

**UNIVERSITY OF JAFFNA, SRI LANKA**  
**BACHELOR OF SCIENCE IN MEDICAL LABORATORY SCIENCES**  
**FOURTH YEAR FIRST SEMESTER EXAMINATION – FEBRUARY 2018**  
**MLSCM 4125 CLINICAL MICROBIOLOGY**

**Date: 19.02.2018**

**Time: 3 hours**

**ANSWER ALL SIX QUESTIONS.**

1. A stool sample of an eight year old child with diarrhea is received for culture and ABST.
  - 1.1 Name three (03) bacteria that can be isolated from this specimen. (15 marks)
  - 1.2 Name the culture media routinely used in Sri Lanka to isolate the bacteria in stool samples and describe briefly the significance of each culture media in identifying stool pathogens. (20 marks)
  - 1.3 Name the biochemical tests used to identify the bacteria in stool samples. (20 marks)
  - 1.4 Describe how you would identify the bacteria mentioned in 1.1 in a microbiology laboratory. (45 marks)
  
2.
  - 2.1 Name the two (02) disc diffusion methods used in antibiotic susceptibility testing. (10 marks)
  - 2.2 Describe how to perform the disc diffusion methods mentioned in 2.1. (60 marks)
  - 2.3 Write notes on minimum inhibitory concentration (MIC). (30 marks)
  
3. Write notes on
  - 3.1 AFB staining method. (40 marks)
  - 3.2 selective media. (30 marks)
  - 3.3 ~~M~~ and V factor testing. (30 marks)

4. Urine specimen from a 45 year old female patient with recurrent urinary tract infection is received for microbiological investigation.
- 4.1 Name four (04) bacteria that cause urinary tract infection. (10 marks)
- 4.2 Describe briefly how to collect and transport urine specimen for culture. (30 marks)
- 4.3 Describe how you would process a urine specimen in the microbiology laboratory. (30 marks)
- 4.4 Describe briefly how you would identify any two (02) bacteria you mentioned in 4.1. (30 marks)
5. A pus sample is received for anaerobic culture.
- 5.1 Name three (03) specimens **other than** pus received in microbiology laboratories for anaerobic culture. (15 marks)
- 5.2 Name three (03) anaerobic bacteria that can be isolated from pus sample. (15 marks)
- 5.3 Name five (05) culture media used to isolate anaerobes. (10 marks)
- 5.4 Describe briefly the two (02) culture methods used to isolate anaerobic bacteria. (30 marks)
- 5.5 Write notes on Nagler's reaction. (30 marks)
6. A cerebrospinal fluid sample from a four year old child is received for microbiological investigation.
- 6.1 Name three (03) bacteria which can be isolated from this specimen in this child. (15 marks)
- 6.2 Describe how you would process this sample in the laboratory. (25 marks)
- 6.3 Describe how you would identify the pathogens you mentioned in 6.1. (60 marks)