THE OPEN UNIVERSITY OF SRI LANKA
FACULTY OF HEALTH SCIENCES
DEPARTMENT OF MEDICAL LABORATORY SCIENCES
ACADEMIC YEAR 2024/2025 – SEMESTER I

EXAMINATION DIVISION

BACHELOR OF MEDICAL LABORATORY SCIENCES HONOURS
MDU6302 – PUBLIC HEALTH MICROBIOLOGY – LEVEL 6
FINAL EXAMINATION **DURATION: 03 HOURS**

DATE: 14TH MAY 2025 TIME: 01.30PM –04.30PM

PART B – Structured Essay Questions (40 Marks)

Q1. Waterborne diseases are infections caused by pathogens spread through contaminated water.

1.1 State the significance of detecting coliforms in water. (02 Marks)

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1.2 State the difference between the "total coliform count" and the "fecal coliform count" in water quality testing? (03 Marks)

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1.3 Briefly explain the key water treatment methods used to prevent waterborne infections. (05 Marks)

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Q2. Dengue fever is a vector borne disease prevalent in tropical and subtropical regions.

2.1 Define the term "Vector borne disease". (02 Marks)

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2.2 Mention **two (02)** primary vectors responsible for the transmission of the dengue virus.

(02 Marks)

i. .....

ii. .....

2.3 Briefly discuss the effective vector control strategies to prevent dengue fever in Sri Lanka.

(04 Marks)

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2.4 State **one (01)** of challenges that you would face in implementing vector control strategies for dengue prevention in Sri Lanka. (02 Marks)

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(Total: 10 Marks)

INDEX NO: .....

Q3. Numerous viruses are spread through particles suspended in the air.

3.1 Name the main causative agent for common cold. (01 Mark)

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3.2 List the **three (03)** types of influenza viruses. (03 Marks)

i. .....

ii. .....

iii. .....

3.3 Which influenza virus type infects only humans? (01 Mark)

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3.4 Briefly describe the difference between antigenic drift and antigenic shift in influenza viruses. (05 Marks)

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(Total: 10 Marks)

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Q4. Numerous foodborne pathogens are implicated in the onset of acute gastroenteritis, whereas certain pathogens can induce illnesses affecting other organ systems following the consumption of contaminated food.

4.1 Name **two (02)** bacterial foodborne pathogens that cause non-gastrointestinal illnesses and provide an example of a disease caused by each. (04 Marks)

Bacterial Pathogen	Disease
1.	
2.	

4.2 List **three (03)** reasons contributing to the global increase in foodborne infections.

(03 Marks)

i. .....

ii. .....

iii. .....

4.3 Describe **three (03)** key strategies to prevent foodborne illnesses. (03 Marks)

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(Total: 10 Marks)

PART C – Essay Questions (30 Marks)

1. Compare and contrast the roles of a "Public Health Microbiology Laboratory" and a "Medical Microbiology Laboratory" in terms of their scope, objectives, and applications. (15 Marks)

2. Discuss the various water testing methods available in Sri Lanka for assessing microbial quality and safety, highlighting their significance in public health and the challenges associated with their implementation. (15 Marks)

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