



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF MEDICAL SCIENCES

UNIVERSITY EXAMINATION FOR:

BMLS

AML 4309: HISTOPATHOLOGY.

END OF SEMESTER EXAMINATION

SERIES: APRIL 2016

TIME: 2 HOURS

DATE:

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of Choose Nochoose Sect/Quest. AttemptChoose instruction.

Circle the correct answer in section A.

Section A

1. Which of the following is not a dehydrating agent?
 - A. Dioxane
 - B. Acetone
 - C. Phenol
 - D. Chloroform
 - E. Isopropanol

2. Which one of the following cannot initiate apoptosis?
 - A. Radiation
 - B. Drugs
 - C. Cytotoxic T – Lymphocytes
 - D. Inflammation
 - E. Hormones

3. Which one of the following is not an endogenous cause of cell injury?
 - A. Genetic defects
 - B. Hormones
 - C. Cytokines
 - D. Toxins
 - E. Metabolites

4. Which of the following is not a cellular adaptation mechanisms?
 - A. Atrophy
 - B. Hypertrophy
 - C. Hyperplasia
 - D. Metaplasia
 - E. Anaplasia

5. Which of the following is not a clearing agent?
 - A. Cedar wood oil
 - B. Limonene
 - C. Butanol
 - D. Benzene
 - E. Chloroform

6. Which of the following is not a main form of necrosis?
 - A. Fibroid necrosis
 - B. Liquefactive necrosis
 - C. Fibrous necrosis
 - D. Fat necrosis
 - E. None of the above

7. Which one is not an aim of inflammation
 - A. Eliminate cause of injury
 - B. Repair consequences of injury
 - C. Neutralize cause of injury
 - D. Limit spread of infection
 - E. Cause tissue injury

8. Which one is not a feature of an exudate?
 - A. They appear turbid
 - B. They have a high protein concentration
 - C. Result from injury of mesothelium
 - D. They have numerous neutrophils
 - E. They have a low protein concentration

9. Which one of the following includes the plasma derived mediators of inflammation?
- A. Kinin system
 - B. Clotting system
 - C. Fibrinolysis system
 - D. Complement system
 - E. All of the above
10. Which of the following fixative is ideal for electron microscopy?
- A. 40% formalin
 - B. 95% Alcohol
 - C. Glutaraldehyde
 - D. Mercuric salts
 - E. Zenkers fluid
11. The absolute increase in number of cells in an organ is?
- A. Hypertrophy
 - B. Hyperplasia
 - C. Atrophy
 - D. Metaplasia
 - E. Dysplasia
12. Chronic inflammation occurs in the following conditions _____
- A. Non healing/ persistent acute inflammation
 - B. Continuous exposure to noxious substances
 - C. Foreign materials
 - D. Transplant rejection
 - E. All of the above
13. Which feature reliably differentiates malignant from benign tumors?
- A. Size of tumour
 - B. Site of tumour
 - C. Formation of capsule
 - D. Invasiveness and metastasis
 - E. All of the above
14. Which of the following is appropriate stain for demonstrating amyloids?
- A. Congo – Red stain
 - B. Masson Trichrome stain
 - C. Masson Fontana stain
 - D. Von Kistastin
 - E. PAS
15. Which of the following statement is true of benign tumors?
- A. Fast growth
 - B. Numerous abnormal mitoses
 - C. Invasive into surrounding tissues
 - D. Few mitoses
 - E. Atypical pleomorphic nuclei

16. Which one of the following is not true about formalin pigment?
- A. Appears brown to black
 - B. Forms when acid formalin reacts with haemoglobin
 - C. Seen in tissues rich in blood
 - D. Restricting fixation time leads to development of artifact
 - E. Can be removed by treating section with saturated picric acid prior to staining
17. Which one of the following is an example of neutral dye?
- A. Eosin
 - B. Giemsa stain
 - C. Leishman stain
 - D. Aniline blue
 - E. Field stain
18. Which of the following is the vital stain applicable to?
- A. Fixed tissues
 - B. Dead tissues
 - C. Living tissues
 - D. Nuclear element
 - E. None of the above
19. What does “Stropping” a microtome knife mean?
- A. Sharpening on a stone
 - B. Smoothing after sharpening
 - C. Fixing a microtome
 - D. Removing the microtome knife
 - E. Greasing the microtome knife
20. Which one of the following is a tissue block holder?
- A. Hone
 - B. Tissue tek
 - C. Coupling jars
 - D. Glass rods
 - E. Wax basin
21. Which one of the following is miscible with DPX?
- A. 20% ethanol
 - B. Distilled water
 - C. Dioxane
 - D. Chloroform
 - E. None of the above
22. Which one of the following is not a dehydrant used in tissue processing?
- A. Toluene
 - B. Dioxane
 - C. Isopropyl alcohol
 - D. Acetone
 - E. Butanol

23. Which of the following is an embedding media in histopathological study?
- A. Paraffin wax
 - B. Pyridine
 - C. Versene
 - D. Starch paste
 - E. Chloroform
24. Which of the following is an example of a decalcifying fluid?
- A. Formic acid
 - B. Trichloroacetic acid
 - C. Zenkar fluid
 - D. Acetone
 - E. Butanol
25. What is picric acid used for in histological techniques?
- A. Fixative
 - B. Differentiator
 - C. Decalcifier
 - D. Dehydrant
 - E. Bluing agent
26. What does the physical theory of biological staining depend on?
- A. Adsorption
 - B. Density
 - C. Ionization
 - D. Osmosis
 - E. Impregnation
27. Which of the following is post mordanting applied to?
- A. Autopsies
 - B. Re-staining
 - C. Primary fixation
 - D. Secondary fixation
 - E. None of the above
28. What is the main aim of “bringing section to water” during staining?
- A. Remove paraffin wax
 - B. Remove fixative
 - C. Remove alcohol
 - D. Dehydrate tissue
 - E. Remove water from tissue
29. Vacuum embedding is especially recommended for tissue from_____
- A. Heart
 - B. Embryo
 - C. Lung
 - D. Spleen
 - E. Brain

30. What are artifact pigments?
- A. Endogenous pigments
 - B. Fixation pigments
 - C. Mask cellular details
 - D. Autogenous pigments
 - E. Melanin pigments

Section B

31. (A) Describe characteristics of a good fixative. **(10marks)**
- (B) Describe the chemical test procedure for determination of end –point of decalcification. **(10marks)**
32. (A) Describe in brief the steps involved in tissue processing in the Histology Laboratory. **(10marks)**
- (B) Outline the Haematoxylin and Eosin staining procedure for histological specimen study. **(10marks)**