BACHELOR OF MEDICAL LABORATORY SCIENCES HONOURS
MDU6302 – PUBLIC HEALTH MICROBIOLOGY – LEVEL 6
FINAL EXAMINATION
INDEX NO: ....

PART B – Structured Essay Questions (40 Marks)

1. Many of the foodborne pathogens are responsible for acute gastroenteritis while some may cause non-gastrointestinal illnesses following the ingestion via foods.

1.1 State four (04) foodborne pathogens that cause non-gastrointestinal illnesses along with an example disease caused by each pathogen.

(02 marks)

Foodborne pathogen	Non-gastrointestinal illnesses
i.	
ii.	
iii.	
iv.	
v.	

1.2 Briefly explain three (03) different ways of transmission of *Salmonellosis* to human.

(04 marks)

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1.3 With the recent change of population needs and global food market, there is an increased risk of spread of foodborne pathogens worldwide. State (04) reasons for this increased trend.

(04 marks)

i. ....
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ii. ....
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iii. ....
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iv. ....
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(Total: 10 Marks)

2. Total coliforms and faecal coliforms are traditionally being used as indicator of water quality.

2.1 What are total coliforms and fecal coliforms? (04 marks)

Total coliforms

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Fecal coliforms

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2.2 Briefly explain why total coliforms is not a very good measure of fecal contamination of water.

(02 marks)

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2.3 Compare the advantages and disadvantages of most probable number (MPN) method over filtration techniques used in microbial analysis of water.

(04 marks)

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(Total: 10 Marks)

3. The Centre for Disease Control and Prevention, USA (CDC) maintains a list of possible and probable bioterrorism agents which are grouped by category A, B, and C.

3.1 What is a biological warfare? (02 marks)

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3.2 Mention two (02) example bacterial and viral pathogens that are categorized under each bioterrorism threat level (A, B and C). (03 marks)

	Category A	Category B	Category C
Bacterial agents	1.	1.	1.
	2.	2.	2.
Viral agents	1.	1.	1.
	2.	2.	2.

3.3 Briefly outline three (03) key features of category A bioterrorism agents. (05 marks)

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(Total: 10 Marks)

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4.1 What are the observational studies in the context of epidemiological studies?   (02 marks)

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4.2 Give four (04) examples study methods for observational studies.   (02 marks)

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4.3 Outline how a passive surveillance differs from an active surveillance.

(06 marks)

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(Total: 10 Marks)

PART C – Essay Questions (30 marks)

1. Discuss different means of transmission of SARS-CoV-2 virus in community.

(15 marks)

2. Discuss the importance of new molecular based laboratory testing methods in relation to the food poisoning outbreaks. Include limitations of currently practice methods and how new molecular techniques are important to overcome these limitations.

(15 marks)