**KENYA MEDICAL TRAINING COLLEGE – NYAMIRA**

**END OF YEAR ONE SEMESTER ONE EXAMINATION**

**SEPTEMBER 2015 KRCHN CLASS (PRE-SERVICE)**

**ANATOMY & PHYSIOLOGY EXAMINATION**

DATE: 29 MARCH 2016 TIME:…………………..

**INSTRUCTIONS**

1. Read the questions carefully and answer only what is asked.
2. Enter your examination number and question number on each page used.
3. ALL questions are compulsory.
4. For part 1 (MCQs), write the answer in the spaces provided on the answer booklet and each MCQ is one (1) mark.
5. For Part 2 (SHORT ANSWER QUESTIONS), answer the questions following each other.
6. For Part 3 (LONG ANSWER QUESTIONS), answer to each question MUST start on a separate page.
7. Omission of and or wrong numbering of a question or part of the question will result in 10% deduction of the marks scored from the relevant part.
8. Do NOT use a pencil.
9. Mobile phones are NOT allowed in the examination hall.

For Examiner:

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| --- | --- | --- | --- | --- |
| **MCQS** | **SAQS** | **LAQS 1** | **LAQS 2** | **TOTAL** |
|  |  |  |  |  |

**PART ONE: MCQS (MULTIPLE CHOICE QUESTIONS) ANATOMY & PHYSIOLOGY– 20 MARKS**

Q.1. Which of the following terms best describe, “the study of how the body system work in order to maintain life”?

1. Physiology.
2. Anatomy.
3. Feedback mechanism.
4. Homeostasis.

Q.2. Nerves communicate to each other through:

1. Motor neuron.
2. Neuro transmitters.
3. Connectors.
4. Synaps.

Q.3. Which part of the ear has the organ of hearing and balance:

1. The outer ear.
2. The middle ear.
3. The inner ear.
4. The tympanic membrane.

Q.4. A smooth connective tissue which surrounds each bundle of nerve fibres is known as:

1. Tracts.
2. Epineurium.
3. Endoneurium.
4. Perineurium.

Q.5. The groups of cell bodies in the peripheral nervous system is referred to:

1. Ganglia.
2. Basal ganglia.
3. Tracts.
4. Grey matter.

Q.6. The following are the sites where serious membranes are found in the body:

1. Peritoneum, myocardium, pleura.
2. Pleura, pericardium, endocardium.
3. Endocardium, peritoneum, pericardium.
4. Pleura, peritoneum, pericardium.

Q.7. Diencephalon is part of the brain, which include:

1. Pineal body, thalamus, hypothalamus.
2. Corpus callosum, pineal body, hypothalamus.
3. Hypothalamus, mid brain, corpus callosum.
4. Thalamus, corpus callosum, pineal body.

**PART ONE: MCQS (MULTIPLE CHOICE QUESTIONS) ANATOMY & PHYSIOLOGY– 20 MARKS**

Q.8. The cells organelle which is involved in the detoxification of some drugs is known as:

1. Golgi apparatus.
2. Lysosomes.
3. Endoplasmic reticulum.
4. Mitochondria.

Q.9. Simple epithelium tissue include:

1. Columnar, squamous, stratified squamous.
2. Columnar, transitional, stratified squamous.
3. Squamous, cuboidal, columnar.
4. Columnar, squamous, stratified squamous.

Q.10. The amount of air remaining in the air passages and alveoli at the end of quiet expiration is referred to as:

1. Vital capacity.
2. Functional residual capacity.
3. Tidal volume.
4. Residual volume.

Q.11. Accessory muscles involved in forced expiration include:

1. Scalene muscles, sternocleidomastoid muscles.
2. Abdominal muscles, scalene muscles.
3. Sternocleidomastoid muscles, internal intercostal muscles.
4. Internal intercostal muscles, abdominal muscles.

Q.12. Peptide hormones include:

1. Thyroxine, glucagon, insulin.
2. Mineralocorticoid, steroids, noradrenaline.
3. Adrenaline, insulin, glucagon.
4. Adrenaline, glucocorticoid, thyroxine.

Q.13. Elements are different from one another due to:

1. Atomic number.
2. Atomic weight.
3. Isotopes.
4. Electron configuration.

Q.14. At which state of mitosis do chromatids align on the centre of the spindles, attached by their centromeres:

1. Telophase.
2. Anaphase.
3. Prophase.
4. Metaphase.

**PART ONE: MCQS (MULTIPLE CHOICE QUESTIONS) ANATOMY & PHYSIOLOGY– 20 MARKS**

Q.15. The most numerous leukocytes:

1. Basophils.
2. Monocytes.
3. Neutrophils.
4. Eosinophils.

Q.16. Stroke volume is determined by:

1. Venous return.
2. Volume of blood in the ventricles immediately before contraction.
3. Cardiac input.
4. Cardiac output.

Q.17. The layer of the arterial blood vessel which consists of nervous cells is known as:

1. Tunica adventitia.
2. Endothelium.
3. Tunica media.
4. Tunica intima.

Q.18. The chemical components of the body is formed by:

1. Molecules.
2. Atoms.
3. Organelles.
4. Molecules and atoms.

Q.19. Pancreatic juice consists of:

1. Mineral salt, trypsin, chymotrypsinogen.
2. Pancreatic amylase, secretin, nucleases.
3. Lipase, enterokinase, water.
4. Nucleases, chymotrypsinogen, amylase.

Q.20. The hormone secreted by the parafollicular or c-cells and responsible for reabsorption and storage of calcium in the blood is:

1. Parathyroid hormone.
2. Calcitonin.
3. Thyroid hormone.
4. Thyroid stimulating hormone.

**PART TWO: SHORT ANSWER QUESTIONS – ANATOMY & PHYSIOLOGY – 40 MARKS**

Q.1. Outline four (4) functions of the skin. 4 marks

Q.2. State four (4) functions of the liver. 4 marks

Q.3. Outline five (5) functions of gastric juice. 5 marks

Q.4. Draw a well labelled diagram of the part of ear. 5 marks

Q.5. Explain the process of internal respiration. 6 marks

Q.6. Explain negative feedback regulation of the secretion of thyroxine, where

thyroxine is low. 6 marks

Q.7. State three (3) functions of the lymph node. 3 marks

Q.8. Outline four (4) short term regulation of blood pressure. 4 marks

Q.9. State four (4) functions of a plasma protein.

4 marks

**PART THREE: LONG ANSWER QUESTIONS – ANATOMY & PHYSIOLOGY – 40 MRKS**

ispinal cord and peripheral nerves.

1. Draw a well labelled diagram with arrows showing the flow of

cerebrospinal fluid. 5 marks

1. Outline three (3) functions of the cerebrospinal fluid. 3 marks
2. Describe the flow of cerebrospinal fluid.

It is secreted in the lateral ventricles by the choroid plexues.from the lateral ventricles it flows in the 3rd ventricle by a foramina called interventricular foramina.CFS flows from the 3rd venticle into the 4th ventricle through a foramina called corpus collosum.. from the 4th ventricle some of the CSF enters the suarachnoid space through the foramina in the roof of the 4th ventricle while some flows

12 marks

Q.2. Kidney is the main excretory system and is composed of about 1-2 million nephrons.

1. Draw a well labelled diagram of a nephron and associated blood vessels. 6 marks
2. Describe formation of urine. 14 marks