



KIBABII UNIVERSITY

UNIVERSITY EXAMINATIONS 2015/2016 ACADEMIC YEAR SECOND YEAR SECOND SEMESTER MAIN EXAMINATION

**FOR THE DEGREE OF BACHELOR OF SCIENCE IN BIORESOURCES
MANAGEMENT AND CONSERVATION**

COURSE CODE: SBC 222

COURSE TITLE: NATURAL HISTORY OF VERTEBRATES

DATE: 11th May 2016

TIME: 9:00 – 11:00a.m.

INSTRUCTIONS TO CANDIDATES

Answer Question one (1) and any other two (2) Questions. Question one is compulsory and carries 30 marks, the other Questions carry 20 marks each.

TIME: 2 Hours

This paper consists of 2 printed pages. Please Turn Over



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1. a) Define each of the following terms: (3 marks]
 - i. Classification
 - ii. Phylogeny
 - iii. Comparative biochemistry
 - b) State the difference between homologies and analogies. (3 marks)
 - c) Briefly describe the main anatomical features of chordates. (3 marks)
 - d) Briefly describe respiratory features of amphibian developmental stages which enable them to live both in water and on land. (3 marks)
 - e) Modern day fishes are very active swimmers, briefly describe features which enable them to be such active swimmers. (3 marks)
 - f) Highlight the main characteristics of amphibians. (3 marks)
 - g) Explain factors that led to the rise and fall of reptiliangroups. (3 marks)
 - h) Briefly describe the key characteristics that have made birds the most diverse of terrestrial vertebrates. (3 marks)
 - i) State features that have enabled flying mammals to colonize extremely harsh environments. (3 marks)
 - j) Explain how endothermy has enabled mammals to colonize extremely inhospitable environments. (3 marks)
- 2 Discuss by giving relevant examples the economic and biological importance of the orders of the class Reptilia. (20 marks)
 - 3 a) Discuss the main processes through which homoplastic structures may have evolved. In each case support your argument with relevant examples of anatomical features. (10 marks)
 - b) Discuss the main features of hemichordates. (10 marks)
- 4 Describe the evolutionary pathway of vertebrates which enabled them to invade sea, land and air. (20 marks)
 - 5 a) Discuss the main features of scientific names as advanced by the Linnaean system of binomial nomenclature. (10 marks)
 - b) Discuss the main features of non-vertebrate chordates. (10 marks)