



KENYATTA UNIVERSITY

EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE

(MEDICAL LABORATORY SCIENCES)

HML 416: CYTOPATHOLOGY

1ST SEMESTER 2022/2023

TIME: 2 HOURS

INSTRUCTIONS:

SECTION A: Answer all questions: (4marks each)

1. Outline the cytological features of a high grade squamous intraepithelial lesion of the cervix. (4 marks)
2. Despite the advances made in Diagnostic cytology, Histopathology remains the gold standard method in diagnosis of cancer. Explain. (4marks)
3. You are working in the cytopathology laboratory and a 52 years old woman walks in with a requisition for a Pap smear test. Explain how you would instruct the patient on preparation for the test. (4 marks)
4. Outline the procedure of cell block preparation. (4 marks)
5. Describe the procedure of arterial embalming of a dead body. (4 marks)

SECTION B: Answer only ONE question (20marks each)

1. Discuss five devices for cervical smear collection highlighting the advantages and disadvantages of each device. (20 marks)
2. a) Describe the cytological features of fibroadenoma. (10 marks)
b) Describe components of the 2014 Bethesda system for reporting cervical cytology. (10 marks)

Section C: Answer all questions on the answer booklet (1/2 marks each)

1. The properties of cytological fixatives are all, except?
 - A. They do not excessively shrink or swell cells
 - B. They do not dissolve cellular components
 - C. They kill microbes
 - D. They promotes enzymatic activity
2. Suitable fixative if smear have to be mailed to distant cytology laboratory
 - A. Dry fixative
 - B. Aerosol fixative
 - C. Such smear do not require any fixative
 - D. Wet fixative
3. To increase the yield of cells in a turbid fluid preparation, the optimal method is?
 - A. Direct smear
 - B. Dilute with ethanol before making slides
 - C. Do a cell block prep
 - D. Do as Cytospin preparation
4. Which type of centrifuge should be used to concentrate cells of sparsely cellular fluids?
 - A. Ultracentrifuge
 - B. Bench centrifuge
 - C. Cytocentrifuge
 - D. Pendulum centrifuge
5. A feature of invasive squamous cells carcinoma in a pap smear
 - A. Tumour diathesis
 - B. Koilocytosis
 - C. Parabasal cells
 - D. Large cells with irregular nuclear margins
6. Features of low grade squamous intraepithelial lesion except?
 - A. Nuclear enlargement 3 or more times greater than normal nucleus
 - B. Prominent nucleoli
 - C. Binucleation
 - D. Koilocytosis

7. "Signet ring appearance" in a breast FNA is a classical feature of?
- A. Invasive lobular carcinoma
 - B. Ductal carcinoma
 - C. Fibroadenoma
 - D. Phyllodes tumor
8. Not an example of exfoliative cytology?
- A. Joint fluid
 - B. A thyroid cysts
 - C. Cerebrospinal fluid
 - D. Nipple discharge
9. True of fine needle aspiration
- A. Should not be done in a doctor's office for fear of infection
 - B. Risk of haemorrhage is high in a dark skin nodule
 - C. Significantly increases the risk of spread along the needle track
 - D. A 25g needle can be used for superficial masses
10. Which of the following is a feature of benign ductal cells of the breast?
- A. Oval to elongated
 - B. Naked bipolar nuclei
 - C. Highly cohesive occurring in two-dimensional flat sheets of cells
 - D. Irregular nuclear membrane
11. Presence of myoepithelial cells in a breast FNA is hallmark of a?
- A. Benign breast aspirate
 - B. Acute mastitis
 - C. Malignant tumour
 - D. A metastatic tumour
12. In microscopic examination of cells from a breast FNA, which of the following features cannot be evaluated at low-power?
- A. Cellularity
 - B. Cellular arrangements
 - C. Types of isolated cells
 - D. Background elements

13. A cytological feature of a phyllodes tumor;
- A. A cellular smear with a more cellular stromal component
 - B. Poorly cohesive clusters of cells
 - C. Cell & nuclear pleomorphism
 - D. Signet ring appearance
14. In a breast FNA, intracytoplasmic vacuoles are commonly seen in?
- A. Invasive ductal carcinoma
 - B. Fibroadenoma
 - C. Invasive lobular carcinoma
 - D. Phyllodes tumor
15. Which of the following is not a Romanowsky stain?
- A. Giemsa
 - B. Leishman
 - C. Orange G
 - D. Wrights and Jenner
16. The following factors affect the quality of staining results except?
- A. The supplier of the dye
 - B. Age of the dye
 - C. Type of fixative used
 - D. Length of time
17. All of following features are helpful in diagnosing dysplasia except:
- A. Nuclear Hypochromasia
 - B. Nuclear enlargement
 - C. Nuclear Hyperchromasia
 - D. Coarsening and clumping of chromatin
18. Which of the following stains is important in identifying the keratin in pap stain?
- A. Eosin
 - B. Orange G
 - C. Montana
 - D. Hematoxylin

19. Multinucleation, nucleus moulding and ground-glass chromatin are seen in?

- A. Epithelial repair
- B. Radiation effect
- C. Herpes simplex virus
- D. Cytomegalovirus

20. General principle of cytodiagnosis:

- A. Nucleus reflects the state of health of a cell
- B. Cytoplasm is important in diagnosis of indignant cells
- C. Cells with atypical mitoses are almost always reactive
- D. Neurotic background is found in benign lesions