



THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

(A Constituent College of Jkuat)

Faculty of Applied & Health Sciences

DEPARTMENT OF MEDICAL SCIENCES

CERTIFICATE IN MEDICAL LABORATORY SCIENCE (09A/10J)

FINAL EXAMINATION

AML 1244: HISTOLOGY

SERIES: AUGUST/SEPTEMBER 2011

TIME: 2 HOURS

Instructions to Candidates:

You should have the following for this examination

- *Answer booklet*

Answer all questions correctly and negative marks (0.5) will be deducted to each wrong answer,

Some questions may have more than **TWO** answers

This paper consist of **FIVE** printed pages

SECTION A

1. The rupturing of lysosomes to release enzymes that cause cells to lyse leads to a process known as
 - A. Autolysis
 - B. Hydrolysis
 - C. Cytolysis
 - D. Karyohexis
2. The following are not functions of nucleus
 - A. Controlling metabolic process
 - B. Absorption
 - C. Diffusion and filtration of substances
 - D. Transfer of hereditary material or characteristics and control reproduction
3. The following are not primary tissues
 - A. Heart
 - B. Liver
 - C. Nervous
 - D. Epithelial tissue
4. The acidic formation of formaldehyde can be neutralized by addition of the following
 - A. Magnesium carbonate
 - B. Calcium acetate
 - C. Potassium per manganate
 - D. Basic fuclisin
5. The following are disadvantages of picric acid
 - A. Explosive
 - B. Form picrates
 - C. Imports colour
 - D. Reacts with trichrome stains to form other acids
6. Compound fixatives are divided into
 - A. Primary fixatives
 - B. Secondary fixatives
 - C. Microanatomical fixatives
 - D. Histochemical fixatives
7. Carbon pigments are commonly found in
 - A. Lungs
 - B. Lymphoid tissues

- C. Bone tissues
 - D. Liver
8. Bile pigments can be demonstrated by
- A. Fouchet's test
 - B. H and E
 - C. Lencopatout blue
 - D. Amelins reaction
9. Haematoxylin stain can be used to demonstrate
- A. Myelin sheaths
 - B. Elastic fibres
 - C. Haematoidn Pigments
 - D. Ferric salts
10. Among the following, which are used as hones for knife sharpening
- A. Soapy water
 - B. Ar Kansars
 - C. Benzene
 - D. Belgium yellow hone
11. All of the following are micro anatomical fixatives except
- A. Boiling fluid
 - B. Zenkeris solution
 - C. Flemming fluid
 - D. Carnoy's fluid
12. Which of the following are natural dyes
- A. Basic fuchsin
 - B. Cochineal
 - C. Carmine
 - D. Crystal violet
13. Which of the following apparatus are used to prepare cervical smears in cytology
- A. Platinum wireloop
 - B. Caum paper
 - C. Ayre spatula
 - D. Two clean-greese –free microscope slides
14. The following acqueous mountants
- A. Canada balsam
 - B. Depe x

- C. Apaths media
- D. Farrants media

15. Mayers egg albumin contains

- A. White of an egg
- B. Crystal of thymol
- C. Yellow of an egg
- D. Gelatine

16. Colour restoration of museum specimen may be accomplished with

- A. Sodium hydroxide
- B. Kaiser lingis solution II
- C. 80% alcohol
- D. Sodium chloride

17. Which of the following are not decalcifying agents

- A. Formic acid
- B. EDTA
- C. Picric acid
- D. Formalin

18. Cleaving is the process of

- A. Removing paraffin wax from tissues
- B. Removing water from tissues
- C. Removing alcohol from tissues
- D. Rendering tissues colourless

19. Haematoxylin is converted to haematin by using the following except

- A. Potassium permanganate
- B. Lugolis Iodine
- C. Sunlight and air
- D. Mercuric oxide

20. The following are dehydrants in tissue processing except

- A. Toluene
- B. Dioxane
- C. Isopropyl alcohol
- D. Acetone

21. After removal of tissue from the body, they should be stored at:

- A. Room temperature
- B. 22°C

- C. 4 °C
- D. 37°C

22. Neutral dyes include

- A. Eosin
- B. Giemsa
- C. Leishman
- D. Aniline blue

SECTION B – (ESSAY 60 MARKS)

Question One

a) Briefly describe effects of fixation/fixatives (10 marks)

b) Define the following terms

- i) Dehydration
- ii) Fixative
- iii) Auxochrome
- iv) Adhesives
- v) Mounting (10 marks)

Question Two

a) Briefly describe formalin pigments and their removal (10 marks)

b) State differences between alumin and iron haematoxylin (10 marks)

Question Three

Describe the haematoxylin and eosin procedure for demonstration of general tissue layer relationship

(20 marks)