

UNIVERSITY OF JAFFNA
BACHELOR OF SCIENCE IN MEDICAL LABORATORY SCIENCES
SECOND YEAR FIRST SEMESTER EXAMINATION – SEPTEMBER 2018

MLSMM 2136 MEDICAL MICROBIOLOGY
PAPER II

Date: 22.09.2018

Time: 2 Hours

ANSWER ALL EIGHT QUESTIONS.

1.
 - 1.1. List **five (5)** the types of culture media used in bacteriology laboratory and giving example for each. **(30 Marks)**
 - 1.2. Write the ingredients and uses for any **three (3)** media you mentioned in 1.1. **(45 Marks)**
 - 1.3. Compare and contrast the cell wall of gram positive and gram negative bacteria. **(25 Marks)**

2.
 - 2.1. Name **three (3)** gram positive cocci which produce the enzyme catalase. **(15 marks)**
 - 2.2. List the infections caused by each bacteria you mentioned in 2.1. **(30 Marks)**
 - 2.3. Briefly describe how you would identify each bacteria you mentioned in 2.1 in a microbiology laboratory. **(45 Marks)**
 - 2.4. Name **two (2)** gram positive cocci which produce alpha haemolytic colonies in blood agar. **(10 Marks)**

3.
 - 3.1. Define the followings:
 - 3.1.1. Sterilization **(10 Marks)**
 - 3.1.2. Disinfection **(10 Marks)**
 - 3.1.3. Antiseptic **(10 Marks)**
 - 3.2. State the sterilization protocols (time and temperature) used in the following methods and mention **two (2)** items which could be sterilized by each method.
 - 3.2.1. Dry heat sterilization **(15 Marks)**
 - 3.2.2. Incineration **(15 Marks)**
 - 3.3. Name **two (2)** disinfectants used in clinical laboratories. **(10 marks)**
 - 3.4. Write an account on moist heat sterilization. **(30 marks)**

- 4.
- 4.1. List **two (2)** non fermenting bacteria other than pseudomonas. (10 Marks)
- 4.2. List the infections caused by *Pseudomonas aeruginosa*. (20 Marks)
- 4.3. Describe how you would identify *Pseudomonas aeruginosa* in a microbiology laboratory. (40 Marks)
- 4.4. Briefly describe how to prevent pseudomonas infection in hospitals. (30 marks)

- 5.
- Write short notes on
- 5.1. Enteric fever. (40 Marks)
- 5.2. Antibiotic Sensitivity test using disc diffusion method. (60 Marks)

- 6.
- 6.1. List **Five (5)** anaerobic bacteria which cause gas gangrene. (20 marks)
- 6.2. Briefly describe the pathogenesis of gas gangrene. (40 Marks)
- 6.3. Briefly write on *Corynebacterium diphtheriae*. (40 Marks)

- 7.
- 7.1. List **three (3)** pathogens belong to enterobacteriaceae which are commonly isolated from fecaes. (15 Marks)
- 7.2. Briefly explain the possible changes you would observe on TSI agar when culturing the pathogens you mentioned in 7.1. (45 marks)
- 7.4. Write on *Helicobacter pylori* (40 Marks)

- 8.
- Write the principle of the following biochemical tests and name one positive and negative bacteria for the following each test.
- 8.1. MR and VP test (25 Marks)
- 8.2. Citrate utilization test (25 Marks)
- 8.3. Indole test (25 Marks)
- 8.4. Urease test (25 Marks)
