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THE OPEN UNIVERSITY OF
SRI LANKA

14 MAY 2025

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THE OPEN UNIVERSITY OF SRI LANKA
EXAMINATION DIVISION
FACULTY OF HEALTH SCIENCES



DEPARTMENT OF MEDICAL LABORATORY SCIENCES

ACADEMIC YEAR 2024/2025 – SEMESTER I

BACHELOR OF MEDICAL LABORATORY SCIENCES HONOURS

MDU4406 – HISTOPATHOLOGY

FINAL EXAMINATION

DURATION: 03 HOURS

DATE: 14th May 2025

TIME: 9.30 AM – 12.30 PM

Part B: Structured Essay Questions (40 marks)

Q1 Tissue processing and embedding.

1.1 Briefly explain the fixation of tissue of the ‘colon’. (02 Marks)

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1.2 List the stages of tissue processing. (1.5 Marks)

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1.3 Mention five (04) factors influencing the rate of tissue processing. (02 Marks)

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1.4 Describe the tissue carryover at the following stages. (4.5 Marks)

Grossing	1. 2.
Tissue Processing	1. 2.
Embedding	1. 2.

(Total 10 marks)

Q2. Microtomy is the process of cutting thin sections of tissue for microscopic examination using a microtome.

2.1. Mention four (04) types of microtomes used in diagnostic pathology. (01 Marks)

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2.2 What are the other equipment required in paraffin section cutting? (02 Marks)

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2.3 Mention five (05) occasions when sections may detach from the slide. (2.5 Marks)

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2.4. Give the reasons (02) and the solutions (02) for the following problems encountered with paraffin sectioning. (4.5 Marks)

Problem	Reason	Solution
Thick and thin sections	1. 2.	1. 2.
Ribbons of section curved	1. 2.	1. 2.
Sections expand or disintegrate in water bath	1. 2.	1. 2.

(Total 10 marks)

Q3. Haemotoxylene and Eosin stain are the gold standard in staining.

3.1 Mention four (04) problems that may arise during the tissue staining procedure. (02 Marks)

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3.2 Complete the following table (03 Marks)

Connective tissue/Object	Name of the stain	Results
Collagen		
Reticulin		
Fungi		

3.3 a) Mucin and Glycogen are two substances mainly found in tissue. What is the staining used for demonstrating these two substances? (3.5 Marks)

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b) How do you differentiate one from the other substance which mentioned the above 3.3 a?

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c) Give three other substances could be stained by this stain.

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3.4. When analysis of the H & E slides prepared from liver biopsy, pathologists noticed that golden brown granules were present in macrophages. (1.5 Marks)

a) What is this substance?

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b) What is the special stain you can use to confirm?

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(Total 10 marks)

Q4. Immunohistochemistry is a form of immunostaining.

4.1 List two (02) uses of 'Immunohistochemistry'. (01 Marks)

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4.2 Immunohistochemistry is a better technique than 'Immunofluorescence'. Discuss the above statement giving four (04) reasons. (04 Marks)

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4.3 Mention two (02) main techniques to use antigen retrieval of unmasked antigens in Immunohistochemistry. (02 Marks)

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4.4. Write three (03) reasons for giving background staining in Immunohistochemistry. (03 Marks)

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(Total 10 Marks)

Part C: Essay Question. (30 marks)

Question 01

How does improper embedding affect histological section quality? (15 Marks)

Question 02

Describe the 'decalcification' in the histopathology laboratory. (15 Marks)

(Total 30 Marks)

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