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*(Knowledge for Development)*

**KIBABII UNIVERSITY**  
**UNIVERSITY EXAMINATIONS**  
**2017/2018 ACADEMIC YEAR**

**FIRST YEAR FIRST SEMESTER**  
**MAIN EXAMINATION**

**FOR THE DEGREE OF BACHELOR OF EDUCATION SCIENCE**

**COURSE CODE:** ESM 113

**COURSE TITLE:** SURVEY OF THE ANIMAL KINGDOM

**DATE:** 8<sup>th</sup> January 2018

**TIME:** 2:00 -4:00 p.m.

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**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



KIBU observes ZERO tolerance to examination cheating

1. a) Differentiate between: (3 marks)
    - i. Death and extinction
    - ii. Ecosystem and biosphere
    - iii. Genotype and phenotype
  - b) Describe three functions of the transport system in animals. (3 marks)
  - c) Describe briefly three theories advancing the origin of multicellularity in animals. (3 marks)
  - d) Describe three functions of the body cavity in animals. (3 marks)
  - e) Describe six characteristics of members of phylum Nematoda. (3 marks)
  - f) Describe briefly differences between open and closed circulatory systems observed in Animalia. (3 marks)
  - g) Explain reasons that made Gregor Mendel successful in his experiments. (3 marks)
  - h) Describe briefly the main characteristics of chordates. (3 marks)
  - i) Discuss how human beings have helped improve genetic diversity in animals. (3 marks)
  - j) Describe briefly gas exchange process in Pisces. (3 marks)
2. Describe the functions of the endoskeleton of animals. (20 marks)
  3. Discuss biological and economic significance of invertebrates. (20 marks)
  4. a) Arthropoda is a very successful taxon. Describe adaptations that have made it very successful. (10 marks)
    - b) Discuss five adaptations animals exhibit to optimize their survival despite pressures from environmental factors and physical laws. (10 marks)
  5. a) Discuss five human activities that have the greatest impact on aquatic ecosystem. (10 marks)
    - b) Describe five characteristics of members of class Mammalia. (10 marks)