QUALIFICATION: BACHELOR of MEDICAL LABORATORY SCIENCES
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COURSE: ANATOMICAL PATHOLOGY 2B
COURSE CODE: ANP621S

DATE: November 2017
SESSION: Theory

DURATION: 3 Hours
MARKS: 120

FIRST OPPORTUNITY EXAMINATION QUESTION PAPER

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INSTRUCTIONS
1. Please write neatly and legibly.
2. Do not use the left side margin of the exam paper. This must be allowed for the examiner.
3. No books, notes and other additional aids are allowed.
4. Mark all answers clearly with their respective question numbers.

Permissable material
Pen, Pencil and a ruler.

THIS QUESTION PAPER CONSISTS OF _10_ PAGES (Including this front page)
SECTION A

Answer all questions in this Section

QUESTION 1

Evaluate the statements in each numbered section and select the most appropriate answer or phrase from the given possibilities. Write only the number and next to it the letter of the correct answer.

1.1 Which of the following is a role of diagnostic cytology

a) Hormonal assessment
b) Identifications of specific infections
c) Both A and B
d) None of the above

1.2 One of the disadvantages of diagnostic cytology is that it

a) Is not expensive
b) Is faster
c) Is less invasive
d) Does not give final diagnosis

1.3 Cytoplasm of the cell indicates the following except

a) Origin of the cell
b) Health status of the cell
c) Degree of differentiations
d) None of the above

1.4 What is the main purpose of diagnostic cytology

a) To provide final diagnosis
b) To determine the type of medicine needed
c) To differentiate benign lesion from malignancy
d) None of the above
1.5 Orange G6 in the pap stain, stains
   a) Nucleus
   b) Cilia
   c) Keratin
   d) All the above

1.6 Macro nucleolus is an example of
   a) Degenerating cell
   b) Cell undergoing cytolysis
   c) Cell undergoing reparative changes
   d) All the above

1.7 All the following are synthesised on the smooth endoplasmic reticulum except
   a) Progesterone
   b) Oestrogen
   c) pepsinogen
   d) Prolactin

1.8 The following cells indicate sampling from transformation zone except
   a) Immature metaplastic cells
   b) Mature metaplastic cells
   c) Metaplastic cells and endocervical cells
   d) Superficial cells

1.9 All the following cells are part of the stratified squamous epithelium except
   a) Basal cell
   b) Superficial cell
   c) Columnar cell
   d) Para basal cell
1.10 In postmenopausal woman, squamous columnar junction
   a) is found in the vagina
   b) Moves ectropion
   c) is found on the opening of the endocervical
   d) Moves entropion

1.11 Clue cells
   a) Indicate gardnerella infections
   b) Confirms presence of bacterial infections
   c) Are diagnostic of bacterial vaginosis
   d) Indicate shift in flora suggestive of bacterial vaginosis

1.12 Presence of oestrogen promotes the following except
   a) Maturations of cells
   b) Production of lactic acid in the vagina
   c) Prevention of bacterial vaginosis
   d) Atrophy

1.13 Perinuclear clearing or halo is suggestive of
   a) Fungal infections
   b) Protozoa trichomonas vaginalis infections
   c) Bacterial vaginosis
   d) All the above

1.14 Which of the following cannot be found in atrophic smear?
   a) Neutrophils
   b) Lymphocytes
   c) Metaplastic cells
   d) Full maturation spectrum
1.15 Identification features of metaplastic cells include

   a) Reduced N/C ratio
   b) Nuclear stains pale
   c) Stretched or spiking cytoplasm
   d) Pink staining of cells.

1.16 At puberty, SCJ is

   a) Ectropion
   b) Entropion
   c) Does not exist
   d) None of the above.

1.17 How can you describe squamous epithelium?

   a) Overlapped layers of cells
   b) Many cells separated from each other
   c) Only a single layer of cells
   d) All the above

1.18 Nuclear morphology of a cell reflects all the following except.

   a) Reproductive state
   b) Health state of the cell
   c) Proliferative state
   d) The origin of the cell

1.19 Pap test is useful to find

   a) Cervical carcinoma and endometrial carcinoma
   b) Endometrial carcinoma only
   c) Ovarian carcinoma
   d) Breast carcinoma
1.20 What is the site where a cell begins to become metaplastic? [1]
   a) The exocervics
   b) The squamous - columnar junction
   c) The Endocervics
   d) All the above

1.21 During pregnancy and breast feeding [1]
   a) There is a predominance of superficial cells in a smear
   b) There is a predominance of blood cells in a smear
   c) During breast feeding, a smear can be atrophic
   d) Only b is correct

1.22 Categorize the correct (ascending) orders of severity the abbreviations of the following squamous lesions: [1]
   a) ASCUS – SCC – LSIL - HSIL
   b) ASCUS – LSIL – HSIL - SCC
   c) LSIL –HSIL – ASCUS – SCC
   d) B and C are correct

1.23 In the Bethesda report you must report one of the following [1]
   a) The total amount of cells
   b) The adequacy of the sample
   c) The presence of endometrial cells in younger women
   d) All the above

1.24 Which of these groups of diagnostic definitions can you find in Bethesda system? [1]
   a) CIN I - CIN II - CIN III
   b) Normal – low SIL – High SIL
   c) Papanicolaou class I, II, III, IV, v
   d) all the above
1.25 In TBS you must classify inflammatory changes within
   a) Normal epithelium
   b) LGSIL
   c) CIN I
   d) Neoplasia

1.26 The Bethesda system is useful for:
   a) Aspirative cytology
   b) Histology
   c) Gynae and anal cytology
   d) Breast cytology

1.27 Mucus productions are associated with
   a) Intermediate cells
   b) Superficial cells
   c) Glandular cells
   d) All the above

1.28 "Honeycomb" pattern is typical of
   a) Inflammatory cells
   b) Basal cells
   c) Endocervical cells
   d) Reactive cells

1.29 Oestrogen hormone is associated with the following except
   a) Lactic acid production
   b) Proliferation of cells
   c) Low pH in the vagina
   d) Desquamation of intermediate cells
1.30 Cytomorphology of genital herpes include

a) Perinuclear halo, multinucleation and ground glass
b) Molding, margination, perinuclear halo
c) Ground glass, molding, koilocytic and margination
d) Margination, molding, ground glass and multinucleation

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QUESTION 2

Decide which of the following statements are TRUE or FALSE.

Write TRUE or FALSE to each of the statements.

2.1 Characteristic ‘clue’ cells are not necessary for diagnosis for BV
2.2 Trichomonas Vaginalis has pear shaped, centric nuclear and flagella
2.3 Pre-cancerous lesions include; LSIL, HSIL, ASCUS, ASC-H & SCC
2.4 Koilocytes suggest HPV infections
2.5 A pap smear can be taken from a 9 months pregnant woman
2.6 An intrauterine device is associated with actinomyces infection
2.7 Vaults smear has squamous, endocervical and metaplastic cells
2.8 Movement of SCJ to the ectocervix is known as ectropion
2.9 In menopausal women, SCJ remains at the ectocervix
2.10 Women living with HIV should do their pap every year
SECTION B

[20 MARKS]

Answer all questions in this section.

QUESTION 3

Write short note on the following:

3.1 Proliferative phase of menstrual cycle [5]
3.2 The diagnostic features of Genital Herpes [4]
3.3 Squamous – columnar Junction [5]

QUESTION 4

[6]

Fill in the blanks below:

4.1 Perinuclear halo in Pap smear suggests __________ infections [1]
4.2 Ground glass appearance of the cell nuclei is associated with__________ [1]
4.3 Shishkebab is synonymous to ______________ infections [1]
4.4 Dysplastic nuclear with irregular perinuclear halo defines__________ [1]
4.5 _______ is associated with follicular cervicitis and_______ are the suggestive diagnostic cells. [2]

SECTION C

[60 MARKS]

Choose any three (3) questions

QUESTION 5

5.0 A woman visits a fertility clinic due to her inability to conceive. The doctor requests Pap smear as part of the investigations. Briefly, discuss how a pap smear can be useful in relation to cyclic hormones and how they influence cell patterns, give examples where necessary.

QUESTION 6

6.0 Discuss the importance of Pap smear evaluations and give specific examples.
QUESTION 7  
7.0 Describe the cells of the female genital organ according to the sub headings below;  
7.1 Vagina  
7.2 Endometrium  
7.3 Endocervics  
7.4 Transformation zone  

QUESTION 8  
8.0 List seven (7) pre-cancerous and cancerous lesions which can be detected in a Pap smear and give three (3) main cytological diagnostic features for each.  

QUESTION 9  
9.0 List any five (5) infections which can be detected on a pap smear and give any four (4) cytological diagnostic features for each.  

Total marks 120