2.3. Explain the mechanisms of resistance to beta lactam antibiotics. (4 marks)

3.

3.1. Briefly explain why influenza A virus is capable of causing epidemics and pandemics than the other types of influenza viruses. (3 marks)

3.2. Describe the pathogenesis of Rabies virus. (3 marks)

3.3. Briefly explain the stages of multiplication cycle of animal viruses. (4 marks)

4.

- 4.1. What is the preferable specimen for urine culture and state how you explain that collection procedure to a patient. (3 marks)
- 4.2. Briefly explain the sample storage guidelines for a urine specimen for culture and explain the importance of those in order to provide an accurate report. (4 marks)
- 4.3. Discuss why CLED medium is preferred for urine culture over other media. (3 marks)

**Part C: Essay Questions (30 marks)**

1. Meningitis is the Infection and inflammation of the meninges which needs immediate medical attention. What are the main specimens that should be collected from a patient suspected to have meningitis and explain the laboratory analytical procedure of these samples. (15 marks)
2. Write short notes on followings.
  - 2.1. Minimum Inhibitory Concentration (5 marks)
  - 2.2. Pulmonary tuberculosis (5 marks)
  - 2.3. Intravenous catheter culture (5 marks)