JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
UNIVERSITY EXAMINATIONS 2014/2015
SCHOOL OF HEALTH SCIENCES - KISII LEARNING CENTRE
FIRST YEAR SECOND SEMESTER EXAMINATION FOR BACHELOR OF SCIENCE DEGREE IN PUBLIC HEALTH

COURSE TITLE: MEDICAL PHYSIOLOGY
COURSE CODE: HCD 3121

TIME: 2HOURS

<u>INSTRUCTIONS</u>
1. **This paper contains two (2) sections.**
2. **Answer ALL questions in section A and ONLY TWO in section B.**
3. **Illustrate your answers with well labeled diagrams where appropriate.**
4. **Provide your answers in the separate booklet provided**

SECTION A
1. Differentiate between

   a) Saltatory and complete conduction   (2 marks)

   b) Tidal volume and Minute respiratory volume   (2 marks)

2. a) Define reflex, and name the five parts of a reflex arc.   (3marks)

   b) Define stretch reflexes, and explain their practical importance.   (3 marks)

3. Briefly explain how the sympathetic division of the ANS helps the body adapt to a stress situation and give two specific examples of such situations.   (3 marks)

4. Briefly explain two compensations that will maintain blood pressure after a small loss of blood   (4marks)

5. a) Define the term neurotransmitter   (1 mark)

   b) List any four inhibitory neurotransmitters   (2 marks)

6. Briefly describe the process of the physiology of vision   (4 marks)

7. State the function of FSH, in spermatogenesis and in oogenesis   (1 mark)

8. Calculate cardiac output if stroke volume is 75 mL and pulse is 75 bpm. Using the cardiac output you just calculated as a resting normal, what is the stroke volume of a marathoner whose resting pulse is 40 bpm? (3 marks)

9. Briefly describe the effects of acidosis and alkalosis in the human body (2 marks)

SECTION B

1. Name the end products of digestion, and explain how each one is absorbed in the small intestine. (20 marks)

2. Discuss the nephron as the functional unit of the human kidney (20 marks)

3. Describe how the liver regulates blood glucose level. (20 marks)

4. Discuss the mechanisms involved in regulation of respiration (20 marks)