



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF HEALTH SCIENCES
**UNIVERSITY EXAMINATION FOR BACHELOR OF SCIENCE IN PUBLIC HEALTH/
COMMUNITY HEALTH AND DEVELOPMENT**
1ST YEAR 2ND SEMESTER 2016/2017 ACADEMIC YEAR
KISUMU LEARNING CENTER

COURSE CODE: HCD 3121

COURSE TITLE: MEDICAL PHYSIOLOGY

EXAM VENUE:--

STREAM: (BSc Comm Hlth & Dev)

DATE: 22/12/16

EXAM SESSION: 9.00 – 11.00 AM

TIME: 2.00 HOURS

Instructions:

- 1. Answer all the questions in Section A and ANY other 2 questions in Section B.**
- 2. Candidates are advised not to write on the question paper.**
- 3. Candidates must hand in their answer booklets to the invigilator while in the examination room.**

SECTION A: ANSWER ALL THE QUESTIONS (30 MARKS)

1. a) Define cardiac index (2 marks)
b) A man has a resting oxygen consumption of 270 ml of oxygen per minute, a peripheral arterial oxygen content of 0.20ml of oxygen per ml of blood and venous oxygen concentration of 0.15ml of oxygen per ml of blood. Using Fick principle, calculate his cardiac output (4 marks)
2. State the THREE most common types of buffer systems in the human body. (3marks)
3. State 4 components of plasma membrane (2 marks)
4. Name the 3 parts of the meninges and one function? (2marks)
5. Name the hormones of the posterior pituitary gland (2 marks)
6. a) Define glomerular filtration rate GFR (2marks)
b) Enlist the determinants of GFR. (3marks)
7. what is a Schwann cell, what does it do (2 marks)
8. Describe the renal clearance (3 marks)
9. What is the normal blood calcium level? (2 marks)
10. Describe the three phases of secretion of gastric juice (3 marks)

SECTION B.

ANSWER ANY TWO QUESTIONS IN THIS SECTION (40 MARKS)

1. a) Explain the features of metabolic acidosis and compensation of acidosis (10marks)
b) Discuss in detail any FIVE functions of the Kidney (10 marks)
2. a) Discuss using a diagram the pathway for somatic pain- use example of polysynaptic reflex-the flexor and crossed extensor reflexes. (10 marks)
b) Discuss in detail the endocrine regulation of serum calcium level (10 marks)
3. a) Using a diagram describe the structure of the eye and functions (12 marks)
b) Describe the physiological effects of the thyroid and parathyroid hormones (8marks)
4. a) State the name and explain the function of the following cranial Nerves: cranial nerve(CN): CN I, CN II, CN IV, CN VII, CN X (10 marks)
b) Discuss the spinobulbosacral reflex of micturition (10 marks)

