

THE OPEN UNIVERSITY OF SRI LANKA
FACULTY OF HEALTH SCIENCES
DEPARTMENT OF MEDICAL LABORATORY SCIENCES
ACADEMIC YEAR 2019/2020 – SEMESTER II



BACHELOR OF MEDICAL LABORATORY SCIENCES HONOURS
MDU4302- DIAGNOSTIC BACTERIOLOGY
FINAL EXAMINATION

DURATION: THREE HOURS

DATE: 07/05/2021

TIME: 9.30 AM – 12.30 PM

INDEX NO:

IMPORTANT INSTRUCTIONS/INFORMATION TO CANDIDATES

- This question paper consists of **12 pages** with **30 Multiple Choice Questions (Part A)** and **04 Structured Essay Questions (Part B)** and **02 Essay Questions (Part C)**.
- Write your **Index Number** in the space provided.
- Answer **ALL** questions.
- **Multiple Choice Questions (Part A)**: Indicate answers in the answer sheet provided by placing a cross (X) in **INK** in the relevant cage. (answers in pencil will **NOT** be marked)
- **Structured Essay Questions (Part B)**: Write answers within the space provided.
- **Essay Questions (Part C)**: Write the answer on the provided papers.
- Do not take out any page/part of this question paper from the examination hall.
- Mobile phones and any other electronic equipment are **NOT** allowed. Leave them outside.

Index No.....

Part B: Structured Essay Questions (40 marks)

Q1

A 25 year old female presented to the sexually transmitted infection control clinic with a vaginal discharge.

1.1 What is the ideal specimen to be collected for laboratory diagnosis of gonococcal vulvo-vaginitis? **(1 mark)**

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1.2 How do you transport the specimen mentioned in 1.1 for microbiological investigations? **(2 marks)**

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1.3 List the steps in the processing of the above-mentioned specimen (1.1) in the Microbiology laboratory? **(5 marks)**

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[illegible][illegible]

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Index No.....

Q2

A 26-year-old woman developed abdominal bloating, intestinal gurgling and nausea. She was having profuse watery diarrhea occurring hourly. The causative agent was identified as *Vibrio cholerae*.

2.1 What is the mechanism of transmission of *Vibrio cholerae*? (1 mark)

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2.2 What is the correct specimen for bacteriological investigation? (1 mark)

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2.3 Briefly explain the method of specimen collection. (2 marks)

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2.4 How do you transport and store the above-collected specimen if the processing is delayed? (2 marks)

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2.5 List **one (01)** primary media and **one (01)** enrichment medium used for inoculation of above collected specimen. (2 marks)

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2.6 What is the reagent used for the string test? (2 marks)

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Total – 10 marks

Index No.....

Q3

3.1 What is “Tuberculous meningitis”? (1 mark)

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3.2 What is the best clinical specimen to be used for isolation, identification, and characterization of the etiological agent of tuberculous meningitis? (2 marks)

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3.3 How do you store the specimens, mentioned in 3.2 if the transportation is delayed?
(2 marks)

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3.4 If the specimen collected for microbiological investigations is < 1ml, how do you process the specimen? **(5 marks)**

[illegible]

Index No.....

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Total - 10 marks

Q4

4.1 Classify antibiotics based on the mechanism of action on bacterial cells? **(2.5 marks)**

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4.2 List **two (02)** bactericidal and **two (02)** bacteriostatic antimicrobial agents. **(2 marks)**

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Index No.....

4.3 Briefly explain the principle of the epsilometer test.

(5.5 marks)

[illegible]

Total – 10 Marks

Part C: Essay Questions (30 marks)

1. Some bacterial species are intrinsically resistant to some beta-lactam antibiotics. Explain.
(15 marks)
2. A specimen of sputum from a 55-year-old patient suspected of having typical pneumonia is received in the microbiology laboratory. How would you microscopically differentiate whether the specimen is suitable for culturing?
(15 marks)

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