



**NAMIBIA UNIVERSITY  
OF SCIENCE AND TECHNOLOGY  
FACULTY OF HEALTH AND APPLIED SCIENCES**

**DEPARTMENT OF HEALTH SCIENCES**

<b>QUALIFICATION:</b> BACHELOR OF ENVIRONMENTAL HEALTH SCIENCES BACHELOR OF HEALTH INFORMATION SYSTEM MANAGEMENT BACHELOR OF HUMAN NUTRITION	
<b>QUALIFICATION CODE:</b> 08BEHS/08BHIS/08BOHN	<b>LEVEL:</b> 5
<b>COURSE CODE:</b> AAP511S	<b>COURSE NAME:</b> ANATOMY AND PHYSIOLOGY
<b>SESSION:</b> JULY 2019	<b>PAPER:</b> THEORY
<b>DURATION:</b> 3 HOURS	<b>MARKS:</b> 100

<b>SUPPLEMENTARY/SECOND OPPORTUNITY EXAMINATION QUESTION PAPER</b>	
<b>EXAMINER</b>	MR. JOMIN GEORGE
<b>MODERATOR:</b>	MS. ELIZABETH VAN DER COLF

<p style="text-align: center;"><b>INSTRUCTIONS</b></p> <ol style="list-style-type: none"><li>1. Answer ALL the questions.</li><li>2. Write clearly and neatly.</li><li>3. Number the answers clearly.</li></ol>
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**PERMISSIBLE MATERIALS**

1. NONE.

**THIS QUESTION PAPER CONSISTS OF 9 PAGES (Including this front page)**

## SECTION A [50 MARKS]

### QUESTION 1

[25 MARKS]

1. Evaluate the statements in each numbered section and select the most appropriate Answer or phrase from the given possibilities. Write the appropriate letter next to the number of the statement/phrase in the ANSWER BOOK. Each question carries **1 – marks**

1.1 The portion of the small intestine that attaches to the large intestine is the:

- a) Cecum.
- b) Appendix.
- c) Ileum.

1.2 The posterior pituitary releases two hormones, arriving directly from the Hypothalamus:

- a) Insulin and thyroxine
- b) Oxytocin and antidiuretic hormone
- c) Oxytocin and insulin

1.3 The 'gastric phase' of gastric secretion is triggered by the:

- a) Sight, thought or smell of food.
- b) Entry of food into the stomach.
- c) Entry of chyme into the small intestine.

1.4 The thickest chamber of heart is:

- a) Left atrium
- b) Right ventricle
- c) Left ventricle

1.5 The skull bones does not contain paranasal sinuses is:

- a) Ethmoid
- b) Sphenoid
- c) Zygomatic

1.6 The movement of water through a selective permeable membrane is called:

- a) Facilitated diffusion
- b) Simple diffusion
- c) Osmosis

1.7 In the adult, which cells, does thyroid hormone have no effect:

- a) Brain
- b) Pancreas
- c) Stomach

1.8 As the food in the stomach is repeatedly squeezed and mixed with gastric juice, it is converted into a creamy paste called:

- a) A bolus.
- b) Chyme.
- c) Bile.

1.9 The movement of water through a selective permeable membrane is called:

- a) Active transport
- b) Simple diffusion
- c) Osmosis

1.10 The components which is essential for blood clotting:

- a) Red Blood cells
- b) White blood cells
- c) Platelets

1.11 The spleen is in the:

- a) Right hypochondrium
- b) Pelvic cavity
- c) Left hypochondrium

1.12 Each of the following is a function of the liver, except:

- a) Synthesis and secretion of bile.
- b) Antibody production.
- c) Synthesis of plasma proteins such as clotting factors.

1.13 Blood will have the SLOWEST velocity in:

- a) Capillaries
- b) Venules
- c) Superior vena cava

1.14 The primary relay station for sensory information coming into the cerebral cortex:

- a) Thalamus
- b) Hypothalamus
- c) Epithalamus

- 1.15 In a condition known as achalasia, food tends to accumulate within the esophagus. Which of the following sphincters is most likely involved?
- a) Hepatopancreatic
  - b) Internal anal
  - c) Cardiac
- 1.16 The two pubic bones are held together on the anterior surface by.
- a) Synovial joint
  - b) Diarthrotic joint
  - c) Symphysis joint
- 1.17 Testosterone functions to.
- a) Develop a man's primary sex characteristics
  - b) Reduce a man's secondary sex characteristics
  - c) Develop a man's primary and secondary sex characteristics
- 1.18 The spinal cord consists of.
- a) Grey and white matter
  - b) Blue and white matter
  - c) Grey and blue matter
- 1.19 Saliva contains a digestive enzyme called.
- a) Trypsin
  - b) Bile
  - c) Amylase
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- 1.20 The auto-regulation of blood pressure is through the action of.
- a) Adrenaline
  - b) Renin-angiotensin system
  - c) ANS
- 1.21 Following is NOT a function of cerebrospinal fluid.
- a) Homeostatic function
  - b) Circulation
  - c) Conduction of nerve impulses
- 1.22 The largest structure of the brain is the.
- a) Cerebrum
  - b) Cerebellum
  - c) Brain stem

- 1.23 Cytoplasm is:
- a) 80 per cent water
  - b) Found outside the cell
  - c) A cloudy liquid
- 1.24 Urine is transported to the bladder by
- a) Peristaltic contraction of the ureters
  - b) Voluntary control
  - c) Pumping action of the heart
- 1.25 In females the effect of follicle stimulating hormone is:
- a) The final maturation of the ovarian follicles and the release of oestrogen
  - b) The early maturation of the ovarian follicles and the release of oestrogen
  - c) The final maturation of the ovarian follicles and the release of progesterone

## **QUESTION 2**

**[25 MARKS]**

2. Assess the following statements and decide whether they are **true or false**. Write only the number of the question and next to it indicate your answer as **true or false** in the ANSWER BOOK. **1 marks for each questions.**

- 2.1 Hyperemesis gravidarum is excessive vomiting during pregnancy.
- 2.2 The outer layer of an ovary is similar to the tunica albuginea outer testis layer.
- 2.3 Anterior can be used the same as ventral.
- 2.4 Chromatin is the term for the loosely coiled appearance of DNA in a non-dividing cell.
- 2.5 Thyroxine is a thyroid hormone also called T3.
- 2.6 Females produce hundreds of oocytes each month in comparison to the millions of sperm cells produced in the same age male.
- 2.7 Alcohol is known to be a potent anti-antidiuretic.
- 2.8 The ability to sweat is the major method of regulating body water and concentration.
- 2.9 The glomerulus most closely resembles an area of capillaries.
- 2.10 The alveoli exchange gases between the air and the capillaries within them.
- 2.11 The vagina is anterior to the bladder and posterior to the rectum.
- 2.12 The first female menstrual cycle is called thelarche.
- 2.13 Loss of blood from trauma will usually reduce the amount of urine that is produced.
- 2.14 A vasectomy is the male equivalent of tubal ligation regarding efficacy of contraception.

- 2.15 The anatomical dead space represents the air that is trapped in the alveoli and is around 150cc.
- 2.16 There are phagocytic cells within the lungs that move among the alveoli to remove foreign particles.
- 2.17 The corpus callosum is a group of projection fibres.
- 2.18 The PO<sub>2</sub> in the pulmonary veins is less than the PO<sub>2</sub> in the alveolar air.
- 2.19 High blood pressure is inversely proportional to the rate of urine formation.
- 2.20 During trauma with significant loss of blood, the release of renin will be inhibited.
- 2.21 Excessive sweating will usually cause a person to withhold their secretion of ADH.
- 2.22 Sperm cells die immediately when they are released from the body and are placed in a petri plate.
- 2.23 The trachea is lined by pseudostratified columnar epithelium.
- 2.24 The esophagus is lined by keratinized stratified squamous epithelium.
- 2.25 Ridges in the cerebrum are called sulci.

## **SECTION B [25 MARKS]**

### **QUESTION 3**

**[25 MARKS]**

- 3.1 Provide the correct term for the abbreviations [5]
- |            |          |
|------------|----------|
| a) F. S .H | d) T.L.C |
| b) T.S.H   | e) A.D.H |
| c) C.S. F  |          |
- 3.2 Draw a flow chart of the regulation of blood pressure by the angiotensin mechanism. [5]
- 3.3 Describe the change occurring in thoracic cavity during inspiration. [5]
- 3.4 Narrate any five functional areas of the cerebral cortex with one function for each. [5]
- 3.5 Outline the composition of blood. [5]

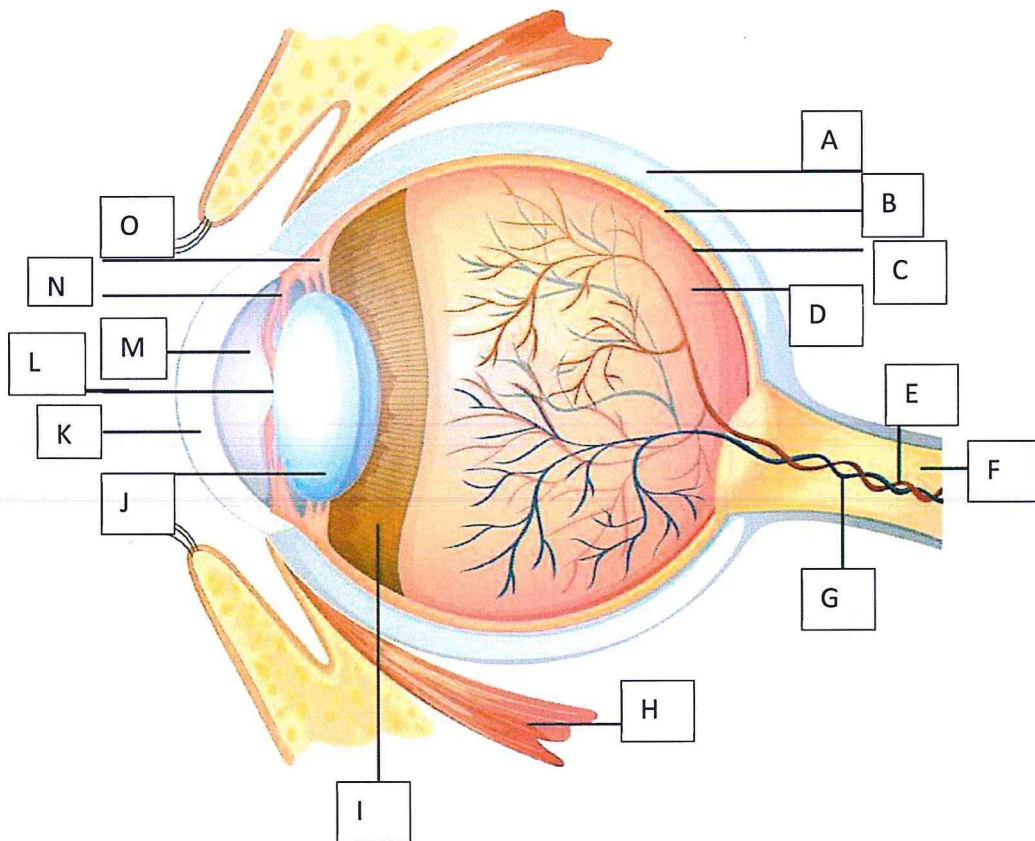
**SECTION C [25 MARKS]**

**QUESTION 4**

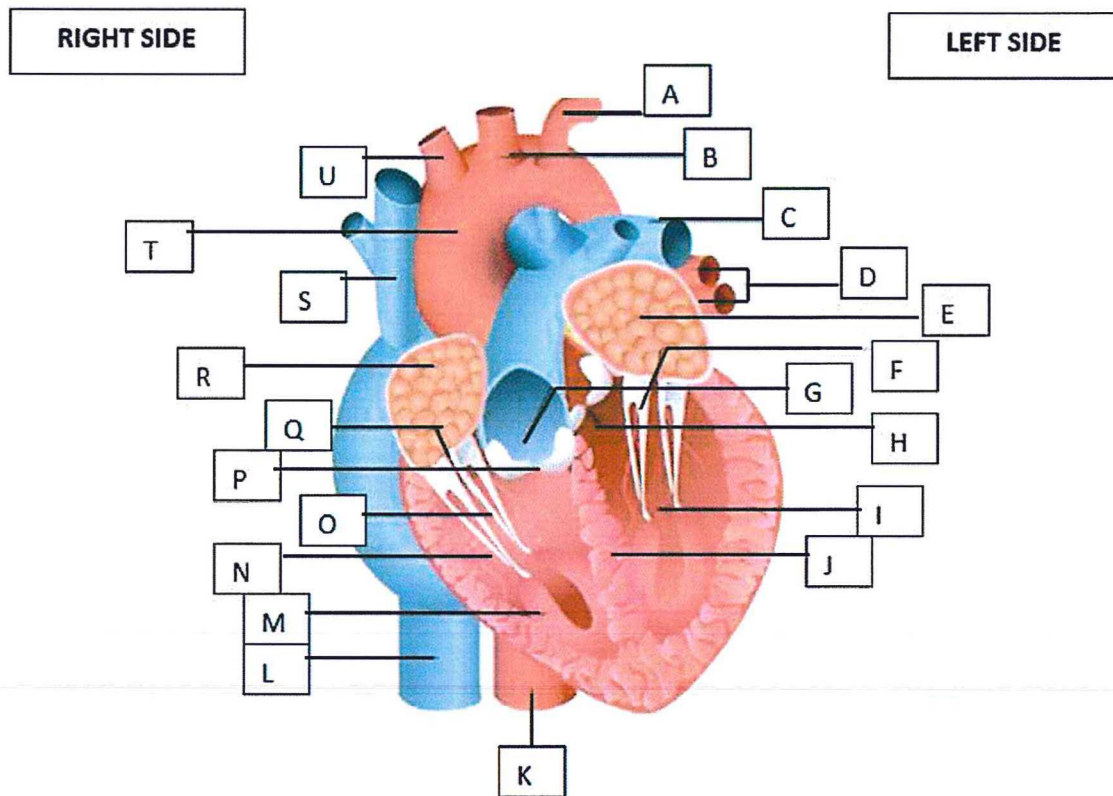
**[25 MARKS]**

You are required to identify correct anatomical parts from the figures given below. Use corresponding letter to indicate your answer in the answer booklet for each figure. Read sub questions careful before answering in the answer booklet. **(Each correct answer earns 1 mark)**

4.1 Identify any ten (10) anatomical parts of eye from the given figure. Answers need to indicate in answer booklet with corresponding letters given. [10]



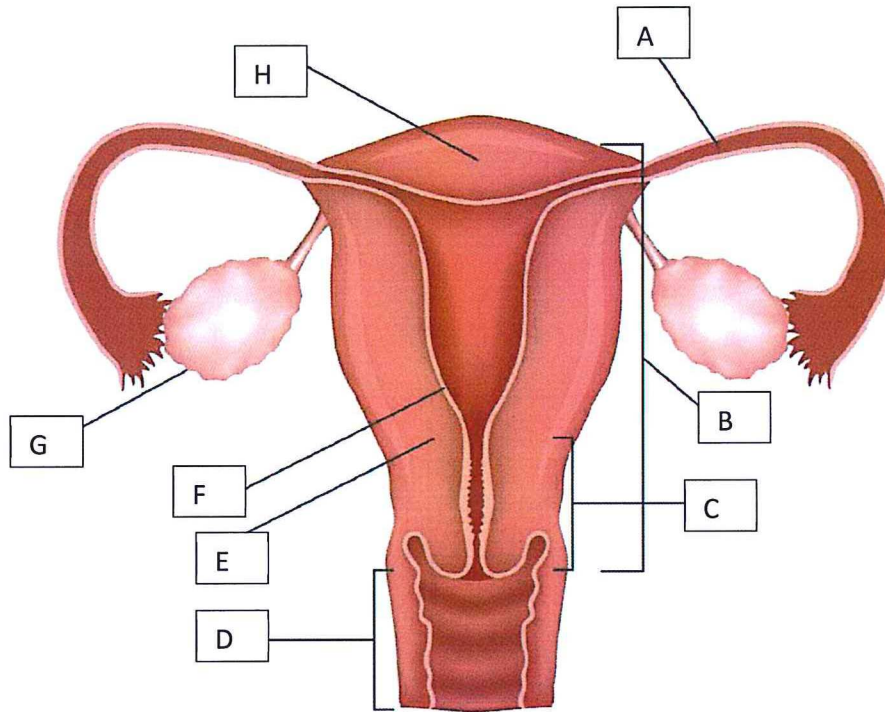
4.2 Identify any ten (10) anatomical parts of heart from the given figure. Answers need to indicate in answer booklet with corresponding letters given. [10]





4.3 Identify any five (5) anatomical parts of female reproductive system from the given figure.

Answers need to indicate in answer booklet with corresponding letters given. [5]



**Total 100**

**GOOD LUCK!!!!**