



# **MAASAI MARA UNIVERSITY**

**REGULAR UNIVERSITY EXAMINATIONS**

**2017/2018 ACADEMIC YEAR**

**THIRD YEAR FIRST SEMESTER**

**FOR**

**SCHOOL OF SCIENCE & INFORMATION SCIENCE**

**THE DEGREE OF BACHELOR OF SCIENCE**

**COURSE CODE: ZOO 314**

**COURSE TITLE: ANIMAL PHYSIOLOGY I**

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**DATE: 24<sup>TH</sup> APRIL, 2018**

**TIME: 1100 – 1300HRS**

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**INSTRUCTIONS TO CANDIDATES**

**ANSWER ALL QUESTIONS IN SECTION "A" AND ANY TWO IN SECTION "B"**

**ILLUSTRATE YOUR ANSWERS WITH APPROPRIATE DIAGRAMS AND EXAMPLES**

**SECTION A COMPULSORY. ANSWER ALL QUESTIONS 30MARKS.**

1. Elucidate the functions of the plasma membrane proteins. **3marks**
2. Define Bohr effect and explain how it affects gas exchange. **3marks**
3. Define the terms: Twitch; Tetany; Isotonic contraction. **3marks**
4. Write short notes on noradrenaline. **3marks**
5. Give six ways diving mammals use to avoid periods of hypoxia during a dive. **3marks**
6. Outline the osmo-regulatory process in man. **3marks**
7. Describe the process of shivering thermogenesis. **3marks**
8. Outline the significance of the following processes :
  - a) Glomerula filtration
  - b) Tubular reabsorption
  - c) Tubular secretions. **3marks**
9. Briefly describe the removal of carbon dioxide from the tissues to the lungs. **3marks**
10. Distinguish between cardiac output and stroke volume. **3marks**

**SECTION B: ANSWER ANY TWO QUESTIONS 40 MARKS.**

11. Discuss adaptations of the camel to hyperthermia. **20marks**
12. Broadly discuss the behavioural and physiological mechanisms used by desert ectotherm and endotherms in conserving water and energy. **20marks**
13. Explain the role of hormones and enzymes in protein digestion in vertebrates. **20marks**
14. Using a table compare and contrast the endocrine and nervous system. **20marks**

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