

University of Beira

Faculty of Sciences
Department of Plant & Animal Sciences



Course Instructor:
Dr. Salah A. Martin

ZOO 409

(COMPARATIVE ANIMAL PHYSIOLOGY I)

www.geocities.com/salahmartin/ZOO409.html

FIRST SEMESTER EXAMS (2006-2007)

Wednesday, 28th February 2007
15-18h at Restau IV, V, VI

Instructions: Answer all the Questions (From 1-7)

- 1) Explain very briefly how the physiology of the following systems is regulated by the nervous and/or endocrine systems.
 - a) Circulatory system (2 marks)
 - b) Respiratory system (1 mark)
 - c) Urinary system (1 mark)
 - d) Digestive system (1 mark)
 - 2)
 - a) How is the nervous system organized? (4.5. marks)
 - b) In a tabular form only, present the anatomy and the physiology of the human brain (6 marks)
 - c) Using a flow chart only, show the main divisions of the vertebrate peripheral nervous system (4.5. marks)
 - 3) Describe the mechanism of action and give the specific physiological effects of:
 - a) Estrogens (5 marks)
 - b) Growth Hormone (GH) (5 marks)
 - 4) Show how the following physiological processes are regulated in vertebrates
 - a) Ovulation (5 marks)
 - b) Calcium homeostasis (5 marks)
 - c) Glucose homeostasis (5 marks)
 - d) Stress responses (5 marks)
 - 5) Describe the role the following substances that circulate in blood
 - a) ADH (Vasopressin) (2.5 marks)
 - b) ACE (Angiotensin Converting Enzymes) (2.5 marks)
 - c) Thrombopoietin (2.5 marks)
 - d) Natriuretic Peptide A & B (2.5 marks)
 - 6) Discuss how insect hormones condition metamorphosis in butterfly (5marks)
 - 7) How is the reproductive endocrinology involved in the following stages in a mature human female?
 - a) Menstrual cycle (5 marks)
 - b) Gestation (2.5 marks)
 - c) Parturition (2.5 marks)
 - d) Menopause (2.5 marks)
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