

**UNIVERSITY OF SWAZILAND**  
**FACULTY OF HEALTH SCIENCES**  
**GENERAL NURSING SCIENCE DEPARTMENT**  
**FINAL EXAMINATION: DECEMBER 2015**

<b>COURSE TITLE:</b>	<b>HUMAN ANATOMY AND PHYSIOLOGY I</b>
<b>COURSE CODE:</b>	<b>GNS 115</b>
<b>MARKS ALLOCATED</b>	<b>75</b>
<b>TIME ALLOWED</b>	<b>TWO (2) HOURS</b>

**INSTRUCTIONS:**

1. THERE ARE THREE (3) SECTIONS IN THIS PAPER.
  - i) SECTION 1A IS MULTIPLE CHOICE
  - ii) SECTION 1B IS MATCHING
  - iii) SECTION 2 IS SHORT ANSWERS
  
2. PLEASE ANSWER ALL SECTIONS
  - i) SECTION 1 CARRIES 30 MARKS
  - ii) SECTION 2 CARRIES 45 MARKS
  
3. USE ANSWER BOOK FOR ALL YOUR ANSWERS.

**NB: PLEASE DO NOT OPEN YOUR QUESTION PAPER UNTIL  
PERMISSION HAS BEEN GRANTED BY THE INVIGILATOR.**

**SECTION 1A**

**(SECTION 1 TOTAL 30 MARKS)**

**MULTIPLE CHOICE**

For each of the following questions, choose the most correct response and write it in your answer book e.g. 1=D

1. You are standing in an anatomical position facing north, which finger is closer to you midline?

- A. Number 1
- B. Number 2
- C. Number 3
- D. Number 5

2. How many phalanges are found in finger number five

- A. Three
- B. four
- C. two
- D. five

3. Which bone is responsible for forming the elbow?

- A. The radius
- B. The humerus
- C. The trochlear fossa
- D. The ulna

4. Which joint is formed by the head of ulna and the radius?

- A. Proximal radioulnar joint
- B. Ulna joint
- C. Radial joint
- D. Distal radioulnar joint

5. Which tissue binds together the radius and ulnar?

- A. Serous membrane
- B. Mucus membrane
- C. Interosseous membrane
- D. ligament

6. The surgical neck is found inferior to the....

- A. Greater tubercle
- B. Lesser tubercle
- C. Greater trochanter
- D. Greater and lesser tubercle

7. This cavity is shallow and prone to luxation.

- A. Trochlea notch
- B. Olecranon fossa
- C. Glenoid cavity
- D. Acetabulum cavity

8. Bed side nurses are prone to flat foot because of excessive standing resulting in...

- A. Flattening of the medial longitudinal arch
- B. Flattening of the transverse arch
- C. Flattening of the lateral longitudinal arch
- D. Flattening of all the arches above

9. Intramuscular injection in adults is given directly to the gluteal muscle; which bone lies directly under this muscle?

- A. The femur
- B. The ilium
- C, The ischium
- D. The humerus

10 The frontal fontanel is expected to close completely after how many months from the date of delivery?

- A. One month
- B. Three months
- C. Twelve months
- D. Eighteen months

11. Which movement of the forearm results in the formation of an X?

- A. Lateral rotation
- B. supination
- C. pronation
- D. abduction

12. This foramen is found in the pelvic girdle.

- A. Foramen magnum
- B. Obturator foramen
- C. Foramen ovale
- D. Infraorbital foramen

13 With reference to the body in an anatomical position; where are the sphenoidal sinuses located?

- A. Lateral to the eyes
- B. Inferiorly to the bridge of the nose
- C. Superior to the eyes
- D. Anterior to the ears

14 Standing in an anatomical position; where are the ethmoid sinuses located

- A. Lateral to the eyes
- B. Superiorly On the bridge of the nose
- C. Superior to the eyes
- D. Anterior to the ears

15. Which bone structure drapes itself with the dura matter to secure the brain in its cavity?

- A. The ethmoid bone
- B. The sphenoid bone
- C. The cribriform plate
- D. The crista galli

16. Which suture joins the temporal to the parietal bone?

- A. The coronary suture
- B. Sagittal suture
- C. Squamous suture
- D. Lambdoid suture.

17. Hydrophobic tails are arranged is away from the which fluid?

- A. blood
- B. intracellular fluid
- C. extracellular fluid
- D. both B and C

18. The coronary plane divides the body into:-

- A. Right and left side
- B. Superior and inferior
- C. Anterior and posterior
- D. Proximal and distal parts

19. The extent of burns is measured using...

- A. The rule of nine
- B. The area affected
- C. the percentages
- D. The degrees

20. The smallest functional unit of the human body is the...

- A. Neuron
- B. Nephron
- C. Cell
- D. Osteon

**SECTION 1 B**

**(Total Marks 10)**

**MATCHING:** Choose the most appropriate articulation in column 1 to the statement in column2,  
Please note that some question has more than one correct answer.

Example 1. = A and D

**COLUMN 1**

1. Chewing
2. Nodding to say no
3. Abduction and Adduction
4. Nodding to say yes
5. Writing

**COLUMN 2**

- A. The shoulder joint
- B. Interphalangeal joint
- C. Elbow joint
- D. Wrist joint`
- E. Distal and proximal radio-ulna  
joint
- F. Atlanto axial joint
- G. Temporomandibular joint

**SECTION 2****(TOTAL 45 MARKS)****SHORT ANSWERS****Scenario 1**

You are a student nurse working in the female medical client ward. You are assigned to provide nursing care to two clients in the ward. One of your responsibilities is to observe your client and identify any homeostatic imbalances from your client's anatomy and physiology. The first client was a 25 years old female with a history of being eight months pregnant with twins. She was admitted with difficulty in breathing and she was diagnosed with asthma. You observed the client walking towards the bathroom and you noted an exaggerated curvature of the lumbar region. The second client was a 70 years old female admitted with history of diarrhea and vomiting. Her condition was responding well to treatment but, she looked very short, on close observation of her spinal vertebrae you noted that her vertebral column was laterally twisted and also had a hunchback.

**QUESTION 1****(TOTAL 5 MARKS)**

With reference to scenario 1 above, please answer; question i to v in your answer sheet.

Example: i) hunchback (1 Mark each)

- i) Based on information learned in homeostatic imbalances of the vertebral column which condition does client number one has?
- ii) List one possible cause of client number ones homeostatic imbalance.
- iii) What is the anatomical term used to describe an individual with a laterally twisted vertebra.
- iv) State the anatomical name for hunchback.
- v) List one possible cause of a hunchback.

**QUESTION 2****(TOTAL 10 MARKS)**

Briefly state, five functions of facial bones.

(2 marks each)

**QUESTION 3**

**(TOTAL 10 MARKS)**

The human eyes are protected by the orbital cavity. This cavity is formed by seven bones of the skull.

State any five bones responsible for forming the orbital cavity. (2 Marks each)

**QUESTION 4**

**(TOTAL 10 MARKS)**

Which muscle is responsible for each of the following movements? (1 mark each)

- I) Blinking
- II) Whistling
- III) Abduction
- IV) Adduction
- V) Kissing
- VI) Retracting and elevating tongue
- VII) Extending and hyper extending the head
- VIII) Maintaining an erect posture
- IX) The major muscle for respiration
- X) Muscle responsible for peristalsis

**QUESTION 5**

**(TOTAL 10 MARKS)**

With the aid of a table differentiate between the thoracic and the lumbar vertebrae.

(2marks each)

**Example of table:-**

<b>NO</b>	<b>NARATION</b>	<b>THORACIC</b>	<b>LUMBAR</b>
1.			
2.			
3.			
4.			
5.			