

# JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE & TECHNOLOGY SCHOOL OF BIOLOGICAL AND PHYSICAL SCIENCES

# UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN BIOLOGICAL SCIENCES

### 2<sup>ND</sup> YEAR 2<sup>ND</sup> SEMESTER 2018/2019 ACADEMIC YEAR

#### **MAIN CAMPUS - REGULAR**

COURSE CODE: SBI 3222

COURSE TITLE: ANIMAL PHYSIOLOGY II

EXAM VENUE: LR 1 STREAM: (BIO)

DATE: 30/04/2019 EXAM SESSION:12.00-2.00PM

**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: SHORT ANSWER QUESTIONS (30 MARKS)**

<ol> <li>Define the following terms:         <ul> <li>a. Anabolism</li> <li>b. Catabolism</li> <li>c. Energy Metabolism</li> </ul> </li> <li>Explain how ruminants use acetic acid and butyric acid as energy sources.</li> <li>Give the three main processes responsible for urine formation.</li> <li>Examine mechanisms of water loss and gain in mammals.</li> <li>Distinguish between osmoconformers and osmoregulators citing examples.</li> <li>Explain the production and functions of the following hormones:         <ul> <li>a. Prolaction</li> <li>b. Adrenocorticotrophic hormone</li> </ul> </li> </ol>	(1 mark) (1 mark) (1 mark) (3 marks) (3 marks) (3 marks) (3 marks)
<ul><li>b. Adrenocorticotrophic hormone</li><li>c. Oxytocin</li></ul>	(3 marks)
7. Hypothalamus is the main component of the diencephalon. Give its main funct	` /
8. Distinguish between somatic motor nerves and visceral motor nerves.	(3 marks)
9. Describe chemical transmission of signals at synapses.	(3 marks)
10. Describe importance of taste reception in humans and animals.	(3 marks)
SECTION B: ESSAY QUESTIONS (40 MARKS)	
11.	
a) Outline the stimulus for the release of both insulin and glucagon and analyz	
of these two hormones.	(10 marks)
b) Describe functions of main thyroid hormones.	(10 marks)
12. Explore nutrient metabolism in mammals under the following headings:	(10 1)
a. Basic protein and amino acid metabolism	(10 marks)
b. Basic lipid metabolism	(10 marks)
13. Evaluate the functions of different parts of the eye and ear in mammals.	(20 marks)
<ul><li>14. Describe the visible clinical signs in mammals suffering from malfunction of d nervous system, respiratory system and reproductive system.</li><li>(20 marks)</li></ul>	igestive system,