JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE & TECHNOLOGY

SCHOOL OF BIOLOGICAL AND PHYSICAL SCIENCES

DEPARTMENT OF BIOLOGICAL SCIENCES

UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF EDUCTION SCIENCE WITH IT

3RD YEAR 2nd SEMESTER 2016/2017 ACADEMIC YEAR

MAIN CAMPUS - REGULAR

COURSE CODE: SZL 304

COURSE TITLE: COMPARATIVE ANIMAL PHYSIOLOGY

EXAM VENUE: LR 1 **STREAM: (BED)**

DATE: 24/04/17 **EXAM SESSION: 9.00 – 11.00 AM**

TIME: 2 HOURS

Instructions:

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

SECTION A: SHORTANSWER QUESTIONS (30 MARKS)

1. Distinguish between cell, tissue and organ. (3 marks)
2. Explain the concept of negative feedback mechanism. Give examples. (3 marks)
3. Give three functions of protein in the animals body. (3 marks)
4. State the functions of the following blood cells:
   a. Neutrophils. (1 mark)
   b. Lymphocytes. (1 mark)
   c. Erythrocytes. (1 mark)
5. Briefly explain gas transport between alveolus and blood. (3 marks)
6. Describe the importance of taste reception in the animal kingdom. (3 marks)
7. Differentiate between somatic sensory nerves and visceral sensory nerves. (3 marks)
8. Briefly explain the role of kidneys in acid-base homeostasis. (3 marks)
9. Briefly describe defecation reflex. (3 marks)
10. State three differences between arteries and veins. (3 marks)

SECTION B: ESSAY QUESTIONS (40 MARKS)

11.
   a. Describe functional organization of mammalian endocrine system. (10 marks)
   b. Explore the various functions of thyroid hormones . (10 marks)

12. Examine the nervous system under the following headings:
   a. Structure and function of neurons (10 marks)
   b. Transmission of impulses across synapse. (10 marks)
13. Explore basic carbohydrate metabolism in mammals. (20 marks)
14. Evaluate fermentative digestion of carbohydrates and proteins in the ruminant stomach. (20 marks)