**KENYA MEDICAL TRAINING COLLEGE – NYAMIRA**

**RE-SIT FIRST SEMESTER EXAMINATION**

**MARCH 2013 KRCHN CLASS (PRE-SERVICE)**

**ANATOMY & PHYSIOLOGY**

DATE: 16/12/2013 TIME: ...........................

**INSTRUCTIONS**

1. Enter your examination number and question number on each page used.
2. ALL questions are compulsory.
3. For part 1 (MCQs), write the answer in the spaces provided on the answer booklet.
4. 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.
5. Do NOT use a pencil.
6. Mobile phones are NOT allowed in the examination hall.

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

Q.1. Which of the following terms describe best ‘the study of how the body systems work in order to maintain life’:

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

Q.2. The chemical component of the body is formed of:

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

Q.3. The water-based medium in which body cells exist is known as:

1. External water-based environment.
2. Internal water-based environment.
3. Internal environment.
4. Interstitial space.

Q.4. Most of the body’s homeostatic control mechanism which adjust with changes occurring to the body use:

1. Negative feedback mechanism.
2. Positive feedback mechanism.
3. Diffusion.
4. Cascade or amplifier system.

Q.5. Which of the following provides the site for lymphocyte formation?

1. Spleen.
2. Bone marrow.
3. The lymphatic system.
4. The liver.

Q.6. Nerves communicate to each other through a connection of:

1. Connector.
2. Messenger.
3. Neurotransmitter.
4. Motor neurones.

Q.7. The special lipid made in the liver and available in the diet is:

1. Plasma protein.
2. Fat acid and glycerol.
3. Cholesterol.
4. Phospholipids.

Q.8. 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.

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

Q.9. The hormone secreted by the parafollicular or c-cells and responsible for reabsorption and storage of calcium in the blood is?

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

Q.10. Which of the following mechanism is not responsible for the control of respiration?

1. High level of carbon dioxide (hypercapnia).
2. The respiratory center.
3. Chemoreceptors.
4. Exercise and respiration.

Q.11. The functional unit of the kidney is:

1. Alomerulus.
2. Bowman’s capsule.
3. Juxtaglomerular apparatus.
4. Nephron.

Q.12. The normal cardiac cycle will last?

1. 0.08 seconds.
2. 8 seconds.
3. 0.8 seconds.
4. None of the above.

Q.13. Wernicke’s (sensory speech) area is situated in:

1. Parietal area.
2. Frontal area.
3. Premotor area.
4. Temporal area.

Q.14. Stroke volume is determined by:

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

Q.15. The process by which urine is excreted is:

1. Secretion.
2. Elimination.
3. Micturition.
4. Filtration.

Q.16. Volume of air inhaled and exhaled with each breath is:

1. Tidal volume.
2. Expiratory reserve volume.
3. Residual volume.
4. Synthesis.

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

Q.17. Which muscles covers the shoulder and the neck:

1. Visorius.
2. Trapezium.
3. Masseter.
4. Pectoralis major.

Q.18. The most numerous leukocytes:

1. Neurophils.
2. Eosinophil’s.
3. Basophils.
4. Monocytes.

Q.19. Vestibule and semi-circular canals are involved in:

1. Hearing.
2. Balancing.
3. Vision.
4. Speech.

Q.20. Bends (refracts) light rays reflected by objects in front of the eye:

1. Retina.
2. Iris.
3. Lens.
4. Pupil.

***PART TWO: SHORT ANSWER QUESTIONS – SOCIAL ANTHROPOLOGY – 30 MKS***

Q.1. State two (2) components of the central nervous system. 2 marks

Q.2. Explain composition of the peripheral nervous system. 4 marks

Q.3. State the four (4) compositions of plasma. 4 marks

Q.4. List six (6) factors that affect the heart rate. 3 marks

Q.5. State three (3) processes involved in the formation of urine. 3 marks

Q.6. State four (4) factors which affect cardiac output. 4 marks

Q.7. Explain three (3) functions of the cerebral cortex. 6 marks

Q.8. Explain four (4) types of bones, give an example of each type. 4 marks

***PART THREE: LONG ANSWER QUESTIONS – SOCIAL ANTHROPOLOGY – 30 MKS***

Q.1. (a) Draw a clearly labelled diagram of the stomach showing its muscle fibres. 5 marks

(b) Explain the functions of the stomach. 10 marks

Q.2. (a) Draw a diagram of the conducting system of the hear, showing the specialized

mass of neuromuscular fibres. 5 marks

(b) Describe the conducting system of the heart. 10 marks