

UNIVERSITY OF SWAZILAND
FACULTY OF HEALTH SCIENCES
GENERAL NURSING DEPARTMENT
FINAL EXAMINATION: MAY 2016

COURSE TITLE; HUMAN ANATOMY AND PHYSIOLOGY 11
COURSE CODE: GNS 116
TIME ALLOCATED: TWO (2) HOURS
MARKS ALLOCATED: 80
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 40 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:-

(30 MARKS)

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

e.g. 1 = C

1. Which of the following meninges is the middle layer covering the brain?
 - A. Arachnoid
 - B. Pia mater
 - C. Dura mater
 - D. Colossium

2. The cerebrospinal fluid is formed by the...
 - A. Ventricles
 - B. Dura mater
 - C. Choracoid plexus
 - D. Pia mater

3. Which cranial nerve is responsible for vision?
 - A. Vagus nerve
 - B. Optic nerve
 - C. Occulomotor nerve
 - D. Glossal nerve

4. The sympathetic division of the autonomic nervous system accelerate the activities of following **except**.
 - A. The ilium
 - B. The lungs
 - C. The heart
 - D. None of the above

5. Acetylcholine neurotransmitters are associated with the following **except**.
 - A. Cholinergic fibers
 - B. Control of blood pressure
 - C. Regulation of respiration
 - D. Adrenergic fibers

6. Blockage of the venous sinus of the sclera might result in which of the following conditions?
- A. Cataract
 - B. Glaucoma
 - C. Sty
 - D. Conjunctivitis
7. Where is the blind spot of the eye located?
- A. Where cones are abundant
 - B. Where rods are abundant
 - C. Where the optic nerve leaves the eye
 - D. In the macula lutea
8. Injury to the olfactory tract may result in...
- A. Blindness
 - B. Loss of hearing
 - C. Loss of the sense of smell
 - D. Loss of the pain sensation
9. Which structure of the ears allows pressure in the middle ear to be equivalent with the atmospheric pressure?
- A. The tympanic membrane
 - B. The oval window
 - C. The pharyngotympanic tube
 - D. The pinna
10. Which hormone is responsible for the formation of red blood cells?
- A. Erythropoetin
 - B. Serotonin
 - C. Heparin
 - D. Trombopoeting
11. Histamine and inflammatory chemicals are released by which white blood cell?
- A. Eosinophil
 - B. Neutrophil
 - C. Basophil
 - D. Monocytes

12. Which is the most abundant white blood cell in the human body?
- A. Neutrophil
 - B. Lymphocytes
 - C. Monocytes
 - D. Eosinophil
13. Which of the following statement is true about the thickness of the left ventricle?
- A. It pumps blood through a smaller vein.
 - B. It pumps blood to the thoracic cage
 - C. It pumps a large volume of blood
 - D. It pumps blood against greater resistance.
14. The ECG provides information about the...
- A. Cranial waves across the brain.
 - B. Cardiac output
 - C. Cardiac excitation waves across the heart
 - D. Coronary circulation
15. Bradycardia is a pulse rate of less than 60 beat per minute, what are possible causes?
- A. Hypothermia
 - B. Activities of the parasympathetic division.
 - C. Pyrexia
 - D. Both A and B
16. Arterial blood pressure increase in response to...
- A. Increase heart rate
 - B. Atherosclerosis
 - C. Anti-depressant
 - D. Both A and B
17. The myocardium receives blood supply from the
- A. The aorta
 - B. The coronary sinus
 - C. The pulmonary arteries
 - D. The coronary artery

18. Lymph nodes are densely concentrated in these regions of the body except?
- A. Axilla
 - B. Groin
 - C. Brain
 - D. cervical region
19. Which lymph organ atrophy with age?
- A. Bone marrow
 - B. Tonsils
 - C. Spleen
 - D. Thymus
20. Which substance prevents the pulmonary alveoli from collapsing?
- A. Reluctant
 - B. Surfactant
 - C. Lecithin
 - D. Bile
21. Which of the following hormones does not take part in glucose metabolism?
- A. Insulin
 - B. Glucagon
 - C. aldosterone
 - D. Cortisone
22. The parathyroid hormone is released in response to which stimuli?
- A. Neural.
 - B. Hormonal.
 - C. Enzymes
 - D. Humoral
23. Which of the following hormone is not released by the anterior pituitary gland?
- A. Gonadotropin
 - B. TSH
 - C. Growth hormone
 - D. Antidiuretic hormone

24. Which of the following has the greatest stimulating effect on the respiratory centres?
- A. Oxygen
 - B. Carbon dioxide
 - C. Calcium
 - D. The willpower
25. Gaseous exchange of oxygen and carbon dioxide in the human body is through.
- A. Filtration
 - B. Active transport
 - C. Diffusion
 - D. Osmosis
26. During mouth to mouth resuscitation, which of the following statements are correct?
1. Expansion of the victims' lungs is brought about by blowing air that is higher than atmospheric pressure.
 2. During inflation of the lung, the intrapleural pressure increases.
 3. The technique will not work if the victim has a hole in the chest wall, even if the lung is intact.
 4. Expiration during this procedure will depend on the alveoli and the thoracic walls
- A. 1, 2, 4
 - B. All the above
 - C. 1, 4
 - D. None of the above
27. Which digestive juice is capable of digesting all four major food stuff?
- A. Salivary
 - B. Gastric
 - C. Biliary
 - D. Pancreatic

28. Why is glucose not a normal content of urine?
- A. Because it is reabsorbed in the kidney tubules.
 - B. It is not filtered in the glomerulus
 - C. It does not reach the kidney
 - D. None of the above.
- 29 Which of the statements best define orchitis?
- A. Inflammation of the scrotum
 - B. Inflammation of the testes
 - C. Inflammations of the urethra
 - D Inflammation of the prostate gland
30. Salpingitis is..
- A. Inflammations of the ovaries
 - B. Inflammation of the fallopian tubes
 - C. Inflammations of the urinary bladder
 - D. None of the above.

(TOTAL MARKS 30)

SECTION 1 B MATCHING (TOTAL MARKS 10)

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. When the sleeper is easily awoken	A. Stage 3
2. When the EEG measuring brain waves show alpha waves	B. Flight
3. When the sleeper is dreaming and having rapid eye movement.	C. Defecation
4. When vital signs are at its lowest level	D. Fight
5. The parasympathetic nervous system	E. Diuresis
6. The sympathetic nervous system	F. For emergency
	G. Stage 1
	H. Stage 4
	I. Stage 2
	J. Digestion

SECTION 2 SHORT ANSWER AND ESSAYS (TOTAL MARKS 40)

QUESTION 1 (10 MARKS)

- 1.1 Differentiate between cones and rods, the receptors responsible for vision.
- 1.2 Briefly discuss the physiological changes associated with aging in the sense of smell and hearing.
- 1.3 Describe the physiological effects of alcohol on the endocrine gland that results in the victim experiencing hangover.
- 1.4. Differentiate between internal and external respiration,
- 1.5. Briefly discuss the function of the foramen ovale in a foetus before birth and the problem associated with an open shunt after birth.

QUESTION 2**(10 MARKS)**

- 2.1 Define cystitis and explain why it is common in female as compared to males? (2)
- 2.2 Define blood pressure and state the difference between systolic and diastolic pressure. What is a normal average blood pressure for adults? (4)
- 2.3 Define retrograde amnesia. (2)
- 2.4. Define paraplegia and state site of injury.(2)

QUESTION 3**(10 MARKS)****SCENARIO 1:**

Ms Zee is admitted in the female surgical ward with a deep laceration on her left forearm. According to her history on admission she accidentally cut herself while cooking in the kitchen. Vital signs on admission were taken and blood pressure was 90/60, she looked pale. Her orders on admission were to transfuse two pints of whole blood. Ms Zee was reluctant to take the transfusion; stating that there is a lot of AIDS out there. Ms ZEE asks you about the importance of blood in the human body. Based on scenario one; answer question 3.1.

- 3.1 Briefly state the physiology of blood. (3)
- 3.2 State the steps of urine formation (3)
- 3,3 Discuss briefly the physiology of blood brain barrier. (3)
- 3.4 State one cardinal sign of the E and D division of the autonomic nervous system. (1)

QUESTION 4**(10 MARKS)**

- 4.1 With the aid of a table list ten cranial nerves and state the function of each.