

UNIVERSITY OF SWAZILAND

FACULTY OF HEALTH SCIENCES

GENERAL NURSING SCIENCE DEPARTMENT

FINAL EXAMINATION: DECEMBER 2014

COURSE TITLE:	HUMAN ANATOMY AND PHYSIOLOGY I
COURSE CODE:	HSC 116
MARKS ALLOCATED	75
TIME ALLOWED	TWO (2) HOURS

INSTRUCTIONS:

1. THERE ARE TWO 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.**

MULTIPLE CHOICE QUESTIONS

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

1. What does fibro myositis mean?
 - A. Muscle pain
 - B. Chronic inflammation of muscles
 - C. Inflammation of the knee capsule
 - D. Myalgia

2. Myopathy refers to...
 - A. Disease of the muscle
 - B. Inflammation of the muscle
 - C. Muscle pain
 - D. Muscle contraction

3. The acronym RICE stands for...
 - A. Starch
 - B. Stable food for Asians
 - C. Rest, ice, compression and elevation
 - D. Relaxation

4. Which of the following is not a functional characteristic of muscles?
 - A. Elasticity
 - B. Conductivity
 - C. Contractibility
 - D. None of the above

5. Which of the following is a definition of synovitis?
 - A. Arthritis
 - B. Inflammation of the synovial joint
 - C. Inflammation of the synovial membrane
 - D. Tendonitis

6. Which of the following is a synonym of luxation?
 - A. RICE
 - B. Reduction
 - C. Dislocation
 - D. Fracture

7. Which of the following cords reinforce the coxal joint?
- A. Ligament tires
 - B. Iliofemoral ligament
 - C. Pubofemoral tendon
 - D. Femoral tendon
8. Which of the following is true about nervous tissue?
- A. Highly mitotic
 - B. High regenerative capacity
 - C. Moderate regenerative capacity
 - D. Poor regenerative capacity
9. Which of the following burn destroys the epidermis and part of the dermis?
- A. First degree burns
 - B. Full thickness burns
 - C. Second degree burns
 - D. Superficial burns
10. Which of the following burns is most likely to be fatal?
- A. Full thickness burns
 - B. Partial thickness burns
 - C. Third degree burns
 - D. Both A and C
11. Sodium gates open during which phase of action potential?
- A. Repolarization
 - B. Undershoot
 - C. Depolarization
 - D. Threshold
12. In which structural part of the cell is DNA found?
- A. The cell membrane
 - B. The cytoplasm
 - C. The nucleus
 - D. The extracellular fluid
13. Mitochondria are the cytoplasmic organelle responsible for...
- A. Generating energy for the cell.
 - B. Demolition crew of the cell
 - C. Synthesis of proteins
 - D. Mitosis

14. Which of the following statements is true about abduction?
- A. Movement of the limb away from point of attachment.
 - B. Moving toward point of attachment
 - C. Moving the limb away from midline
 - D. Moving the limb towards midline
15. Hydrophobic tails are structural parts of which part of the cell?
- A. Nucleus
 - B. Cell membrane
 - C. Lysosomes
 - D. Cytoplasm
16. 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
17. Which cell protects the body against invasion by microorganisms?
- A. Macrophage cells
 - B. Red blood cells
 - C. Fat cells
 - D. Nerve cells
18. Which is the largest bone of the pelvic bones?
- A. Ischium
 - B. Ilium
 - C. Pubic
 - D. Lumber
19. Which is the strongest bone of the pelvis?
- A. Ischium
 - B. Ilium
 - C. Pubic
 - D. Lumber
20. Which of the following bones houses the sciatic notch?
- A. Ischium
 - B. Ilium
 - C. Pubic
 - D. Lumber

(Total marks 20)

SECTION 1 B

(Total Marks 10)

MATCHING: Choose the most appropriate response in column 2 to the statements in column1

Example 1. = D

COLUMN 1

1. The lateral curvature of the spine.
2. The key stone bone of the cranium
3. The third level of the human structural organization.
4. The largest and strongest bone of the human body.
5. The smallest functional unit of the human body.
6. Merkel cells of the skin are responsible for...
7. Which membrane covers the liver
8. Blue colour of the skin
9. Biological markers for sex cells
10. Responsible for destroying bone

COLUMN 2

- A. Osteoclast
- B. Cynosis
- C. Visceral peritoneum
- D. Cell
- E. Lysosome
- F. Glycocalyx
- G. Tissues
- H. Sphenoid
- I. Femur
- J. Touch
- K. Scoliosis
- L. Kyphosis

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

Mary is a 75 years old female living with her grandson Tee, at Eveni, Mbabane. They are living in a house that was owned by her late daughter. One evening Mary was tired after spring cleaning the house. She asked Tee to fill the tub with warm water for her to take a warm soothing bath before going to sleep. Tee opened hot water to fill the tub. 15 minutes later, he remembers that water was still running in the bathroom. He ran to the bathroom to close the water, in the process Tee fell into the tub full of hot water. He sustained 100 % burns of his body. Mary came to assist her grandson and an ambulance was called to take him to the hospital. You are the nurse on duty, who received Tee in the hospital emergency room.

QUESTION 1

With the aid of a diagram, describe the extent of Tee's burns, using the rule of nines.

(10 Marks)

QUESTION 2

Briefly explain how the muscles in number 2: 1 to 2:5 are named. (2 Marks each)

2:1 Triceps

2:2 Sternocleidomastoid

2:3 Extensors

2:4 Temporalis

2:5 Deltoids

(10 Marks)

QUESTION 3

Explain the physiology of urine formation.

(10 Marks)

QUESTION 4

State the bones and their numbers, responsible for forming the thoracic region and list their subdivisions if applicable. (1 Point each) (15 Marks)