

CHUKA



UNIVERSITY

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**UNIVERSITY EXAMINATIONS**

**SECOND YEAR EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF  
SCIENCE IN BIOMEDICAL SCIENCE AND TECHNOLOGY**

**BMET 213: MEDICAL HISTOLOGY**

**STREAMS:**

**TIME: 2 HOURS**

**DAY/DATE: THURSDAY 13/12/2018**

**8.30 A.M – 10.30 A.M**

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**INSTRUCTIONS:**

- Answer question **ONE (COMPULSORY)** and any other **TWO** questions.
- Sketch diagrams may be used whenever they may help to illustrate your answer.
- Do not write anything on the question paper.
- This is a closed book exam. **No** reference materials are allowed in the examination room.
- There will be **No** use of mobile phones or any other unauthorized materials.
- Write your answers legibly and use your time wisely.

**Question One ( 30 marks)**

1. Discuss various criteria for a good fixative to use in a histology laboratory (8 marks).
2. Explain decalcification in tissue processing (2 marks).
3. Discuss four methods of determining the end point of decalcification (8 marks).
4. Describe impregnation as applied in medical histology and give examples of impregnating agents (4 marks).
5. Discuss some of the faults and their causes in sectioning of tissues in a medical histology laboratory (8 marks)

**Question Two (20 marks)**

1. In order to visualize various parts of tissues in a medical histology laboratory a stain must be used. Discuss the criteria of a good routine nuclear stain (3 marks).

2. a. Describe mounting of tissue as applied in medical histology (2 marks).  
b. Discuss the criteria for a good mounting media for use in a medical histology laboratory (7 marks).
3. Discuss the major characteristics of a malignant cell as observed under a microscopy in a well prepared section in a histopathology laboratory (8 marks).

**Question Three (20 marks)**

1. Discuss the principle and the procedure for Harris' haematoxylin and Eosin stain used in nuclear staining (8 marks).
2. Discuss the four major types of tissue found in human body (4 marks).
3. Explain why pure formalin is not recommended while fixing tissues (2 marks).
4. Discuss the following in relation to tissue processing in a medical histology laboratory (6 marks).
  - a. Progressive staining
  - b. Decolourization
  - c. Differentiation
  - d. Counter stains
  - e. Mordants
  - f. Accentuators

**Question Four (20 marks)**

1. Discuss the principle and procedure for Papanicolaou staining technique as applied in exfoliative cytology (8 marks).
  2. Discuss the classification of epithelial cells in relation to their shape (3 marks).
  3. Briefly explain how the artifacts formed while fixing a tissue with 10% formaldehyde can be removed (2 marks)..
  4. Explain gynaecological cytology and briefly explain its role in medical histology (7 marks).
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