



# **UNIVERSITY OF EMBU**

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**2017/2018 ACADEMIC YEAR**

**SECOND SEMESTER EXAMINATIONS**

**FIRST YEAR EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE  
(NURSING)**

**HNS 111: HUMAN ANATOMY 1 MAIN**

**DATE: APRIL 5, 2018**

**TIME: 8:30AM -1:00 PM**

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## **INSTRUCTIONS:**

**Answer:**

**All MCQs in Section A**

**All Short-answer Questions in Section B**

**All Long-answer Questions in Section C**

**Cancelled work should be done neatly by crossing with a single line in the essay and by use of X in the MCQs**

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## **SECTION A: MULTIPLE CHOICE QUESTIONS (TOTAL: 20 MARKS)**

**WRITE THE CORRECT ANSWER THE FIRST PAGE OF THE ANSWER BOOKLET.**

1. Concerning the plasma membrane:
  - A) Inner and outer leaflets are symmetrical
  - B) It is constant throughout life
  - C) Has phosphatidylcholine as the main component
  - D) Glycocalyx is formed mainly by the phospholipid

2. Cells that are involved in hydrogen peroxide decomposition have abundant:

- A) Lysosomes
  - B) Mitochondria
  - C) Smooth endoplasmic reticulum
  - D) Peroxisomes
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3. Which of the following statements is correct concerning the mitochondria :

- A) Its membrane is permeable to all ions
- B) Can synthesize its own proteins
- C) Usually found in all cells
- D) Contains numerous catalase enzyme

4. During the anaphase of mitosis:

- A) The nuclear envelope reappears
- B) The mitotic spindle forms
- C) The nucleolus reappears
- D) Cytokinesis commences

5. Salivary glands and pancreas constitute which types of glands:

- A) Endocrine
- B) Merocrine
- C) Apocrine
- D) Holocrine

6. The main function of the ependymal cell is:

- A) Support the neurons
- B) Synthesize myelin sheath
- C) Produce cerebrospinal fluid
- D) Phagocytize cellular wastes

7. The epithelium lining the mouth , esophagus and part of the larynx is:
- A) Non keratinized stratified squamous
  - B) Keratinized pseudo stratified columnar
  - C) Stratified columnar
  - D) Transitional
8. Human chorionic gonadotropin (hCG) is secreted by :
- A) Cytotrophoblast
  - B) Syncytiotrophoblast
  - C) Corpus luteum
  - D) Yolk sac
9. The first polar body is extruded:
- A) At the time of ovulation
  - B) 48 hours after ovulation
  - C) Upon fertilization of the ovum
  - D) 24 hours prior to ovulation
10. The trilaminar embryonic disc has three layers. The layer that gives rise to the nervous system is the embryonic:
- A) Hypoblast
  - B) Endoderm
  - C) Mesoderm
  - D) Ectoderm
11. The abdominal region containing most of the liver is the right:
- A) Lumbar
  - B) Epigastric
  - C) Hypochondriac
  - D) Umbilical

12. The plane that divides the body or an organ into anterior (front) and posterior (back) portions is:

- A) Sagittal
- B) Coronal
- C) Parasagittal
- D) Transverse

13. Blindness may result in case of injury to which lobe of cerebral cortex::

- A) Occipital
- B) Frontal
- C) Temporal
- D) Parietal

14. Most of the vital centers are located in which part of the brainstem:

- A) Medulla oblongata
- B) Pons
- C) Midbrain
- D) Cerebellum

15. Concerning the sympathetic nervous system:

- A) Sensory pathway has two neurons
- B) Cell body of the preganglionics lie in the CNS
- C) Autonomic ganglia lie in the visceral organ
- D) Motor fibres originate from the craniosacral region

16. Components of the peripheral nervous system include:

- A) Brain and spinal cord
- B) Brain and cranial nerves
- C) Spinal cord and spinal nerves
- D) Cranial and spinal nerves

17. Pure endocrine glands include:

- A) Hypothalamus
- B) Pancreas
- C) Thyroid
- D) Kidney

18. Concerning the thyroid gland:

- A) It has a cortex and a medulla
- B) Has two cell types
- C) Secretes mainly triiodothyronine
- D) Located behind the larynx

19. Lingual papillae containing most of the taste buds is :

- A) Circumvallate
- B) Foliate
- C) Filiform
- D) Fungiform

20. The major difference between the cones and rods is that cones:

- A) Are sensitive to color
- B) Are sensitive to light
- C) Absent in fovea centralis
- D) Do not provide sharp image

**SECTION B: SHORT ANSWER QUESTIONS (40 MARKS)**

1. Describe three (3) components of the cytoskeleton (6 marks)
2. State the four (4) phases of the cell cycle (4 marks)
3. Cells are connected by intercellular junctions to form tissues. Describe briefly three (3) such junctions (6 marks)
4. Classify cranial nerves giving two (2) examples of each (6 marks)
5. Draw a well labeled diagram illustrating the main parts of the eye (7 marks)

6. Describe the histologic organization of the adrenal cortex (6 marks)
7. Enumerate five(5) cells of the anterior pituitary indicating the hormone produced by each (5 marks)
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**SECTION C: LONG ANSWER QUESTIONS (40 MARKS)**

1. Connective tissue is the most abundant tissue in the body. It usually connects the other tissues in the body.
- a) Classify mature connective tissue (10 marks)
  - b) Describe the major components of the connective tissue (10 marks)
2. The female gonads are responsible for the production of female gametes. These gametes are fertilized through a process to form a zygote.
- a) Describe the phases of the ovarian cycle (11 marks)
  - b) Describe the process of fertilization (9 marks)

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