

THE OPEN UNIVERSITY OF SRI LANKA
FACULTY OF HEALTH SCIENCES
DEPARTMENT OF MEDICAL LABORATORY SCIENCES
ACADEMIC YEAR 2023/2024 – SEMESTER II



BACHELOR OF MEDICAL LABORATORY SCIENCES HONOURS

MDU5202 – VECTOR BORNE DISEASES

FINAL EXAMINATION

DURATION: 02 HOURS

DATE: 22nd October 2024

TIME: 9.30 AM – 11.30 AM

INDEX NO:

Part B: Structured Essay Questions (60 marks)

Q1. A study was conducted in a rural region endemic to Lymphatic Filariasis to evaluate the presence of microfilariae in blood samples taken from infected individuals at different times of the day. Blood samples were collected at 4-hour intervals (12 AM, 4 AM, 8 AM, 12 PM, 4 PM, 8 PM), and the number of microfilariae per microliter of blood was recorded. The following graph shows the results of the study.

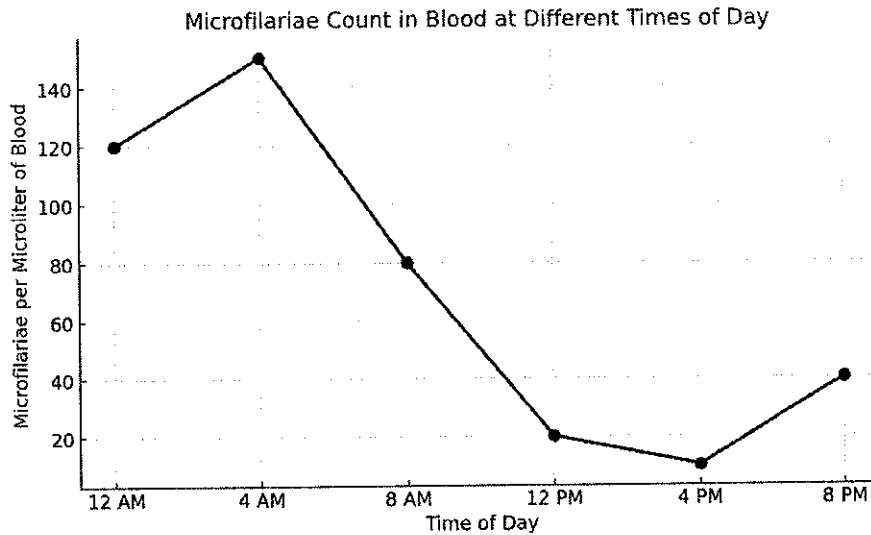


Figure 1

1.1 List three (03) vector species responsible for the transmission of Lymphatic Filariasis.

(03 Marks)

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1.2 State two (02) conclusions you can make from the above graph (Figure 1)

(04 Marks)

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1.3 List five (05) biological factors which affect transmission of lymphatic filariasis.

(05 Marks)

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1.4 List two (02) key morphological differences between the adult worms of *Wuchereria bancrofti* and *Brugia malayi*. (08 Marks)

<i>Wuchereria bancrofti</i>	<i>Brugia malayi</i>

(Total 20 marks)

Q2. A researcher in a rural village in West Africa notices high prevalence of disfiguring skin conditions among villagers. The villagers complain of severe itching, skin rashes, and skin nodules. The researcher suspects a parasitic infection transmitted by the black fly.

2.1. List three (03) diagnostic methods used to confirm onchocerciasis. (03 Marks)

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2.2 List three (03) morphological features of the black fly. (03 Marks)

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2.3 State two (02) methods used to control the vector of onchocerciasis. (04 Marks)

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2.4 Describe the lifecycle of the parasite responsible for onchocerciasis inside the human host.
(10 Marks)

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(Total 20 marks)

Q3. Ectoparasites such as lice, bugs and ticks play a significant role in the transmission of various diseases affecting humans.

3.1 List two (02) diseases transmitted by lice. (03 Marks)

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3.2 List three (03) main species of lice with their respective sites of living. (03 Marks)

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3.3 Briefly describe two (02) adaptations of the blood feeding vectors which facilitate feeding on their vertebrate hosts. (06 Marks)

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3.4 State two morphological differences between soft and hard ticks in the table below. (08 Marks)

Soft tick	Hard tick

(Total 20 marks)

Part C: Essay Question. (20 marks)

Q1. Discuss the laboratory diagnosis of the three main types of Leishmaniasis.

(Total 20 Marks)

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