



“Investing in Africa’s future”

COLLEGE OF HEALTH, AGRICULTURE AND NATURAL SCIENCES

NSLS 211: HISTOLOGY PRACTICAL

END OF SECOND SEMESTER FINAL EXAMINATIONS (MAIN)

NOVEMBER 2019

LECTURER: DR S. MATSHALAGA

DURATION: 3 HRS

INSTRUCTIONS

SECTION A: Answer all questions

SECTION B: Spot exam: Answer all questions on a separate sheet provided.

Section A:

1. Carry out the following staining protocol on the section provided using the method below (15).

Method

1. Dewax sections and bring sections to water as follow:
 - a. Xylene 3 mins
 - b. Xylene 3 mins
 - c. Xylene 3 mins
 - d. Absolute alcohol 3 mins
 - e. Absolute alcohol 3 mins
 - f. 95% alcohol 3 mins
 - g. 95% alcohol 3 mins
 - h. Rinse in tap water 5 minutes
 2. Oxidize in 1% per-iodic acid 10 mins
 3. Rinse in tap water 5 mins
 4. Place in Schiff's reagent. 15 mins
 5. Wash in tap water 5 min
 6. Stain nuclei in Harris haematoxylin 15-30 seconds
 7. Differentiate in 1% acid alcohol 30 seconds
 8. Wash in tap water 5 minutes
 9. Dehydrate and clear the section as follows:
 - a. 95% alcohol 3 mins
 - b. Absolute alcohol 3 mins
 - c. Absolute alcohol 3 mins
 - d. Xylene 10 dips
 - e. Xylene 10 dips
 10. Mount in poly-x mountant
 11. Label your section using provided stickers.
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2. What is the name of this stain? (1)
 3. What is the principle of this stain? (2)
 4. What further step (not mentioned above) can help identify substances in the tissue (1)
 5. Describe the staining characteristics of the tissue you have stained (2)
 6. Identify the tissue you have stained. (2)
 7. State ways in which this tissue is adapted to perform its function?(2)

Section B: Spot exam: Answer all questions.

1. H1-H5 are consumables in a histology laboratory. Identify each and state their functions (10).
2. H6-7 are special stains in histology. Identify the stains and report the results (4).
3. H 8 is a fixative commonly used in histology.
 - a. Identify the fixative (1)
 - b. State the factors that affect the rate of fixation (4)
4. H6 is a type of connective tissue.
 - a. Identify the connective tissue (1)
 - b. State what must be done to the tissue before tissue processing, state the reagents used and how to check completion of the process (5).