

UNIVERSITY OF SWAZILAND
FACULTY OF HEALTH SCIENCES
GENERAL NURSING DEPARTMENT
FINAL EXAMINATION: MAY 2018

COURSE TITLE: HUMAN ANATOMY AND PHYSIOLOGY 11
COURSE CODE: GNS 116
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
 - ii) SECTION 2 IS SHORT ANSWERS AND ESSAYS
2. PLEASE ANSWER ALL SECTIONS
 - ii) SECTION 1 CARRIES 37 MARKS
 - ii) SECTION 2 CARRIES 38 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:-

(25 MARKS)

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

e.g. 1 = C

1. Which of the following is the dominant sense in humans?
 - A. Sight
 - B. Taste
 - C. Touch
 - D. Smell
2. The normal range of hearing without pain in adults is
 - A. 50 dB
 - B. 70 dB
 - C. 120 dB
 - D. 130 dB
3. Which of the following intraocular pressures is normal for adults without glaucoma?
 - A. 22mm/Hg
 - B. 18 mm/Hg
 - C. 16 mm/H/g
 - D. 14 mm/Hg
4. Which of the following is the site for sweet taste?
 - A. The tip of the tongue
 - B. The pharynx
 - C. The back of the tongue
 - D. The side of the tongue
5. Myopic individuals have which of the following homeostatic imbalance?
 - A. Long sightedness
 - B. Short-sightedness
 - C. Colour blindness
 - D. Both A and B
6. Which blood group is a universal donor?.
 - A. B
 - B. A
 - C. O
 - D. AB

7. Which of the following blood groups is a universal recipient?
A. AB
B. O
C. A
D. B
8. Healthy adults have how many litres (L) of blood in their body?
A. 2L
B. 3L
C. 4L
D. 5L
9. Which hormone is responsible for the formation of red blood cells?
A. Erythropoietin
B. Serotonin
C. Heparin
D. Thrombopoetin
10. The shelf life of blood after being donated is....
A. 2weeks
B. 4weeks
C. 6 weeks
D. 8weeks
11. Which of the following has the greatest stimulating effect on the respiratory centre?
A. Oxygen
B. Carbon dioxide
C. Calcium
D. The willpower
12. Systolic pressure refers to.....?
A. Pressure in the veins during atrial contraction.
B. Pressure in the veins during contraction of the right ventricle.
C. Pressure in the arteries during contraction of the right ventricle
D. Pressure in the arteries during contraction of the left ventricle

13. Dehydration refers to...
- A. Diarrhoea
 - B. Constipation
 - C. Fluid output outpaces intake over a period of time resulting on fluid imbalance,
 - D. Fluid intake outpaces output over a period of time resulting on edema.
14. Alkalosis is an arterial blood pH of....
- A. Less than 6.45
 - B. B. less than 5.45
 - C. Above 3.45
 - D. Above 7.45
15. Acidosis is an arterial blood pH of....
- A. Less than 6.35
 - B. Less than 5.45
 - C. Above 3.45
 - D. Above 7.45
16. The chemical messenger between neurons or a neuron and its target muscle is:
- A. Dendrites
 - B. Axon
 - C. Synapse
 - D. Neurotransmitter
17. The tiny space between neurons or a neuron and its target muscle is the:
- A. Dendrite
 - B. Axon
 - C. Synapse
 - D. Neurotransmitter
18. Examples of neuroglial cells in the peripheral nervous system include
- A. Ependymal cells and oligodendocytes
 - B. Schwann cells and satellite cells
 - C. Microglial cells and astrocytes
 - D. Astrocytes and Schwann cells

19. The biosynthetic centre of a neuron is
- A. The neuron cell body.
 - B. The axon
 - C. The neuron nucleus.
 - D. The neuron cytoplasm
20. When we say a neuron is polarised we mean that..
- A. It has fewer positive ions on the inside of its cell membrane.
 - B. It has fewer negative ions on the inside of its cell membrane
 - C. There are equal numbers of positive and negative ions on the inside of its cell membrane
 - D. None of the above
21. Nerve fibers that connect the same cerebral hemisphere are known
- A. Commissural fibers
 - B. Sensory fibers
 - C. Association fibers
 - D. Projection fibers
22. The part of the diencephalon that edits and sorts impulses is the
- A. Hypothalamus
 - B. Epithalamus
 - C. Thalamus
 - D. All the above
23. The ultimate cause of Parkinson's disease is damage to the
- A. Substantia nigra
 - B. Superior coliculi
 - C. Inferior coliculi
 - D. Red nucleus

24. Cranial nerves originate from the

- A. Cerebral cortex only
- B. Brain
- C. Spinal cord
- D. Cerebellum

25. The arbor vitae is the white matter of the

- A. Cerebrum
- B. Spinal cord
- C. Thalamus
- D. Cerebellum

SECTION 1 B MATCHING (TOTAL MARKS 12)

Choose the most appropriate alphabet in column B to describe the statement in column A and write the correct response in your answer book. Please note some questions have more than one correct response EG: 1 = D,I

| COLUMN A | COLUMN B |
|---|------------------|
| 1. Receptors for dim light | A. Insulin |
| 2. These are found in the fovea | B. Flight |
| 3. Treatment for diabetes mellitus | C. Defecation |
| 4. Helps liver to convert glucose into glycogen | D. Fight |
| 5. The parasympathetic nervous system | E. Diuresis |
| 6. The sympathetic nervous system | F. For emergency |
| 7. Highly sensitive to colour and bright light | G. Cone |
| 8. This is a hypoglycaemic hormone | H. Rods |
| 9. Increase sugar level in the blood | I. Glucagon |

SECTION 2 SHORT ANSWER AND ESSAYS (TOTAL MARKS 38)

QUESTION 1 (10 MARKS)

Your daughter Tee, is approaching menarche, she will soon be having her menses. In order to orient her into the physical changes that she will be experiencing, please describe the menstrual cycle to her, starting from day one to day twenty-eight.

QUESTION 2 (6 MARKS)

2:1 Briefly discuss the physiology of blood.

QUESTION 3 (12 MARKS)

3.1 List five components of a reflex arc (5)

3.2 Baby Zipho is suspected to have meningitis. The doctor wants to perform a spinal tap but his mother refuses because she is afraid his spinal cord may be injured. What information would you give to Zipho's mother to allay her fears? (4)

3.3 What cognitive functions are performed by the cerebrum? (3)

QUESTION 4 (10 MARKS)

Using the information learned in your Anatomy class, define the following anatomical terms

1. Hormone
2. Autocrins
3. Hyperopia
4. Emmetropic
5. Tinnitus
6. Permissiveness
7. Synergists
8. Nephron
9. Diabetes insipidus
10. Oogenesis