



## **UNIVERSITY OF EMBU**

**2017/2018 ACADEMIC YEAR**

**SECOND SEMESTER EXAMINATIONS**

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

**HNS 121: HUMAN ANATOMY II**

**DATE: APRIL 12, 2018**

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

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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 answers on the first page of the answer booklet.**

1. Secondary lymphatic organs include:

- A) Thymus
- B) Bone marrow
- C) Spleen
- D) Tonsils

2. All of the following cells are associated with the thymus EXCEPT:
- A) Plasma
  - B) Dendritic
  - C) T helper
  - D) Macrophages
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3. Mucosa associated lymphoid tissues (MALT) are mainly associated with:
- A) Heart
  - B) Intestines
  - C) Liver
  - D) Kidneys
4. Arterial branches of the arch of the aorta include:
- A) Coronary arteries
  - B) Right subclavian artery
  - C) Pulmonary trunk
  - D) Left common carotid artery
5. Concerning blood flow from the heart:
- A) Pulmonary arteries carry oxygenated blood from the heart
  - B) Flow from the left ventricle is dependent on the bicuspid valve
  - C) The aortic valve prevents backflow of the blood from the right ventricle
  - D) Emptying of the left atrium is mainly through its pumping action
6. Portal hepatic vein is formed by union of several veins. These include:
- A) Splenic, inferior mesenteric
  - B) Gonadal, posterior mesenteric
  - C) Gastric, renal
  - D) Posterior mesenteric, hepatic
7. Components of the circle of Willis include:
- A) Middle cerebral, basilar
  - B) Posterior cerebral, middle cerebral
  - C) Internal carotid, anterior cerebral
  - D) Basilar, vertebral

8. Concerning the erythrocytes:
- A) Contain numerous mitochondria
  - B) Contain minute granules
  - C) May have a small nucleus
  - D) Has a flexible plasma membrane
9. Concerning albumin:
- A) Constitutes 38% of the plasma proteins
  - B) Has the shortest half live
  - C) Decrease in liver disease
  - D) Inhibit proteases
10. The ratio of leukocytes to erythrocytes is:
- A) 1:60
  - B) 1:600
  - C) 1:6000
  - D) 1:60,000
11. Rotator cuff muscles of the shoulder include:
- A) Deltoid, supraspinatus
  - B) Infraspinatus, teres minor
  - C) Deltoid, teres major
  - D) Teres major, subcapsularis
12. Muscles of the neck include:
- A) Platysma, sternocleidomastoid
  - B) Trapezius, Lattismus dorsi
  - C) Sternocleidomastoid, buccinators
  - D) Platysma, obicularis oculi
13. The main action of the posterior thigh muscle is:
- A) Flexion at the hip joint
  - B) Flexion at the knee joint
  - C) Extension at the knee joint
  - D) Extension at the hip joint

14. Bones constituting the proximal row of the carpus include;
- A) Triquetrum
  - B) Trapezoid
  - C) Capitate
  - D) Scaphoid
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15. The squamous suture separates the parietal bone from the:
- A) Occipital bone
  - B) Frontal bone
  - C) Temporal bone
  - D) Zygomatic bone
16. Thoracic and lumbar vertebrae are different in that the lumbar vertebrae:
- A) Has a bifid spinous process
  - B) Has a massive block like body
  - C) Has lateral masses
  - D) As a round vertebral foramina
17. Talocrural(ankle) joint is formed by the articulation of tibia and:
- A) Talus
  - B) Fibula
  - C) Calcaneous
  - D) Navicular
18. The most abundant epidermal cell is:
- A) Melanocytes
  - B) Langerhans
  - C) Keratinocytes
  - D) Merkel cell
19. The epidermal layer where melanin is produced is the stratum:
- A) Spinosum
  - B) Corneum
  - C) Granulosum
  - D) Basale

20. Dermal papillae is associated with:

- A) Sudoriferous glands
- B) Meissner's corpuscles
- C) Hair follicles
- D) Sebaceous glands

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

1. State five (5) differences between eccrine and apocrine sweat glands (5 marks)
2. Describe the two (2) layers of the dermis (4 marks)
3. Outline five (5) differences between cardiac and smooth muscles (5 marks)
4. Describe briefly the muscles associated with the upper arm (6 marks)
5. Describe the structural organization of the pericardium (5 marks)
6. With an example of each state any three (3) types of joints (6 marks)
7. Classify bones based on the shape (5 marks)
8. Enumerate four (4) differences between blood and lymph (4 marks)

**SECTION C: LONG ANSWER QUESTIONS**

1. Lymphatic system drain excess interstitial fluid from the tissues back into blood circulation
  - a) Utilizing a well labeled diagram describe the route of flow of lymph through a lymph node (10 marks)
  - b) Discuss the five (5) lymphatic trunks (10 marks)
2. Blood capillaries connect the arteries and capillaries. They also form the site of exchange of materials between blood and tissues.
  - a) Describe the histology of an artery (11 marks)
  - b) Describe the three(3) types of capillaries indicating two areas where each is found (9 marks)

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