

DEPARTMENT OF MEDICAL LABORATORY SCIENCES
ACADEMIC YEAR 2020/2021 – SEMESTER I

BACHELOR OF MEDICAL LABORATORY SCIENCES HONOURS
MDU4406 – HISTOPATHOLOGY
FINAL EXAMINATION

DURATION: THREE HOURS

DATE: 11th MARCH 2022

TIME: 09:30 AM – 12.30 PM

Part B: Structured Essay Questions (40 marks)

Question: 1

1.1 Answer the following with regard to immunohistochemistry (IHC) techniques.

a) List three (03) main types of controls used in IHC. (01 mark)

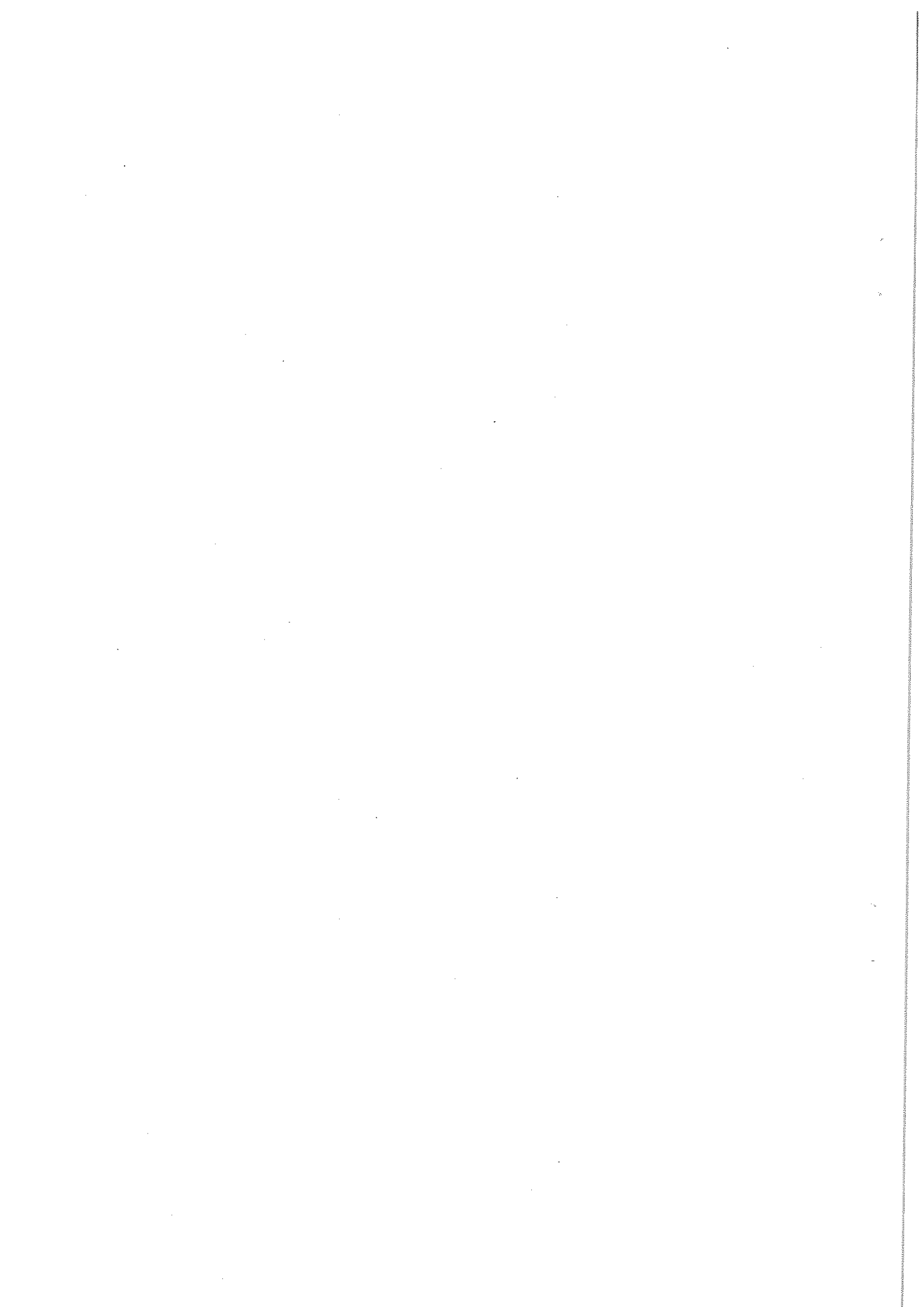
- 1.....
- 2.....
- 3.....

b) List two (02) antigen retrieval methods giving one example for each. (02 marks)

Antigen retrieval method	Example
1.....
2.....

1.2 Give two (02) drawbacks of using frozen sections in IHC (01 mark)

- 1.....
.....
- 2.....
.....



INDEX NO:

1.3 Draw labeled diagrams, give one (01) advantage and one (01) disadvantage for each method given below (06 marks)

Immunohistochemical method	Labeled diagram	Advantage	Disadvantage
New direct technique (enhanced polymer one step staining method)			
Polymer chain two step indirect technique			

(TOTAL 10 MARKS)

Question: 2




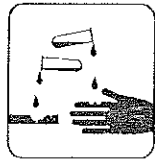
2.1 What are the three (03) main types of hazards in histopathology laboratory (1.5 marks)

1.....

2.....

3.....

2.2 Identify the hazard warning signs given below (02 marks)

Sign	Label
	
	
	
	

INDEX NO:

2.3 List three (03) precautionary measures to be taken while storing chemicals in a histopathology laboratory (1.5 marks)

- 1.
- 2.
- 3.

2.4. A Medical Laboratory Technologist has noticed, a fragment of uterine tissue of a patient who has undergone removal of bladder tumour for cancer while examining prepared slides for staining adequacy. State how you would investigate the problem giving suitable remedial measures. (05 marks)

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

(TOTAL 10 MARKS)

Question: 3

3.1 List one (01) cause and one (01) corrective measure to be taken for the cause mentioned for each of the following technical errors in histopathology. (04 marks)

Error	Cause	Corrective measure
Over expansion of tissue section during floatation in water bath		
Incomplete tissue sections when compared with the paraffin block		

3.2 State the principle of the following process or technique (04 marks)

a) Tissue fixation by formaldehyde:

.....

.....

.....

b) Nuclear staining with hematoxylin:

.....

.....

.....

INDEX NO:

3.3 How does the following artifacts appear on a stained section. (02 marks)

a. Formalin pigments

.....
.....
.....

b. Mercury pigments

.....
.....
.....

(TOTAL 10 MARKS)

Question: 4

4.1 Briefly define the term 'Laboratory accreditation' (02 marks)

.....
.....
.....
.....
.....

4.2 Give five (05) important facts to be considered while preparing paraffin wax blocks in histopathology (05 marks)

- 1.....
- 2.....
- 3.....
- 4.....
- 5.....

4.3 State one (01) precaution to be taken to optimize fixation of each of the following specimens.

(03 marks)

Brain

.....
.....

Breast mastectomy specimen

.....
.....

Whole Lung lobe

.....
.....

(TOTAL 10 MARKS)

Part C: Essay Question (30 marks)

1. Describe the process of evaluating the quality of your histopathology laboratory by an external quality assessment body. (15 marks)
2. Describe different techniques used in grossing to secure small biopsies before transferring them to tissue cassettes for processing. (15 marks)