

**UNIVERSITY OF SWAZILAND**  
**FACULTY OF HEALTH SCIENCES**  
**GENERAL NURSING DEPARTMENT**  
**FINAL EXAMINATION MAY 2009**

**COURSE TITLE : HUMAN ANATOMY AND PHYSIOLOGY**

**COURSE CODE: HSC 111**

**MARKS ALLOCATED 80**

**TIME ALLOCATED: TWO (2) HOURS**

**INSTRUCTIONS:-**

- 1. THERE ARE TWO (2) SECTIONS IN THIS PAPER**
    - I) SECTION ONE IS MULTIPLE CHOICE AND MATCHING**
    - II) SECTION TWO IS SHORT ANSWERS**
  - 2. PLEASE ANSWER ALL SECTIONS**
  - 3. SECTIONS ONE CARRY 30 MARKS  
SECTION TWO CARRY 50 MARKS**
  - 4. USE ANSWER SHEET FOR ALL YOUR ANSWERS**
- NB: DO NOT OPEN THE QUESTION PAPER UNTIL PERMISSION HAS BEEN GRANTED BY THE INVIGILATOR.**

## SECTION 1

**A. MULTIPLE CHOICE:** Please write the most appropriate answer for the following questions. e.g. 1 = B (20 MARKS)

1. Hypersecretion of pituitary growth hormone causes:-
  - A. insufficient growth of long bone
  - B. dwarfism
  - C. gigantism
  - D. acromegally
  
2. The inner lining of the heart is called the:-
  - A. the peritoneum
  - B. the myometrium
  - C. the endometrium
  - D. the endocardium
  
3. Diabetes Mellitus is caused by:-
  - A. hyposecretion of insulin
  - B. hypersecretion of insulin
  - C. hyposecretion of thyroid gland
  - D. both A and B
  
4. Leukemia is:-
  - A. cancer of the skin
  - B. group of cancerous conditions involving the white blood cells.
  - C. all of the above
  - D. none of the above
  
5. REM is:-
  - A. sleeping stage where dreaming occurs
  - B. NREM
  - C. deep sleep
  - D. 1st stage of NREM

6. During meiosis, the reproductive cell.
- A. divides into 46 chromosomes
  - B. divides into 23 chromosomes
  - C. produce one secondary spermatocytes
  - D. produce one secondary oocyte with 46 chromosomes
7. During mitosis, the cell
- A. divides into 23 chromosomes
  - B. divides into 46 chromosomes
  - C. produce four daughter cells
  - D. none of the above
8. The normal intraocular pressure of the anterior chamber is:-
- A. 18mm/Hg
  - B. 20 mm/Hg
  - C. 22 mm/Hg
  - D. 16 mm/Hg
9. Increased intraocular pressure due to blockage of aqueous humor result in:-
- A. cataract
  - B. glaucoma
  - C. conjunctivitis
  - D. retinal detachment
10. Which sense dominates in humans?
- A. vision
  - B. smell
  - C. taste
  - D. hearing
11. The sight for bitter receptors is:-
- A. tip of the tongue
  - B. the pharynx
  - C. the side of the tongue
  - D. back of the tongue

12. Normal range of hearing without pain is:-
- A. 130 Db
  - B. 70 Db
  - C. 50 Db
  - D. 120 Db
13. Why is sodium and potassium not at equal levels intracellular and extra cellular.
- A. ATP sodium and potassium pump, transport more potassium extra cellular
  - B. ATP sodium potassium pump transport more potassium intracellular
  - C. ATP sodium potassium pump transport 3 sodium from cell and 2 potassium back to cell
  - D. APT pump transport 2 sodium from cell and 3 potassium back to cell
14. Endocrine glands produce
- A. saliva
  - B. hormones
  - C. sweat
  - D. none of the above
15. 120 days is the life span of ;-
- A. platelets
  - B. monocytes
  - C. RBC
  - D. WBC
16. The nephron is:-
- A. Structural unit of the bone
  - B. Functional unit of the bone
  - C. Structural unit of the body
  - D. Functional unit of the kidney
17. During menstruation this layer of the uterus falls off:-
- A. the peritoneum
  - B. the endometrium
  - C. the endocardium
  - D. the myometrium

18. The epididymis:-
- A. stores mature spermatozoa
  - B. produce spermatozoa
  - C. sends spermatozoa through rete testis to epididymis
  - D. none of the above
19. Absorption of nutrients occurs in the:-
- A. stomach
  - B. deodenum
  - C. ileum
  - D. large intestines
20. Heamatocrit test is used to diagnose:-
- A. aneimias
  - B. infection
  - C. heart problems
  - D. diabetes

**B. Matching (10 MARKS)**

- |  |                        |
|--|------------------------|
| 1..... This is a free floating thrombus.                         | A. heparin             |
| 2..... This hormone induce uterine contraction.                  | B. ECG                 |
| 3..... used to dissolve blood clots                              | C. Embolus             |
| 4.....insulin deficiency result in                               | D. Oxytocin            |
| 5.....Graphic recording of electrical activities<br>Of the heart | E. Diabetes Mellitus   |
| 6.....injury to the phrenic nerve cause                          | F. Hiccup              |
| 7...Difficult to arouse, bed wetting and sleep walking           | G. Encephalitis        |
| 8....,Period between<br>closing and opening<br>Of sodium gates   | H. Meningitis          |
| 9.....inflammation of the meninges                               | I. Absolute refractory |
| 10..... Inflammation of the brain                                | J. NREM stage 4        |

## SECTION 2

### SHORT ANSWERS

#### QUESTION 1 (10 MARKS)

- A. State the functions of the following organs
- i) The heart
  - ii) The lungs
  - iii) The kidney
  - iv) The pancreas
  - v) The urinary bladder (10)

#### QUESTION 2 (20 MARKS)

- A.
  - i) what is the functional unit of the kidney
  - ii) Describe the three processes of urine formation? (10)
- B. Define the following terms
- i. blood pressure (1)
  - ii) systolic blood pressure (2)
  - iii) diastolic blood pressure (2)
- C. State five functions of the stomach? (5)

#### QUESTION 3 (20 MARKS)

- A. What is the richest source of the following nutrients? (10)
- i) Minerals
  - ii) Vitamins
  - iii) Proteins
  - iv) Lipids
  - v) Carbohydrates
- B.
  - i) State two functions of antibodies (10)
  - ii) currently what is the most devastating immunodeficiency syndrome.
  - iii) Define immunization
  - iv) Define immunopathology