



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF MEDICAL SCIENCES

UNIVERSITY EXAMINATION FOR:

DMLS

AML2312 : CYTOLOGY AND CYTOPATHOLOGICAL TECHNIQUES

END OF SEMESTER EXAMINATION

SERIES: AUGUST 2019

TIME: 2 HOURS

DATE: Pick Date Aug 2019

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of Choose No choose Sect/Quest. Attempt Choose instruction.

Circle the correct answer in section A.

Section A (40 Marks)

1. The following are artificial exfoliated cells except?
 - A. Fine needle aspirates
 - B. Scrapings from cervix
 - C. Brushing and lavage
 - D. None of the above
2. Exfoliative cytology refers to?
 - A. Museum techniques
 - B. Embryology
 - C. Histology
 - D. The study of the cells that shed off from the body surfaces is known as?
3. Which one of the following is a role of cytology?
 - A. Early detection of unsuspected diseases (malignant or pre-malignant lesions).
 - B. Confirmation of suspected diseases without surgical trauma.
 - C. Diagnosis of hormonal imbalance.
 - D. All the above

4. Cytopathological techniques are advantageous over histological techniques because?
 - A. It is not always the final diagnosis
 - B. They offer rapid diagnosis ,Inexpensive and Simple
 - C. You cannot determine the size and type of lesions in some cases
 - D. None of the above

5. Who is to be screened for cervical cancer?
 - A. Any woman who has ever had sex
 - B. Any woman who has never had sex
 - C. Women with no multiple sex partners
 - D. Pregnant women

6. The following are characteristics of original squamous epithelium except?
 - A. Found on vagina or outer ectocervix
 - B. Has four layers
 - C. It is well glycogenated
 - D. Similar to columner epithelium

7. Squamous metaplasia
 - A. Is found on the central ectocervix and proximal endocervical canal
 - B. Progressive and stimulated by acidic environment with onset of puberty
 - C. Involves replacement of columner cells by squamous epithelium
 - D. Occurs in the ovaries

8. A nabothian cyst?
 - A. Is a mucus-filled cyst on the surface of the cervix
 - B. Consists of stratified epithelium
 - C. Has pseudo stratified epithelium
 - D. Is found on the ovaries

9. The ‘‘ new’’ squamo columner junction
 - A. Border between squamous epithelium and columnar epithelium
 - B. Simple cuboidal epithelium
 - C. Pseudo stratified columner epithelium
 - D. Found on endo-cervix or in ecto-cervical canal

10. Parabasal cells are?
 - A. Prevalent on smears taken during diestrus
 - B. Scarse on smears taken during anestus
 - C. prevalent on smears taken during proestrus
 - D. None of the above

11. Endocervical cells are usually pushed to lie on the cervix during?
 - A. Ovulation
 - B. Puberty and pregnancy
 - C. Menstruation
 - D. Conception

12. The uterus is lined by?
- A. Simple columnar ciliate cells
 - B. Squamous epithelium
 - C. Simple cuboidal epithelium
 - D. Stratified epithelium
13. Malignant cells are characterized by the following features except?
- A. Cells have a tendency to separate due to low calcium content
 - B. Anisocytosis
 - C. Formation of odd cytoplasmic shapes
 - D. Lack of variation in nuclear shape
14. Glandular endometrial cells are present as normal cells in the following conditions except?
- A. Menstrual flow
 - B. Abortion
 - C. Post-partum period
 - D. Late pregnancy
15. Smooth muscle cells may be found in?
- A. Deep traumatic scrapping of ulcerative lesions
 - B. Early pregnancy
 - C. Abortion
 - D. Post-partum period
16. Endometrial samples may be collected through the following methods except?
- A. Endometrial lavage
 - B. Endometrial lavage
 - C. Endometrial aspiration
 - D. Endometrial pap smear
17. A pap smear is collected using
- A. Ayers spatula
 - B. Speculum
 - C. Applicator stick
 - D. Wooden spatula
18. Unsatisfactory smears may result from
- A. Inadequate fixation
 - B. Clean slides
 - C. Correct staining time
 - D. Drying the smear after fixation
- 19 Which one of the following is not a characteristic of an unsatisfactory smear?
- A. Thick
 - B. Poorly spread
 - C. Blood smear with clots
 - D. Thin

- 20 The following are non epithelia cells except?
- A. Red blood cell
 - B. Macrophages
 - C. Plasma cells
 - D. Squamous epithelium
- 21 The nucleus of malignant cells can be identified by?
- A. Increased cytoplasmic nuclear ratio
 - B. Irregular chromatin staining
 - C. Hypochromatia
 - D. Normal distribution of chromosomes
- 22 Transudate is?
- A. Watery and clear
 - B. Turbid and cloudy
 - C. Has protein of more than 3mg/dl
 - D. Due to inflammation
- 23 Exudates are?
- A. Containing benign cells
 - B. Watery and clear
 - C. Have protein content of less than 3 mg/dl
 - D. Due to inflammation
- 24 Examination of body fluids for cytology will involve the following except?
- A. Gross examination
 - B. Total cell count
 - C. Microscopic examination
 - D. Titration
- 25 Which one of the following is not a method of staining cytological smears?
- A. PAP
 - B. Giemsa stain
 - C. Gram stain
 - D. H & E
- 26 Mild dysplasia (CIN 1) is indicated by?
- A. Presecnce of endocervical cells
 - B. Lack of abnormal cells
 - C. 10 % mononucleate
 - D. 95% mononucleates
- 27 Which of the following cells are not found in CSF?
- A. Lymphocytes
 - B. Eosinophils
 - C. Monocytes.
 - D. Macrophages.

- 28 The cells unique to the lungs are?
A. White cell
B. Red cell
C. Glandular cells
D. Mesothelial cells
- 29 Which one of the following fluids is found in the lungs?
A. Pleural fluid
B. Synovial fluid
C. CSF
D. Pericardial fluid
- 30 When is FNA performed?
A. When a diagnosis of cervical cancer is required
B. When a suspicious mass is found e.g. breast lump or enlarged lymph node
C. When diagnosis of T.B is required
D. None of the above
- 31 FNA is advantageous over surgical biopsies because of the following reasons except?
A. A cyst aspiration cannot be achieved with biopsies
B. It is relatively non invasive
C. It is icker
D. It is less painfull
- 32 Which group of FNA results is most likely followed by a surgical procedure
A. Clealy benign
B. Clearly malignant
C. Non definitive
D. Semi malignant
- 33 Which one of the following is not a cytological fixative?
A. 95% Ethyl alcohol
B. Ether alcohol mixture
C. 100% Methanol
D. Formal saline
- 34 Coating fixatives are substitutes for?
A. Wet fixatives
B. Ether alcohol mixture
C 100% Methanol
D. Formal saline
- 35 Which one of the following fixative is suitable for mailed smears?
A. Wet fixatives
B. Isopropanol
C. Alcohol ether mixture
D. Coating fixatives

- 36 The distance from which a slide is sprayed with an aerosol fixative is?
- A. 10 – 12 inches
 - B. 5 – 10 inches
 - C. 6 – 12 inches
 - D. 10 – 15 inches
- 37 Aerosol fixatives are not recommended for blood smears because?
- A. They haemolyze red cells
 - B. They stain red cells
 - C. They clear red cells
 - D They cause clamping of Red cells
- 38 Which one of the following is the best fixative for haemorrhagic samples
- A. Carnoy's fixative
 - B. Chloroform
 - C. Ethanol
 - D. Acetic acid
- 39 Which one of the following fixative is a replacement of Bouin's fixative
- A. Carnoy's fixative
 - B. Allen's solution
 - C. Ethanol
 - D. Acetic acid
- 40 The routine staining procedure in cytology lab is known as
- A. Gram stain
 - B. Giemsa staining
 - C. H & E
 - D. Papanicolaou

Section B (60 Marks)

41. Write short notes on the advantages of cytology (10 marks)

b) Discuss briefly the glandular epithelial cells (10marks)

42. (a) Give five main epithelial cells found on the female genital tract (10 marks)

(b) Describe one procedure used for lysing red blood cells from a blood stained smear (10 marks)

43. Discuss the Bethesda system for reporting cervical cytology (20 marks)