

**UNIVERSITY OF SWAZILAND**  
**FACULTY OF HEALTH SCIENCES**  
**GENERAL NURSING DEPARTMENT**  
**FINAL EXAMINATION: MAY 2013**

**COURSE TITLE;                    HUMAN ANATOMY AND PHYSIOLOGY 11**  
**COURSE CODE:                    HSC 117**  
**TIME ALLOCATED:                TWO (2) HOURS**  
**MARKS ALLOCATED:              75**  
**TOTAL NO. OF PAGES:         7**

**INSTRUCTIONS:**

- 1. THERE ARE TWO SECTIONS IN THIS PAPER.**
  - i) SECTION 1 A. MULTIPLE CHOICES**  
**B. MATCHING**  
**C. TRUE OR FALSE**
  - ii) SECTION 2 IS SHORT ANSWERS AND ESSAYS**
- 2. PLEASE ANSWER ALL SECTIONS**
  - ii) SECTION 1 CARRIES 25 MARKS**
  - ii) SECTION 2 CARRIES 50 MARKS**
- 3. USE ANSWER SHEET FOR ALL YOUR ANSWERS**
- 4. DO NOT OPEN YOUR QUESTION PAPER UNTIL PERMISSION HAS BEEN GRANTED BY INVIGILATOR.**

**SECTION 1**

**(30 MARKS)**

**A. MULTIPLE CHOICE QUESTIONS:-**

**( 15 MARKS)**

**Please choose the most appropriate response and write it in the answer book.  
e.g. 1=C**

- 1. The perineum is supplied by which spinal nerve?**
  - A. Sciatic nerve**
  - B. Femoral nerve**
  - C. Pudendal nerve**
  - D. Brachial nerve**
  
- 2. Irritation of this nerve causes a hiccup.**
  - A. Ulna nerve**
  - B. Phrenic nerve**
  - C. Axilla nerve**
  - D. Median nerve**
  
- 3. Hyper secretion of insulin results in:-**
  - A. Glycosuria**
  - B. Diabetes mellitus**
  - C. Hypoglycaemia.**
  - D. Polyuria**
  
- 4. The cardinal signs of diabetes mellitus:-**
  - A. Polyuria**
  - B. Polydipsia**
  - C. Polyphagia**
  - D. All the above**
  
- 5. Idling brain is shown by this type of brain waves.**
  - A. Beta waves**
  - B. Delta waves**
  - C. Alpha Waves**
  - D. Both A and C**
  
- 6. Ventricles are filled with:-**
  - A. Cerebrospinal fluid**
  - B. Plasma**
  - C. Peritoneal fluid**
  - D. Intracellular fluid**

- 7. Which nerve is the thickest and the longest in the human body?**
- A. Vagus nerve**
  - B. Sciatic nerve**
  - C. Tibial nerve**
  - D. Fibular nerve**
- 8. The sciatic nerve originates from which plexus?**
- A. Lumber plexus**
  - B. Cervical plexus**
  - C. Brachial Plexus**
  - D. Sacral plexus**
- 9. Which of the following blood groups is the universal donor?**
- A. Group O**
  - B. Group B**
  - C. Group A**
  - D. Group AB**
- 10. Which of the following blood groups is the universal recipient?**
- A. Group O**
  - B. Group B**
  - C. Group A**
  - D. Group AB**
- 11. Which of the following senses dominates in humans?**
- A. Hearing.**
  - B. Touch**
  - C. Vision**
  - D. Smell**
- 12. Cerebrospinal fluid (CSF) is found in the:**
- A. Sub-dural space**
  - B. Sub-arachnoid space**
  - C. Sub-pleural space**
  - D. Intra-peritoneal space**
- 13. The most common nervous system disorder is:-**
- A. Epilepsy**
  - B. Parkinson's disease**
  - C. Huntington's disease**
  - A. Cerebrovascular accidents**

**14. Choose the most common endocrine disease**

- A. Diabetes Mellitus**
- B. Hypertension**
- C. Graves' disease**
- D. Diabetes insipidus**

**15. Which of the following glands is a neuroendocrine gland?**

- A. Pancreas**
- B. Thyroid**
- C. Hypothalamus**
- D. Placenta**

## SECTION 1B

### MATCHING

(10 MARKS)

Match the statement in column A with the most appropriate response in column B

#### COLUMN A

1. This area of the brain controls temperature, hunger and water balance.
2. Brain area responsible for coordination of motor activities and body posture
3. Cranial nerve that helps to maintain balance.
4. Allows individuals to chew food
5. When nightmares are likely to occur
6. Subdural, subarachnoid bleeding result in
7. Stage of sleep characterise by alpha waves.
8. It the control centre of the cardiac system
9. Houses the control centre for vital organs
10. Most common central nervous disorder

#### COLUMN B

- A. Cerebellum
- B. Vestibulochocler
- C. Cerebro vascular accident
- D. Stage 3 of sleep
- E. Medulla Oblongata
- F. Trigeminal nerve
- G. Hypothalamus
- H. high intracranial pressure
- I. Facial nerve
- J. 1<sup>st</sup> stage of sleep
- K. Vagus nerve

## SECTION 1 C

WRITE TRUE (T) OR FALSE (F) IN YOUR ANSWER BOOK, IN RESPONSE TO THE FOLLOWING STATEMENTS.

TRUE OR FALSE (T OR F) EG. 1=F

(5 MARKS)

1. Vagotomy helps to reduce release of gastric juices in the abdomen.
2. Multipolar neurons have three or more processes and dominate in the central nervous system.
3. Depolarization is caused by excitatory neurotransmitters.
4. Neurotransmitters act as the language of communication.
5. Caffeine acts as a stimulant by unblocking adenosine receptors.

**(45 MARKS)**

**SECTION 2**

**SHORT ANSWER QUESTIONS.**

**Please read the questions carefully and answer all questions in this section.**

**QUESTION 1**

**(20 MARKS)**

**1.1 Mr Kim is the brain surgeon in your institution. Using your understanding of Anatomy and Physiology briefly discuss the tissues and their function the surgeon will cut through to reach the brain; starting from the exterior.**

**(10 MARKS)**

**1.2 Your classmate Nozi is having an excessive production of the thyroid hormone. List typical signs you are most likely to observe from Nozi.**

**(5 MARKS)**

**1.3 State the site of homeostatic imbalance in the following condition.**

- i) Hemiplegia**
- ii) Paraplegia**
- iii) Quadriplegia.**
- iv) Hydrocephaly**
- v) Meningitis.**

**(5 MARKS)**

## **QUESTION 2**

**(25 MARKS)**

**2.1 During your Anatomy and Physiology II class, your Lecturer kept on referring to the following terms one to five below; briefly describe the terms.**

- i) Afferent neuron**
- ii) Efferent neuron**
- iii) Thresh hold**
- iv) Absolute refractory**
- v) Relative refractory**

**(10 MARKS)**

**2.2 Briefly discuss the physiology of the uterus.**

**(5 MARKS)**

**2.3 Briefly discuss the physiology of the blood.**

**(5 MARKS)**

**2.4 Briefly discuss the physiology of the kidney**

**(5 MARKS)**