

UNIVERSITY OF SWAZILAND
FACULTY OF HEALTH SCIENCES
GENERAL NURSING DEPARTMENT
FINAL EXAMINATION: DECEMBER, 2017

COURSE TITLE; HUMAN ANATOMY AND PHYSIOLOGY 1
COURSE CODE: GNS 115
TIME ALLOCATED: TWO (2) HOURS
MARKS ALLOCATED: 75
TOTAL NO. OF PAGES: 8

INSTRUCTIONS:

1. THERE ARE TWO SECTIONS IN THIS PAPER.
 - i) SECTION 1 A. MULTIPLE CHOICES
 B. MATCHING
 C. FILLING IN THE BLANK SPACES
 - ii) SECTION 2 IS SHORT ANSWERS AND ESSAYS
2. PLEASE ANSWER ALL SECTIONS
 - i) SECTION I CARRIES 35 MARKS
 - ii) SECTION II CARRIES 40 MARKS
3. USE THE PROVIDED ANSWER SHEET FOR ALL YOUR ANSWERS
4. DO NOT OPEN YOUR QUESTION PAPER UNTIL PERMISSION HAS BEEN GRANTED BY INVIGILATOR.

SECTION 1

A. MULTIPLE CHOICE QUESTIONS:-

(18 MARKS)

Please choose the most appropriate response and write it in the answer book.

e.g. 1 = C

1. Which of the following cells are responsible for remodelling?
 - A. Chondrocytes and osteocytes
 - B. Osteoblast and osteocytes
 - C. Osteoblast and chondroblast
 - D. Osteoblast and osteoclast

2. Which of the following fractures refer to an incomplete fracture where by the two ends are not separated?
 - A. Compound
 - B. Simple
 - C. Greenstick
 - D. Complicated

3. The anatomical name for the shaft of long bones is...
 - A. Epiphysis
 - B. Diaphysis
 - C. Compact bone
 - D. Periosteum

4. Which bone disorder result's in porous bones?
 - A. Osteomalacia
 - B. Osteoporosis
 - C. Fracture
 - D. Both A and B

5. Skin colour is determined by..
 - A. Pigments
 - B. Level of oxygenated blood
 - C. Fluid level in blood
 - D. Both A and B

6. The erector pili muscle is associated with ...
 - A. Each sweat gland
 - B. Enabling each hair to be stretched when wet.
 - C. Causing hair to stand up straight.
 - D. Producing new cells for hair growth

7. The rule of nine helps Anatomists to.....
 - A. Measure the depth of burns.
 - B. Diagnose cancer.
 - C. Detect extent of infection
 - D. Measure extent of burns.

8. Which of the following response refer to glands that produce milk, bile and sweat?
 - A. Mammary glands
 - B. Sweat glands
 - C. Exocrine glands
 - D. Endocrine glands

9. Which membrane line cavities that open to the exterior of the human body?
 - A. Mucous membrane
 - B. Serous membrane
 - C. Cutaneous membrane
 - D. Endothelium membrane

10. Which of the following tissue lines the urinary bladder?
 - A. Simple squamous
 - B. Stratified columnar
 - C. Transitional epithelium
 - D. Stratified squamous

11. The following are functions of the connective tissue **except**.
- A. Support
 - B. Form boundaries
 - C. Protect
 - D. Bind tissues together
12. The physiology of epithelial tissue is...
- A. Secretion
 - B. Support
 - C. Contract
 - D. Communication
13. Which solution will result in cells losing water to their environment?
- A. Hypotonic
 - B. Isotonic
 - C. Catatonic
 - D. Hypertonic
14. The smallest functional unit in the human body is the....
- A. Organ
 - B. Tissue
 - C. System
 - D. Cell
15. Which is the most efficient organ system in maintaining body homeostasis?
- A. Endocrine system
 - B. Cardiac system
 - C. Nervous system
 - D. Circulatory system
16. Which is the largest pelvic bone?
- A. Acetabulum
 - B. Ischium
 - C. Ilium
 - D. Pubic

17. The following are functions of bones **except**.

- A. Protection
- B. Blood cell formation
- C. Stores sodium
- D. Movement

18. Long bone grows in length through...

- A. Appositional growth
- B. Interstitial growth
- C. Both A and B
- D. None of the above

SECTION 1 B MATCHING (TOTAL MARKS 10)

Choose the most appropriate alphabet in column B to describe the statement in column A and write the correct response in your answer book. e.g: 1 = D

COLUMN A	COLUMN B
1. Avascular and innervated	A. Nervous tissue
2. Zero regenerative capacity	B. Connective tissue
3. Striated and voluntary	C. Epithelial tissue
4. Ground substances and cells	D. Muscular tissue
5. Forms blood	
6. Most abundant in the human body	
7. Made by organs of the posterior cavities	
8. Named according to number of layers	
9. Forms cartilages	
10. Forms adipose tissue	

SECTION 1 C

(7 MARKS)

Fill in the blank spaces in the following statement.

1. The smallest functional unit of the bone is an
2. Gap junctions allow communication of chemicals to.....
3. Vertebral ribs attaches to the
4. The first phase of bone healing is
5. The movement of the limb away from midline is and the movement
Towards midline is referred to as.....
6. The plasma membrane is in a resting state at -----millivolts

SECTION 2 SHORT ANSWER AND ESSAYS

(TOTAL MARKS 40)

QUESTION 1

(10 MARKS)

1 Define the following anatomical terms.

1.1 Sagittal plane

1.2 Coronal plane

1.3 Histology

1.4 Cytology

1.5 Pericardial membrane

1.6 Parietal pleurae

1.7 Plasma membrane

1.8 Glycocalyx

1.9 Comminuted fracture

1.10 Depressed fracture

QUESTION 2

- 2.1 Define homeostasis (2)
- 2.2 Briefly discuss four (4) types of vesicular transport (8)

QUESTION 3

- 3.1 Which is the most abundant muscle tissue in the human body? (2)
- 3.2 State four (4) important functions produced by muscle tissue through contraction and relaxation. (8)

QUESTION 4

Scenario 1.

As a nurse, your core duty is working with human beings, going through different types of homeostatic imbalances. Your main goal is to assist them maintain a state of homeostatic balance in their body systems. In order to achieve your goal, you need to master the human body through anatomy and physiology.

Based on scenario 1, answer question 4,1 .

- 4.1 With the aid of a table, list ten body systems and state one main function of each system. (10)