

**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

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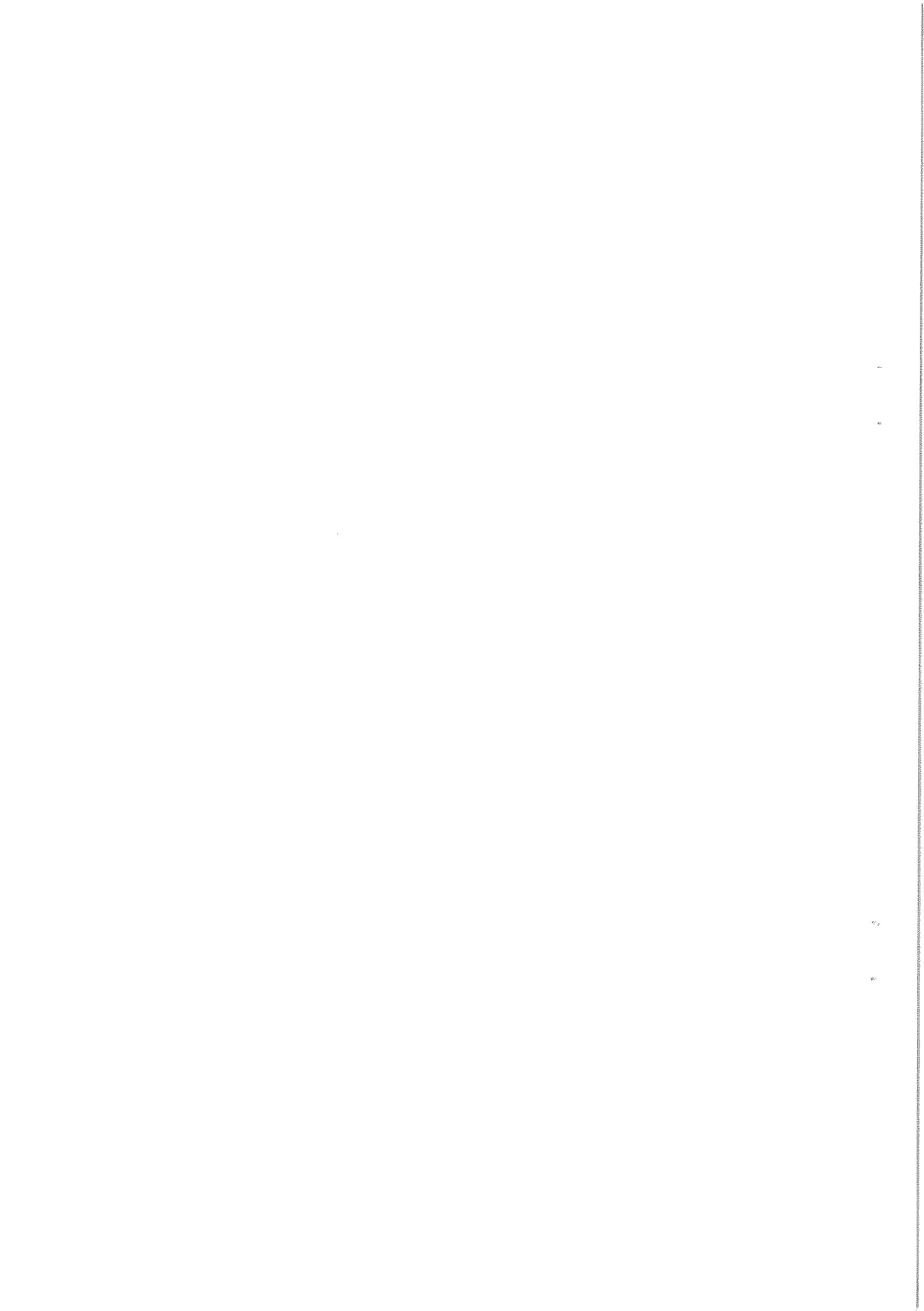
- 1.2** How do you transport the specimen mentioned in 1.1 for microbiological investigations? (2 marks)

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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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Index No.....

1.4 If the direct smear made from the above mentioned specimen (1.1) is positive, how do you interpret its results? **(2 marks)**

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Total – 10 marks

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)

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Index No.....

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 epsilonometer test. (5.5 marks)

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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