



06

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

BACHELOR OF MEDICAL LABORATORY SCIENCES HONOURS
MDU6302 – PUBLIC HEALTH MICROBIOLOGY
NO BOOK TEST

DURATION: 1 1/2 HOURS

DATE: 19TH FEBRUARY 2020

TIME: 9.00AM – 10.30AM

REGISTRATION NO:

IMPORTANT INSTRUCTIONS/ INFORMATION TO CANDIDATES

- This question paper consists of **10 pages** with **10 Multiple Choice Questions (Part A)**, **04 Structured Essay Questions (Part B)** and **01 Essay Question (Part C)**.
- Write your Registration Number in the space provided.
- Answer **ALL** questions.
- **Multiple Choice Questions (Part A)**: Indicate the best answer for each question, 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 Question (Part C)**: Write the answer in the booklet provided.
- Do not remove any page/part of this question paper from the examination hall.
- Mobile phones and any other electronic equipment are **NOT** allowed. Leave them outside.

REGISTRATION NO:

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PART A – Multiple Choice Questions (10 Marks)

1. Infectious dose of an organism is
 - (a) the number of organism need colonize the site.
 - (b) dependent on the route of entry.
 - (c) dependent on the mode of transmission.
 - (d) varied among the strains of same species.

2. Which of the following is a cause of water-borne diseases in human?
 - (a) *Cryptosporidium*
 - (b) Group B *Streptococcus*
 - (c) Hepatitis A virus
 - (d) Coronavirus

3. Which of the following is a cause of water-borne non-gastrointestinal disease?
 - (a) Enteroviruses
 - (b) Poliovirus
 - (c) Norovirus
 - (d) Adenoviruses

4. Which one of the following organisms is responsible for food-borne illness?
 - (a) *Listeria monocytogenes*
 - (b) Group A *Streptococcus*
 - (c) *Corynebacterium diphtheriae*
 - (d) Coronavirus

5. Which one of the following is most true regarding the *Staphylococcus aureus* food poisoning?
 - (a) It is caused by the ingestion of preformed heat-stable *S. aureus* enterotoxins.
 - (b) It cannot be prevented by safe food handling practices.
 - (c) Enterotoxin B is the commonest cause of *S. aureus* food poisoning.
 - (d) Transient colonization of *S. aureus* is not common in general population.

6. Which one of the following is most true regarding *Escherichia coli* associated food-borne illness?
 - (a) *E. coli* is not a commensal of the gastrointestinal tract.
 - (b) Enteropathogenic *E. coli* is a leading cause of travelers' diarrhea.
 - (c) Enteroinvasive *E. coli* produces dysentery like diarrhoea identical to that produced by *Shigella spp.*
 - (d) Verotoxin-producing *E. coli* is a subtype of Shigatoxin-producing *E. coli*.

7. Which of the following is true regarding food-borne infections caused by norovirus?
- (a) The infective dose of norovirus as few as 18 virus particles.
 - (b) Infected food handlers have not been implicated as the source of the outbreaks.
 - (c) Cleaning surfaces with an antiviral disinfectant is not a useful measure to prevent norovirus transmission.
 - (d) A vaccine is available against norovirus.
8. Which one of the following is true regarding food-borne viral infections?
- (a) There is no rotavirus vaccine.
 - (b) Rota virus is the commonest cause of childhood diarrhea.
 - (c) Vaccination does not provide protective immunity against hepatitis A virus.
 - (d) Hepatitis B virus is transmitted through food.
9. Which one of the following is true regarding air borne infections?
- (a) Bacteria are the commonest cause of airborne diseases.
 - (b) Air borne viral pathogens are not transmitted via hand-nose transmission.
 - (c) High incidence of legionellosis is associated with heavy smokers and alcoholics
 - (d) Central air conditioning is not associated with legionellosis.
10. Which one of the following is true regarding vaccines against air borne bacterial infections?
- (a) BCG vaccine is effective against milliary tuberculosis and tuberculosis meningitis.
 - (b) BCG is a killed whole cell vaccine.
 - (c) *Bordetella pertussis* vaccine confer a lifelong protection.
 - (d) Vaccination prevents the circulation of *B. pertussis* in the population.

PART B – Structured Essay Questions (80 Marks)

1.0

1.1 What is the aim of the Public Health? (05 marks)

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1.2 List the five (05) core areas of Public Health? (05 marks)

I.....
II.....
III.....
IV.....
V.....

1.3 Briefly describe how state Public Health Microbiology Laboratories are differed from Clinical Microbiology Laboratories. (10 marks)

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(Total: 20 Marks)

REGISTRATION NO:

2.0

2.1 State the four (04) different ways in which food-borne infections can present clinically. (04 marks)

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2.2 State the preventive measures of food-borne infections. (6 marks)

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2.3 What are the vaccines used to prevent food and water-borne infections. (5 Marks)

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2.4 What are the parameters use to detect bacteriological quality of water? (5 Marks)

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(Total: 20 Marks)

3.0

3.1 Explain why foodborne infections are so common in both the developed as well as the under-developed world. (10 marks)

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3.2 Write how does *Staphylococcus aureus* produce food poisoning. (05 marks)

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REGISTRATION NO:

3.3 How do you prevent *S. aureus* food poisoning? (5 Marks)

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(Total: 20 Marks)

4.0

4.1 Briefly describe five (05) factors affecting quality of food. (15 marks)

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4.2 List five (05) factors affecting microbial growth in food.

(05 marks)

- I.....
- II.....
- III.....
- IV.....
- V.....

(Total: 20 Marks)

PART C – Essay Questions (10 marks)

1. Write an essay on recent coronavirus infection.

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ANSWER SHEET FOR PART A

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4.

a	b	c	d
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5.

a	b	c	d
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6.

a	b	c	d
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7.

a	b	c	d
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8.

a	b	c	d
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9.

a	b	c	d
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10.

a	b	c	d
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