

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

THIRD YEAR EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF SCIENCE (GENERAL) AND BACHELOR OF EDUCATION SCIENCE

ZOOL 330: ANIMAL PHYSIOLOGY

STREAMS: BSC (BIOCHEMISTRY) BSC (BIO)

TIME: 2 HOURS

DAY/DATE: WEDNESDAY 5/12/2018

8.30 A.M - 10.30 A.M.

INSTRUCTIONS:

- Answer ALL Questions in Section A and any other TWO in Section B

SECTION A: [30 MARKS]

1. Identify the target organ and one function of the following hormones in mammals;
 - (a) Erythropoietin [1 Mark]
 - (b) Renin [1 Mark]
 - (c) Cholecystokinin [1 Mark]
 - (d) Gastrin [1 Mark]
 - (e) Vasopresin [1 Mark]
2. (a) Explain how total body water is measured in mammals. [2 Marks]

(b) Calculate the plasma volume of a man whose total blood volume and haematocrit is 5.6 L and 40 respectively. [3 Marks]
3. Explain the mechanism of: -
 - (a) Accommodation in the human eye. [2 Marks]
 - (b) Glomerular filtration in the mammalian kidney. [3 Marks]
4. Explain the role of respiration in the regulation of blood PH. [5 Marks]
5. Explain the role of positive feedback mechanism in child birth. [5 Marks]
6. Explain hormonal control of mammalian male reproductive system. [5 Marks]

ZOOL 330

SECTION B: [40 MARKS]

7. (a) Describe the mechanism of transmission of action potential across a chemical synapse. [12 Marks]
- (b) Describe the sequence of steps that lead to skeletal muscle contraction. [8 Marks]
8. Describe the physiology of hearing in man. [20 Marks]
9. Describe the following;
- (a) ABO blood group systems. [8 Marks]
- (b) Extrinsic pathway of blood clotting. [12 Marks]
-