



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES
DEPARTMENT OF MEDICAL SCIENCES
UNIVERSITY EXAMINATION FOR:
BACHELOR OF MEDICAL LABORATORY SCIENCE
AML 4309 : HISTOPATHOLOGY
SPECIAL SUPPLEMENTARY EXAMINATION
SERIES: AUGUST 2017
TIME: 2 HOURS
DATE: Pick Date Sep 2017

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of two Section(s). Attempt ALL questions.

Circle the correct answer in section A.

SECTION A

1. Epithelia neoplasm growing on any surface that produce microscopic finger-like fronds is known as
 - a. Fibroma
 - b. Sarcoma
 - c. Carcinoma
 - d. Papilloma
 - e. Melanoma
2. Which of the following is a malignant tumour
 - a. Choristoma

- b. Lipoma
 - c. Haematoma
 - d. Melanoma
 - e. Adenoma
3. Which of the following is false about formalin pigment
- a. It is blue to green in colour
 - b. Birefringent deposit associated with red blood cells
 - c. Seen in tissue rich in blood
 - d. Forms when acid formalin reacts with haemoglobin
 - e. Can be removed by treating section with saturated picric acid.
4. All the following are dehydrating agents except
- a. Phenol
 - b. Dioxane
 - c. Butanol
 - d. Acetone
 - e. Isopropanol
5. Which of the following is not a cellular adaptation mechanism
- a. Atropy
 - b. Hyperplasia
 - c. Hypertrophy
 - d. Metaplasia
 - e. Anaplasia
6. All the following are clearing agents except
- a. Chloroform
 - b. Benzene
 - c. Propanol
 - d. Cedar wood oil
 - e. Carbon tetrachloride
7. Which of the following is not an aim of inflammation
- a. To eliminate cause of injury
 - b. Repair consequences of injury
 - c. Neutralize cause of injury
 - d. Cause tissue injury
 - e. Limit spread of infection

8. Which is the appropriate stain for demonstration of amyloid
 - a. Alkaline Congo red stain
 - b. Masson Trichrome stain
 - c. Masson Fontana stain
 - d. Von Kossa stain
 - e. PAS
9. Which of the following feature differentiate malignant tumour from a benign tumour
 - a. Size of tumour
 - b. Invasiveness
 - c. Formation of capsule
 - d. Site of the tumour
 - e. Position of the tumour in relation to blood vessels
10. The absolute increase in number of cells in an organ is
 - a. Hypertrophy
 - b. Atrophy
 - c. Metaplasia
 - d. Hyperplasia
 - e. Dysplasia
11. Chronic inflammation occurs under the following conditions
 - a. Onset of an infection
 - b. Continuous exposure to noxious substance
 - c. Foreign material
 - d. Transplant rejection
 - e. Non healing or persistent acute inflammation
12. Which of the following fixative best fit this description ‘‘ it does not penetrate tissue quickly and it is radio-opaque’’
 - a. Picric acid
 - b. Formaldehyde
 - c. Acetone
 - d. Mercuric chloride
 - e. Glutaldehyde
13. Which of the following statement is true of benign tumours
 - a. Well differentiated cells
 - b. Numerous mitoses
 - c. Atypical pleomorphic nuclei
 - d. Invasive into surrounding tissues
 - e. Fast growth

14. What does ‘‘honing’’ a microtome knife means
- Smoothing after sharpening
 - Fixing a microtome
 - Removing the microtome knife sheath
 - Sharpening on a stone
 - Greasing the microtome knife
15. Which of the following is a tissue block holder
- Strope
 - Coupling jars
 - Glass rods
 - Tissue tek
 - Wax trough
16. Which of the following reagents are miscible with DPX
- Absolute ethanol
 - Distilled water
 - Chloroform
 - Dioxane
 - Acetone
17. Which of the following reagents is not a component of Helly’s fluid
- Formaldehyde
 - Ethanoic acid
 - Mercuric chloride
 - Sodium sulphate
 - Distilled water
18. Which of the following is not a dehydrant in tissue processing
- Dioxane
 - Isopropyl alcohol
 - Acetone
 - Toluene
 - Butanol
19. Which of the following is an impregnating media in histopathological study
- Starch paste
 - Pyridine
 - Chloroform

- d. Paraffin wax
 - e. Versene
20. Picric acid in histological processes can be used to carry out all the following procedures except
- a. Staining
 - b. Differentiation
 - c. Clearing agent
 - d. Artefact removal
 - e. Fixative
21. The physical theory of staining depends on all the following except
- a. Solubility
 - b. Density
 - c. Permeability
 - d. Ionization
 - e. Adsorption
22. The following are examples of chromophore groups except
- a. Oxazin dyes
 - b. Thiazin dyes
 - c. Amine dyes
 - d. Nitro dyes
 - e. Tetrazole dyes
23. What does post mordanting apply to
- a. Autopsy
 - b. Secondary fixation
 - c. Biopsy
 - d. Re-staining
 - e. Primary fixation
24. Vacuum embedding is recommended for the following types of tissue except
- a. Uterus
 - b. Brain
 - c. Bone
 - d. Lungs
 - e. Heart
25. Fixation pigments are also referred to as
- a. Endogenous pigments

- b. Artefact pigments
 - c. Autogenous pigments
 - d. Melanin pigment
26. Autologous pigments Chronic inflammation occurs under the following conditions
- a. Continuous exposure to noxious substances
 - b. Presence of foreign material
 - c. Transplant rejection
 - d. Non healing acute inflammation
 - e. Common cold
27. The following are characteristics of benign tumours except
- a. Resemble tissue of origin
 - b. Slow growing
 - c. Poorly circumscribed
 - d. Localized
 - e. Have a capsule
28. The following is true of necrosis except
- a. Karyolysis occurs
 - b. Cytoplasmic changes include eosinophilia
 - c. Is a programmed cell death
 - d. There is cell digestion by lytic enzymes
 - e. Caseous necrosis results from TB infection.
29. In pregnancy, the uterus undergoes the following
- a. Atrophy and hyperplasia
 - b. Metaplasia and atrophy
 - c. Anaplasia and atrophy
 - d. Hyperplasia and hypertrophy
 - e. Dysplasia and metaplasia.
30. The process by which cells are destroyed through lysing by enzymatic action is called
- a. Karyohexis
 - b. Karyolysis
 - c. Pyknosis
 - d. Autolysis
 - e. Necrosis

Section B

31. a) Discuss the different types of inflammation and mention its role in tissue repair. (10 marks)
- b) Describe the specimen collection, handling and preparation for routine histopathology diagnosis (10 marks)
32. a) Discuss the advantages and disadvantages of water soluble waxes (10 marks)
- b) Describe laboratory diagnosis of cancer (10 marks)