

UNIVERSITY OF SWAZILAND
FACULTY OF HEALTH SCIENCES
GENERAL NURSING DEPARTMENT
FINAL EXAMINATION: MAY 2014

COURSE TITLE; HUMAN ANATOMY AND PHYSIOLOGY II

COURSE CODE: HSC 117

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 CHOICE
B. MATCHING
C. TRUE OR FALSE
 - ii) SECTION 2 IS SHORT ANSWERS AND ESSAYS
2. PLEASE ANSWER ALL SECTIONS
 - ii) SECTION 1 CARRIES 35 MARKS
 - ii) SECTION 2 CARRIES 40 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

A. MULTIPLE CHOICE QUESTIONS:- (15 MARKS)
Please choose the most appropriate response and write it in the answer book.
e.g. 1.C

1. Which cell is responsible for night vision?
 - A. Retina
 - B. Cones
 - C. Rods
 - D. Cornea

2. Choose the cell responsible for day vision.
 - A. Retina
 - B. Cones
 - C. Rods
 - D. Cornea

3. Short-sightedness is also referred to as.
 - A. Hyperopia
 - B. Glaucoma
 - C. Strabismus
 - D. Myopia

4. Tinnitus is:-
 - A. Inflammation of the nose
 - B. Inflammation of the gums
 - C. Ringing in the ear.
 - D. Pus in the ear

5. Which are the cardinal signs of diabetes mellitus?
 - A. Polyuria and polyphagia
 - B. Polydipsia
 - C. Oligouria
 - D. Both A and B

6. Identify the smallest functional unit of the nervous system.
 - A. Neuron
 - B. Nephron
 - C. Cell body
 - D. Nucleus

7. Which is the smallest functional unit of the kidney/
A. Neuron
B. Nucleus
B. Nephron
C. Cell body
8. Identify the contents of the middle ear
A. Air
B. Fluid
C. Auditory ossicles
D. Both A and C
9. Which nerve is most likely to be injured during intramuscular injection in the gluteal muscle?
A. Vagus nerve
B. Sciatic nerve
C. Tibial nerve
D. Fibular nerve
10. Blindness is a result of which nerve atrophy?
A. Oculomotor nerve
B. Optic nerve
C. Facial nerve
D. Both A and C
11. Which hormone stimulates milk production?
A. Thyroid hormone
B. Oestrogen
C. Progesterone
D. Prolactin
12. Which hormone is responsible for contraction of the uterus and ejection of milk?
A. Oestrogen
B. Prolactin
C. Oxytocin
D. Progesterone
13. Hormonal activities slow down with age resulting in which of the following conditions?
A. Menopause
B. Diabetes mellitus
C. Low metabolism
D. A, B and C

14. Children under five and older adults need more proteins in their diet.

- A. To build their tissues
- B. To prevent infections
- C. To produce energy
- D. Both A and B

15. Teenagers need more carbohydrates in their diet.

- A. To build their tissues
- B. To prevent infections
- C. To produce energy
- D. Both A and B

SECTION 1B

MATCHING

(10 MARKS)

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

COLUMN A

COLUMN B

- | | |
|--|-------------------------------|
| 1. Nerves to the upper limbs arise in this area of the spinal cord. | A. synaptic cleft |
| 2. Nerves to and from the lower limbs arise from this part of the spinal cord. | B. hypothalamus |
| 3. Part of the neuron that contains the nucleus and organelles. | C. axon terminals |
| 4. Gaps in the myelin sheath of an axon | D. vagus nerve |
| 5. Area where the axon joins the cell body | E. cranial nerve number eight |
| 6. The interstitial fluid space separating two neurons. | F. cervical enlargement |
| 7. Area where nerve impulses arise | G. synaptic vesicles |
| 8. Function in equilibrium and hearing | H. the cell body |
| 9. Function in secretion of digestive juices | I. axon hillock |
| 10. Produce hormone that regulate the endocrine glands and their functions. | J. lumber enlargement |

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

(10 MARKS)

1. The left and the right cerebrum are 100% symmetrical.
2. The left hemisphere is more important for artistic awareness.
3. Hemisphere lateralization is more vivid in males compared to females.
4. The right hemisphere is vital for spoken and written language.
5. The longitudinal fissure separates the right hemisphere from the left.
6. The left hemisphere controls the right side of the body.
7. Sperm production by the testicles is stimulated by the follicle stimulating hormone.
8. Diabetes mellitus is caused by the body's inability to use or produce insulin.
9. Tinnitus is ringing in the ears.
10. Blepharitis is inflammation of the eyelids.

SECTION 2

SHORT ANSWERS AND ESSAY QUESTIONS.

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

QUESTION 1

(40 MARKS)

1.1 Ms Jones has been to a birthday feast, she helped herself to an “all you can eat dinner”. On arrival at home she reclined on a sofa and watched television.

- i) Briefly discuss the division of the nervous system working in Ms Jones body at this time.
- ii) List organs of the body involved.
- iii) List the major nerve supplying the listed organs above.

(10 MARKS)

1.2 The phone rang and woke you at 5: 00 AM, you stretched and yawned then you started salivating from the smell of brewing tea. Your stomach started rumbling. Based on the above scenario, answer the following questions. State the sub divisions of the nervous system responsible for the action above.

- i) Hearing the phone ringing
- ii) Smelling the tea.
- iii) Stretching and yawning
- iv) Salivation
- v) Stomach rumbling

(5 MARKS)

1.3 In your answer book, write the number and the component of the reflex arch in order of sequence from the beginning to the end.

1.....

2.....

3.....

4.....

5.....

(5 MARKS)

1.4. Your client John is complaining of severe headache which started three days ago; he is also having a stiff neck. The Physician suspects meningitis and orders a lumbar puncture to be done stat. Applying information learned in your anatomy and physiology class, identify the body structures the needle will pierce from the exterior to the spinal fluid. (10 MARKS)

1.5. Describe the physiology of urine formation. (5 MARKS)

1.6 Briefly discuss the following homeostatic imbalances.

i) Goiter

ii) Diabetes mellitus

iii) Myopia

iv) Tonsillitis

v) Bronchitis

(5 MARKS)