



UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER II
SESSION 2023/2024**

- COURSE NAME : MICROBIOLOGY
- COURSE CODE : DAS 26503
- PROGRAMME CODE : DAU
- EXAMINATION DATE : JULY 2024
- DURATION : 2 HOURS AND 30 MINUTES
- INSTRUCTIONS :
1. ANSWER ALL QUESTIONS
 2. THIS FINAL EXAMINATION IS CONDUCTED VIA
 - Open book
 - Closed book
 3. STUDENTS ARE **PROHIBITED** TO CONSULT THEIR OWN MATERIAL OR ANY EXTERNAL RESOURCES DURING THE EXAMINATION CONDUCTED VIA CLOSED BOOK

THIS QUESTION PAPER CONSISTS OF FOUR (4) PAGES

PART A

- Q1** (a) Spontaneous generation theory has remained a principal belief for thousands of years.
- (i) State the name of the Microbiologist who introduced the theory.
(1 mark)
 - (ii) Describe the theory.
(2 marks)
 - (iii) Give the hypothesis of John Needham and Lazzaro Spallanzi's experiment to show spontaneous generation in both media.
(2 marks)
 - (iv) State the scientist who solved John Needham and Lazzaro Spallanzi's argument.
(1 mark)
- (b) (i) State the name of the scientist who discovers antibiotics.
(1 mark)
- (ii) Describe how antibiotics were discovered.
(4 marks)
 - (iii) Differentiate between antibiotics and synthetic drugs.
(2 marks)
- (c) (i) Describe taxonomy and its purpose.
(2 marks)
- (ii) List all domains of life and provide types of organisms found in each domain.
(6 marks)
 - (iii) List four (4) characteristics used in classified microbes.
(4 marks)

- Q2** (a) Most of the microorganisms in the world are bacteria.
- (i) State the type of cells in bacteria. (1 mark)
 - (ii) List and sketch all basic shapes of bacteria. (3 marks)
- (b) Some bacteria can live in extreme conditions. List all groups of bacteria and state the environmental conditions of their growth. (3 marks)
- (c) List all nutritional groups of organisms and specify their energy and carbon sources. (12 marks)
- (d) Differentiate the effect of oxygen on the growth of obligate aerobe and facultative anaerobe by explaining the growth pattern in deep agar media. (6 marks)
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- Q3** (a) (i) Sketch and label the basic structure of fungi. (3 marks)
- (ii) Discuss four (4) characteristics of the main body that make up most fungi. (4 marks)
 - (iii) Describe the process by which fungi obtain nutrition. (3 marks)
- (b) Protists is a diverse group of organisms that do not form a clade because of various nutritional modes. Explain all type of nutritional modes in protists. (3 marks)
- (c) (i) Explain the reasons why the virus is not categorized as an organisms. (6 marks)
- (ii) Sketch a virus structure and show all its components with its function. (6 marks)

- Q4** (a) The Centers for Disease Control and Prevention (CDC) protects public health through disease control and prevention by providing evidence-based guidelines and recommendations for infection control and prevention. List seven (7) CDC guidelines and their purpose. (14 marks)
- (b) (i) Define infections. (1 marks)
- (ii) Explain all steps of wound infection. (8 marks)
- (iii) Differentiate between acute and chronic infection. (2 marks)

- END OF QUESTIONS -

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