



QUALIFICATION : BACHELOR of MEDICAL LABORATORY SCIENCES	
QUALIFICATION CODE: 08BMLS	LEVEL: 6
COURSE: ANATOMICAL PATHOLOGY	COURSE CODE: ANP621S
DATE: NOVEMBER 2024	SESSION: 1
DURATION: 3 HOURS	MARKS: 100

FIRST OPPORTUNITY: QUESTION PAPER

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MODERATOR: Ms Ndeshipewa Hamatui-Valombola

INSTRUCTIONS:

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

PERMISSIBLE MATERIALS:

1. None.

ATTACHEMENTS

1. None.

This question paper consists of 6 pages including this front page.

QUESTION 1: MULTIPLE CHOICE QUESTIONS

[10 MARKS]

Evaluate the statements in each numbered section and select the most appropriate answer or phrase from the given possibilities. Fill in the appropriate letter next to the number of the correct statement/phrase in your ANSWER BOOK. [10]

1.1 EA-36, EA-50, EA-65 and Orange G (OG-6) are examples of _____ stains: (1)

- a) Cytoplasmic stains.
- b) Nuclear stains. H
- c) H&E stains.
- d) All of the above.

1.2 Cytologists call the peppering effect of this infection on the surface of squamous epithelial cells, which gives them a hazy blue appearance, as "clue cells". (1)

- a) Bacterial vaginosis.
- b) Fungal elements.
- c) Actinomyces.
- d) Trichomonas vaginosis.

1.3 The organism possesses hair-like flagella, and on high magnification a smudgy grey nucleus can be visualized with occasional tiny pink granules within the cytoplasm. (1)

- a) Bacterial vaginosis.
- b) Leptothrix.
- c) Actinomyces.
- d) Trichomonas vaginosis.

1.4 Pseudohyphae of these organisms appears as eosinophilic tangled filaments with parallel edges and without cross walls(septa) on the Pap stain. (1)

- a) Actinomyces.
- b) Fungi.
- c) Trichomonas vaginosis.
- d) Leptothrix.

1.5 An anatomical distinct region of the female genital tract that is lined with simple glandular epithelium, which forms branching crypts into the endocervical stroma. (1)

- a) Endocervix.
- b) Ectocervix.
- c) Endocervical canal.
- d) Squamocolumnar junction.

1.6 The opening of the cervical canal into the vaginal cavity is known as the: (1)

- a) Vaginal canal.
- b) Endocervical canal.
- c) Internal os.
- d) External os.

1.7 The opening of the cervical canal into the uterine cavity is known as the: (1)

- a) Endometrial canal.
- b) Endocervical canal.
- c) Internal os.
- d) External os.

1.8 The labia majora, labia minora, and clitoris are covered by: (1)

- a) Stratified squamous mucosa.
- b) Keratinized stratified squamous epithelium.
- c) Columnar mucinous epithelium.
- d) Germinal epithelium.

1.9 The vagina is lined by: (1)

- a) Stratified squamous mucosa.
- b) Keratinized stratified squamous epithelium.
- c) Columnar mucinous epithelium.
- d) Germinal epithelium.

1.10 The part of the female genital tract that consists of all the external parts and tissues and includes the mons pubis, pudendal cleft, labia majora, labia minora, Bartholin's glands, clitoris and vaginal opening is known as the: (1)

- a) Uterus.
- b) Cervix.
- c) Vulva.
- d) Vagina.

QUESTION 2: TRUE/FALSE QUESTIONS

[10 MARKS]

Evaluate the statements and select whether the statement is true or false. Write the word 'True' or 'False' next to the corresponding number in your ANSWER BOOK.

Correct each false statement by replacing the incorrect word(s) with the correct word(s). (One (1) mark for stating either 'True' or 'False' and one (1) mark for correcting each false statement.) [10]

- 2.1 Most gynaecological specimens are vaginal smears, followed by smears of the cervix or vulva.
- 2.2 Formalin is the preferred fixative for cytological specimens.
- 2.3 The H&E stain is the universal stain used for staining cytological samples.
- 2.4 If it is too thin, material may flake off in the staining process or result in cells overlapping and therefore make interpretation difficult.
- 2.5 An artificial or morphological change in a cytological smear, which is visible by light microscopy and is induced during sampling, transportation or smear preparation.
- 2.6 It is important to differentiate between air dried and fixed samples by appropriate labelling to ensure that the correct staining method is applied.

SECTION B: SHORT ANSWER QUESTIONS**[30 MARKS]**

Please answer ALL of the questions in this section.

QUESTION 3:**[18 MARKS]**

- 3.1 Explain the cytologic significance of the “transformation zone” of the cervix and sketch a neatly labelled diagram depicting the transformation zone.
(Five (5) marks for the explanation and three (3) marks for the diagram.) (8)
- 3.2 Describe five (5) factors that determine the type of epithelial cells seen in cervical smears. Give your answers in point form. (5)
- 3.3 Correlations between cytology and histology have identified two (2) features as most useful for distinguishing normal and neoplastic cells. Briefly describe these features. (5)

QUESTION 4:**[12 MARKS]**

- 4.1 Tabulate the difference between the three (3) phases of menopause according to the following criteria:
- 4.1.1 Phases (3)
- 4.1.2 Cytologic features (6)
- 4.1.3 Maturation index (MI) (3)

SECTION C: LONG ANSWER QUESTIONS**[50 MARKS]**

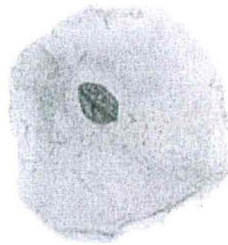
Please answer ALL of the questions in this section.

QUESTION 5:**[35 MARKS]**

Identify and describe in detail the normal epithelial cells of the female genital tract labelled from **letter a - g** below, based on their distinct cytological features observed microscopically. Write the correct answer(s) next to the appropriate letter. PRINT IN COLOUR. (One (1) mark for identification and four (4) marks for describing.) (35)



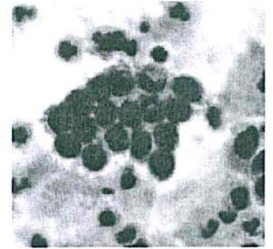
(a)



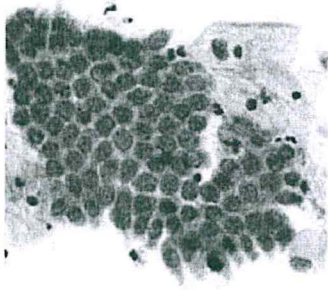
(b)



(c)



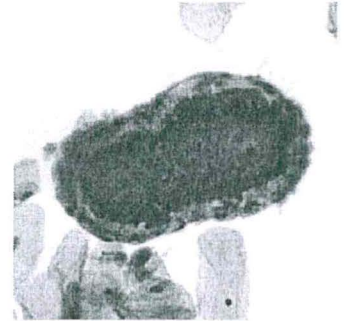
(d)



(e)



(f)



(g)

QUESTION 6:

[15 MARKS]

Discuss in detail how the three (3) grades of cervical intraepithelial neoplasia (CIN) are recognized and categorized. Give your answers in point form. **(Three (3) marks for recognizing and twelve (12) marks for categorizing.)**

(15)

END OF EXAMINATION PAPER

