



## UNIVERSITY OF EMBU

2017/2018 ACADEMIC YEAR

TRIMESTER EXAMINATIONS

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

HNS 121: HUMAN ANATOMY II

**DATE: AUGUST 8, 2018**

**TIME: 2:00-5:00PM**

**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**

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

**Choose (CIRCLE/TICK) only one correct answer from the following questions**

1. The largest volume of blood is conveyed back to the heart by:
  - a) Inferior vena cava
  - b) Jugular vein
  - c) Superior vena cava
  - d) Carotid sinus
  
2. The following statement is correct about characteristics of lymph:
  - a) Found in all organs of the body
  - b) Has higher volume than blood
  - c) Has more proteins than blood
  - d) Has more lipids than blood

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3. Branches of the brachiocephalic trunk include which of the following arteries:
  - a) Left common carotid
  - b) Axillary
  - c) Right subclavian
  - d) Vertebral
4. Fenestrated capillaries are associated with:
  - a) Kidneys
  - b) Liver
  - c) Lungs
  - d) Brain
5. Which one of the following is NOT a component of micro-circulation:
  - a) Post capillary venule
  - b) Precapillary sphincter
  - c) Metarteriole
  - d) Capillary
6. The carpal bones that articulate with the metacarpal bones to form the carpo-metacarpal joint include:
  - a) Hamate
  - b) Scaphoid
  - c) Lunate
  - d) Pisiform
7. Which type of bone is correctly matched with an example:
  - a) Long bone- rib
  - b) Irregular bone- femur
  - c) Sesamoid bone- pisiform
  - d) Long bone- calcaneous
8. Parietal bone articulates with the temporal bone to form which sutures:
  - a) Frontal
  - b) Squamous
  - c) Lambdoidal
  - d) Sagittal

9. Which of the following muscles extends the shoulder joint:
  - a) Deltoid
  - b) Supraspinatus
  - c) Teres major
  - d) Biceps brachii
10. Which of the following muscles is the odd one out:
  - a) Teres minor
  - b) Supraspinatus
  - c) Deltoid
  - d) Infraspinatus
11. The muscle attached by the Achilles tendon to the calcaneus is:
  - a) Sartorius
  - b) Gastrocnemius
  - c) Biceps femoris
  - d) Gluteus maximus
12. Concerning the hamstrings:
  - a) All are innervated by sciatic nerve
  - b) Are found in the anterior compartment of the thigh
  - c) They extend the knee joint
  - d) Vastus lateralis is a component
13. Concerning plasma proteins:
  - a) Mainly function as carriers
  - b) All are produced in the liver
  - c) They influence the blood hydrostatic pressure
  - d) Albumin has the shortest half life
14. The blood cells that arise from the same progenitor cells are neutrophils and:
  - a) Basophils
  - b) Monocytes
  - c) Erythrocytes
  - d) Lymphocytes

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15. Concerning stratum basale:
- a) Contains mainly dead keratinocytes
  - b) The cells have spine like projections
  - c) Present in thick skin only
  - d) Melanin is produced here
16. The following structure is associated with the dermal papillae:
- a) Sudoriferous glands
  - b) Hair follicles
  - c) Meissners corpuscles
  - d) Sebaceous glands
17. Concerning the reticular layer of the dermis:
- a) Makes 20 % of the dermis
  - b) Consists of areolar connective tissue
  - c) Has collagen fibers arranged in special pattern
  - d) Contains melanin
18. Secondary lymphoid organs include:
- a) Spleen
  - b) Thymus
  - c) Bone marrow
  - d) Tonsils
19. Lymphatic trunk that drains the lungs and the heart is:
- a) Thoracic
  - b) Broncho-mediastinal
  - c) Subclavian
  - d) Lumbar
20. Lymphatic cells associated with the secondary follicles of the lymph node include:
- a) B-cells
  - b) T cells
  - c) Macrophages
  - d) Plasma cells

**SECTION B: Answer ALL the questions in this section (40 marks; Use the answer booklet provided)**

1. Describe the histology of the heart wall (6 marks)
2. Classify leukocytes (6 marks)
3. Discuss the two (2) lymphatic ducts (4 marks)
4. Compare and contrast blood and lymphatic capillaries (6 marks)
5. State the four (4) types of epidermal cells indicating a function of each (4 marks)
6. State five (5) anatomical features of apocrine sweat glands (5 marks)
7. State four (4) features of a thoracic vertebrae (4 marks)
8. Outline five (5) differences between skeletal and smooth muscles (6 marks)

**SECTION C: Answer ALL the questions in this section (40 marks; Use the answer booklet provided)**

1.
  - a) Draw a well labelled diagram illustrating the anterior view of a femur (8 marks)
  - b) Discuss four (4) types of synovial joints giving two (2) examples of each (12 marks)
2.
  - a) Trace the route of flow of blood from the left thigh to the right side of the neck. (14 marks)
  - b) Describe the two (2) types of arteries giving an example of each (6 marks)

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