



NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY

FACULTY OF HEALTH AND APPLIED SCIENCES

DEPARTMENT OF HEALTH SCIENCES

QUALIFICATION: BACHELOR OF MEDICAL LABORATORY SCIENCES	
QUALIFICATION CODE: 08BMLS	LEVEL: 6
COURSE CODE: ANP 611S	COURSE NAME: ANATOMICAL PATHOLOGY 2A
SESSION: JUNE 2019	PAPER: THEORY
DURATION: 3 HOURS	MARKS: 100

FIRST OPPORTUNITY EXAMINATION QUESTION PAPER	
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MODERATOR:	Mrs. Elzabe van der Colf

INSTRUCTIONS
<ol style="list-style-type: none">1. Answer ALL the questions.2. Write clearly and neatly.3. Number the answers clearly.

THIS QUESTION PAPER CONSISTS OF 3 PAGES (Including this front page)

SECTION A (35 MARKS)

QUESTION 1

[25]

- 1.1. Explain the aim of tissue processing. (3)
- 1.2. Describe objective of fixation. (3)
- 1.3. Describe the special orientation of the following tissues when embedding:
 - 1.3.1 Skin biopsy (2)
 - 1.3.2 Fallopian tubes (2)
 - 1.3.3 Gall bladder (2)
 - 1.3.4 Muscle biopsy (2)
- 1.4. Explain the purpose of clearing reagents during tissue processing. (2)
- 1.5. Define dehydration of tissue and name graded solution(s) used. (5)
- 1.6. Name any two types of microtome. (2)
- 1.7. Name any two factors influencing rate of tissue processing. (2)

QUESTION 2

[10]

Demonstrate 12 hours schedule of tissue processing with only 14 solution stations.

SECTION B (30 MARKS)

QUESTION 3

[30]

- 3.1. State whether the following statements are true or false.
 - 3.1.1 The microtome water bath is set at 60 °C. (2)
 - 3.1.2 One of the uses of frozen section is to demonstrate the quality of staining. (2)
 - 3.1.3 Hydrogen bond interaction are important in method such as PAS stain. (2)
 - 3.1.4 Differentiation applies to progressive staining. (2)
 - 3.1.5 Iron haematoxylin uses ferric ammonium sulphate as mordant. (2)
- 3.2 Define/describe the following terms:
 - 3.2.1 Affinity (2)
 - 3.2.2 Metachromasia (2)
 - 3.2.3 Endogenous pigments (2)
 - 3.2.4 Monoclonal antibodies (2)
 - 3.2.5 Chromogen (2)

- 3.3 Provide the name of special stain used to demonstrate the following in the tissue:
- 3.3.1 Basement membrane (2)
 - 3.3.2 *Mycobacterium liprae* (2)
 - 3.3.3 Connective tissue (2)
 - 3.3.4 Melanin (2)
 - 3.3.5 Hemosiderin pigments (2)

SECTION C (35 marks)

QUESTION 4

[15]

Histo- pathologist request for CD 3 marker on the wax embedded lymph node. Critically discuss the process of the immunohistochemistry technique to be carried out for the final microscope observation.

QUESTION 5

[20]

- 5.1 Name three patterns of positivity staining in IHC technique. (3)
- 5.2 Differentiate between direct and indirect antigen labelling. (5)
- 5.3 Name any three types of flurochromes. (3)
- 5.4 Name 5 advantages of using electron microscope. (5)
- 5.5 Name 4 types of electron microscope. (4)