



**PAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY**

Faculty of Health, Applied Sciences and Natural Resources

Department of Health Sciences

QUALIFICATION: BACHELOR OF MEDICAL LABORATORY SCIENCES	
QUALIFICATION CODE: 08BMLS	LEVEL: 8
COURSE: ANATOMICAL PATHOLOGY	COURSE CODE: ANP611S
DATE: JUNE 2022	SESSION: THEORY
DURATION: 3 HOURS	MARKS: 100

FIRST OPPORTUNITY EXAMINATION QUESTION PAPER	
EXAMINER(S)	Ms Roselin Tsauses
MODERATOR:	Ms Vanessa Tjijenda

INSTRUCTIONS	
<ol style="list-style-type: none">1. Answer all questions.2. Please write neatly and legibly.3. Do not use the left side margin of the exam paper. This must be allowed for the examiner.4. No books, notes and other additional aids are allowed.5. Mark all answers clearly with their respective question numbers.	

Permissible material

Non programmable calculator is allowed.

THIS QUESTION PAPER CONSISTS OF 4 PAGES (Excluding this front page)

Section A (10 marks)

Question 1

[10]

1. Evaluate the statements in each numbered section and write the Correct term next to the corresponding number.
- 1.1 Cellular degradation due to attack by microorganism. (1)
- 1.2 A process to see if you have a disease or condition before you have any symptoms of it. (1)
- 1.3 Self-digestion within the cell; particularly referring to the destruction of a cell through the action of its own enzymes. (1)
- 1.4 A condition in which the body or a region of the body is deprived of adequate oxygen supply at the tissue level. (1)
- 1.5 A surgical procedure that consists of a thorough examination of a corpse by dissection. (1)
- 1.6 The process by which pathology specimens are inspected with the bare eye to obtain diagnostic information, while being processed for further microscopic examination. (1)
- 1.7 A natural product extracted from the heartwood of the logwood tree called Haematoxylum campechianum. (1)
- 1.8 Allows for the rapid sectioning of unfixed material by freezing fresh tissue. (1)
- 1.9 Routinely used stain in cytology. (1)
- 1.10 An oxidation product of haematoxylin. (1)

Section B (31 marks)

Question 2

[20]

- 2.1 In your own words, explain the main purpose of tissue processing. (5)
- 2.2 Tabulate the difference between the different stages of tissue processing in the histopathology laboratory with reference to the following:
- 2.2.1 Stage (5)
- 2.2.2 Purpose (5)
- 2.2.3 Chemical(s)/ equipment(s) used (5)

Question 3

[11]

- 3.1 Categorize the different specimen types that can be received for grossing. (5)
- 3.2 Briefly discuss solutions to the following challenges commonly experienced during grossing by highlighting its importance:
- 3.2.1 Overloading of cassettes (2)
- 3.2.2 Specimen trauma (2)
- 3.2.3 Cross-contamination (2)

Section C (30 marks)

Question 4

[13]

- 4.1 How are hematoxylin named and classified? (1)
- 4.2 Tabulate the three (3) main types of hematoxylin used in the histology laboratory under the following headings:
- 4.2.1 Type of hematoxylin (3)
- 4.2.2 Description (3)
- 4.2.3 Disadvantage (3)

4.2.4 Example (3)

Question 5 [17]

5.1 Explain the principle of the hematoxylin and eosin (H & E) stain. (4)

5.2 Tabulate the hematoxylin and eosin (H & E) stain results of the following components:

5.2.1 Collagen (1)

5.2.2 Acidophilic cytoplasm (1)

5.2.3 Basophilic cytoplasm (1)

5.2.4 Nuclei (1)

5.2.5 Erythrocytes (1)

5.2.6 Calcium deposits (1)

5.2.7 Bacteria (1)

5.2.8 Mucin (1)

5.3 Name any five (5) nuclear stains used in histology. (5)

Section D (29 marks)

Question 6 [16]

6.1 Name five (5) categories into which connective tissues are divided. (10)
Give brief examples of each.

6.2 What is the general rule in trichrome staining? (3)

6.3 Based on your knowledge about fixation, suggest three (3) ideal fixatives ideal fixatives for mason's trichrome staining. (3)

Question 7 [13]

7.1 What is the significance of the Periodic Acid Schiff (PAS) stain in histology? (2)

7.2 Name at least six (6) PAS reactive cells and tissue components. (6)