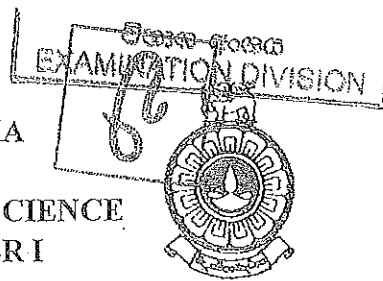


THE OPEN UNIVERSITY OF SRI LANKA
FACULTY OF HEALTH SCIENCES
DEPARTMENT OF MEDICAL LABORATORY SCIENCE
ACADEMIC YEAR 2022/2023 – SEMESTER I



BACHELOR OF MEDICAL LABORATORY SCIENCES HONOURS
MDU4406 – HISTOPATHOLOGY
FINAL EXAMINATION **DURATION: 03 HOURS**

DATE: 15th MARCH 2023

TIME: 01.30 PM – 04.30 PM

Part B: Structured Essay Questions (40 marks)

Q1: Skeletal muscle biopsy sample has been sent to the laboratory in 10% neutral buffered Formalin.

1.1 State a precautionary measure that should be taken in order to avoid contraction of skeletal muscle biopsy while fixing it in 10% neutral buffered formalin. (01 Mark)

.....

.....

1.2 Name the collagenous supporting tissues covering following structures, in a cross section of a haematoxylin and eosin (H& E) stained skeletal muscle. (02 Marks)

Skeletal muscle structure	Collagenous supporting tissue covering
Individual muscle fibre,
Each fascicle

1.3 List three (03) characteristic histological features of a longitudinal section of a skeletal muscle fibre stained with H&E. (03 Marks)

I.....

II.....

III.....

1.4 Illustrate the indirect immunohistochemistry staining technique used to identify sarcolemmal membrane associated protein in the skeletal muscle biopsy. (04 Marks)

INDEX NUMBER.....

Q2: Grossing and tissue embedding are two histotechniques practiced in the Histopathology laboratory.

2.1 State four (04) techniques available in grossing practice to secure small biopsies before transferring to tissue cassette for processing and one (01) drawback of each technique. (04 Marks)

	Technique	Drawback
I.		
II		
III		
IV		

2.2 How would you orient the following tissue samples in moulds during tissue embedding? (06 Marks)

	Tissue	Orientation
I	Tubular structures	
II	Skin biopsies	
III	Muscle biopsies	

(Total 10 marks)

Q3: Technical faults and other issues may arise during histology specimen preparation.

3.1 State one (01) measure that is taken during the appropriate histotechnique to avoid/ rectify each issue given below. (10 Marks)

Issue	Measure to avoid /rectify the issue
Moth-hole artefact	
Unexpected mineral deposits in tissue during paraffin sectioning	
Formalin pigment	
Mercury pigment	
Presence of endogenous peroxidase in the tissue on which Immunohistochemistry is to be carried out using peroxidase enzyme	

(Total 10 marks)

INDEX NUMBER.....

Q4: Renal biopsies are essential for the diagnosis and the assessment of renal diseases.

4.1 List the four (04) main compartments that are assessed during the histopathological evaluation of renal biopsies. (02 Marks)

I.....

II.....

III.....

IV.....

4.2 List four (04) main regions in the renal tubule? (02 Marks)

I.....

II.....

III.....

IV.....

4.3 Illustrate the glomerulus and the bowman's capsule. (06 Marks)

(Total 10 marks)

