



**PAMIBIA 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> JUNE 2019	<b>PAPER:</b> THEORY
<b>DURATION:</b> 3 HOURS	<b>MARKS:</b> 100

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

<b>INSTRUCTIONS</b>
<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>

**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 A condition that usually results in the absence of one or both testes in the scrotum is referred to as:

- a) Oogenesis
- b) Menarche
- c) Cryptorchidism

1.2 Plasma is:

- a) 50 % water
- b) 91 % electrolytes
- c) 91 % water

1.3 A gallstone that blocked the common bile duct would cause the fat content of feces to:

- a) Increase
- b) Decrease
- c) Stay the same

1.4 The following disciplines is MOST likely to concentrate on the structure and function of organelles:

- a) Gross anatomy
- b) Histology
- c) Cytology

1.5 The following organ systems functions in communication and control:

- a) Muscular
- b) Cardiovascular
- c) Nervous

1.6 The coronary veins drains the deoxygenated blood from the heart into the:

- a) Left atrium
- b) Right atrium
- c) Superior vena cava

- 1.7 Platelets play a part in:
- a) Clotting
  - b) Cellular reproduction
  - c) The manufacture of white blood cells
- 1.8 The outer covering of each bone, made from fibrous connective tissue, is called:
- a) Epiphysis
  - b) Diaphysis
  - c) Periosteum
- 1.9 The auto-regulation of blood pressure is through the action of:
- a) Adrenaline
  - b) Renin-angiotensin system
  - c) ANS
- 1.10 This vessel distributes oxygenated blood to the myocardium:
- a) Coronary artery
  - b) Coronary vein
  - c) Right ventricle
- 1.11 The ureter:
- a) Receives fluid from the renal pelvis
  - b) Connects directly to the urethra
  - c) Is shorter in males than in females
- 1.12 The posterior pituitary releases two hormones, arriving directly from the hypothalamus:
- a) Insulin and thyroxine
  - b) Oxytocin and insulin
  - c) Oxytocin and antidiuretic hormone
- 1.13 The lining of blood vessels is made of:
- a) Simple squamous epithelium
  - b) Transitional epithelium
  - c) Simple columnar epithelium
- 1.14 Decreased levels of bile salts in the bile would interfere with digestion of:
- a) Protein.
  - b) Fat.
  - c) Complex carbohydrates

- 1.15 Blood is prevented from backflowing INTO the right ventricle by the:
- Pulmonary semilunar valve
  - Aortic semilunar valve
  - Tricuspid valve
- 1.16 Both the sternum and the vertebrae are examples of:
- Short bones
  - Flat bones
  - Irregular bones
- 1.17 The partial pressure of oxygen be the highest in:
- Inferior vena cava
  - Pulmonary artery
  - Femoral artery
- 1.18 Underneath every epithelial tissue, we find:
- Hyaline cartilage
  - Dense regular connective tissue
  - Areolar tissue
- 1.19 Waves of muscular contractions that propel the contents of the digestive tract from one point to another are called:
- Peristalsis.
  - Pendular movements.
  - Churning movements
- 1.20 Which hormones does the adrenal gland secrete?
- Epinephrine and norepinephrine
  - Insulin and glucagon
  - Insulin and epinephrine
- 1.21 The ribs are connected to the sternum by:
- Hyaline cartilage
  - Elastic cartilage
  - Dense regular connective tissue
- 1.22 How many lobes does the right lung consist of:
- 2
  - 3
  - 1

1.23 Which of the following is NOT considered an endocrine organ?

- a) Stomach
- b) Colon
- c) Pancreas

1.24 The major muscles of inspiration are the:

- a) Diaphragm and oblique muscles
- b) Diaphragm and external intercostal muscles
- c) Oblique and external intercostal muscles

1.25 Bone is also known as:

- a) Oestrogen
- b) Cartilage
- c) Osseous tissue

## **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 mark for each questions.**

- 2.1 All leukocytes usually live from 7 to 21 days.
- 2.2 The capsular hydrostatic pressure is usually higher than the glomerular hydrostatic pressure.
- 2.3 Cyanosis is the blue color of white skin caused by the presence of oxyhemoglobin.
- 2.4 Oxytocin is a protein secreted by the posterior pituitary.
- 2.5 The area called the vermiform appendix apparently serves no function in humans.
- 2.6 Vessel spasm can be an effective method of hemostasis.
- 2.7 Cretinism is a condition of physical and mental retardation that is the result of a deficiency of thyroxine.
- 2.8 A drug that is an ACE inhibitor will lower blood pressure by inhibiting conversion of angiotensinogen to angiotensin I.
- 2.9 The skin is the part of the body that homeostatically maintains body temperature.
- 2.10 The medulla oblongata is superior to the pons.
- 2.11 Insulin decreases blood sugar levels while glucagon acts to increase blood glucose.
- 2.12 The average red cell count for females is 4.6-6.2 million cells per cubic mm.

- 2.13 Estrogen stimulates fat deposition and duct development in the breasts.
- 2.14 Properties of an organ are usually considered to be the same as those of an organ system.
- 2.15 Prostaglandins are considered hormones, which are stored within cells and released on demand.
- 2.16 Newborn babies would have difficulty removing bile pigments because of their immature livers.
- 2.17 The external anal sphincter is under voluntary control.
- 2.18 The liver has the ability to convert carbohydrates into amino acids.
- 2.19 Smooth endoplasmic reticulum has a significant function in protein synthesis.
- 2.20 A bone cell would function the same whether it was alone or together with a group of similar cells.
- 2.21 Without a gallbladder, a person will develop vitamin and lipid deficiencies because of the lack of bile.
- 2.22 The term parietal is used to name something on the surface of an organ.
- 2.23 The peritoneum is a type of abdominal membrane.
- 2.24 During inspiration the diaphragm moves upward while thorax expands and moves outward.
- 2.25 Hyperemesis gravidarum is excessive vomiting during pregnancy.

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

### **QUESTION 3**

**[25 MARKS]**

- 3.1 Outline the function of Thyroid hormones. [5]
- 3.2. Define glomerular filtration rate. Explain the factors affecting glomerular filtration rate. [5]
- 3.3 Describe the change occurring in thoracic cavity during inspiration. [5]
- 3.4 Briefly discuss about spinal cord and note on its protective layers. [5]
- 3.5 Discuss the different functions of liver. [5]

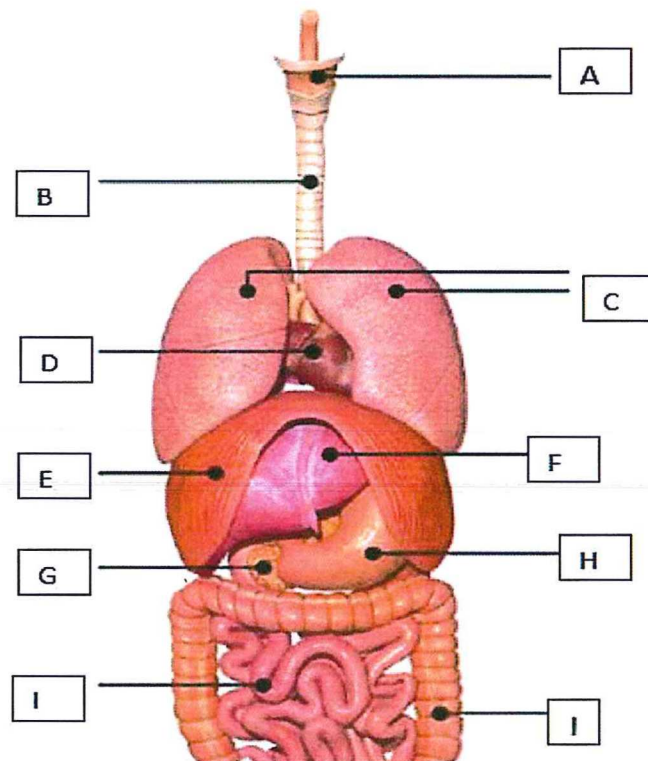
**SECTION C [25 MARKS]**

**QUESTION 4**

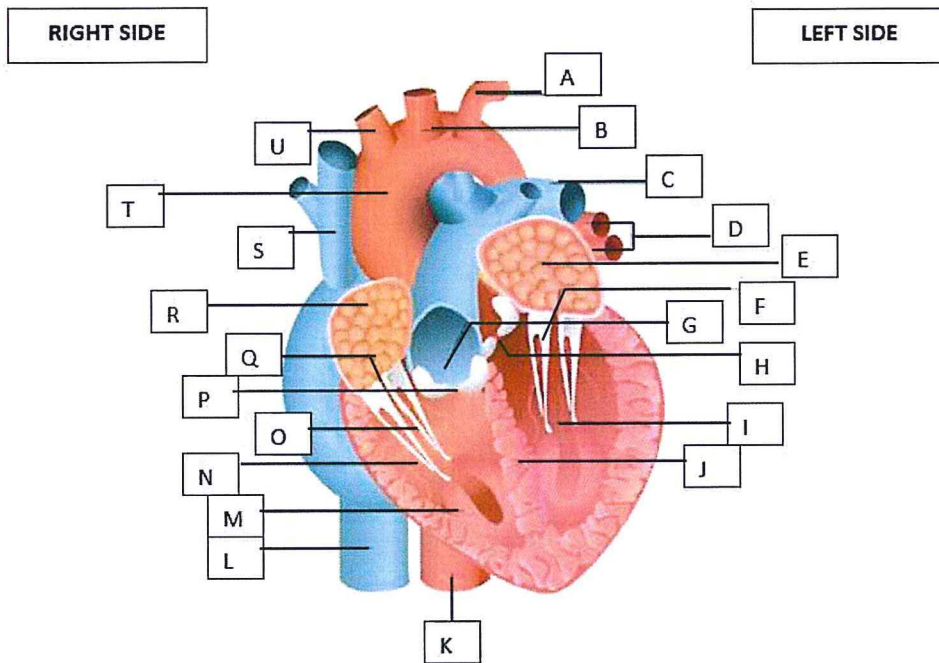
**[25 MARKS]**

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 the various parts if digestive system from the given figure. Answers need to be indicate in answer booklet with corresponding letters given. [10]

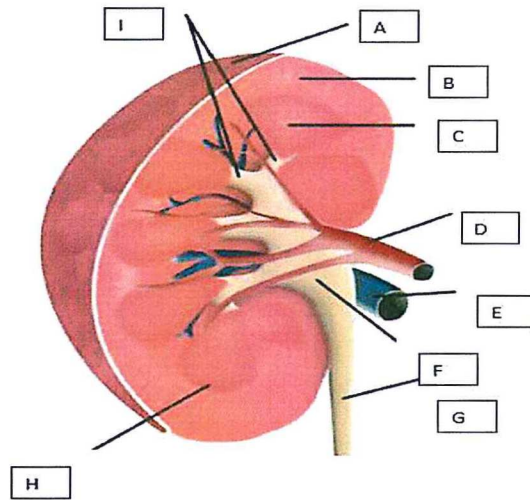


4.2 Identify any **ten (10)** anatomical parts of heart from the given figure. Answers need to be indicate in answer booklet with corresponding letters given. [10]





4.3 Identify any five (5) anatomical parts of kidney from the given figure. Answers need to be indicated in answer booklet with corresponding letters given. [5]



**GOOD LUCK!!!!**