



CITY CAMPUS, OFF ALARA STREET, YABA, LAGOS, NIGERIA.

TITLE OF EXAMINATION: B.Sc Examination

FACULTY: Science

DEPARTMENT: Biological Sciences

SESSION: 2018/2019

COURSE TITLE: General Biology II

COURSE CODE: BIO 121

INSTRUCTION: Answer **Question 1** and any other two.

SEMESTER: Second

CREDIT UNIT: 2

TIME: 2 Hours

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1. (a) Describe three evidences to show that Mitochondria evolved from free-living bacteria. (6 marks)
 - (b) List the distinguishing characteristics of Phylum Chordata. (8 marks)
 - (ii) Why are fishes categorized in the Sub-phylum Vertebrata? (6 marks)
 - (c) Arthropods are believed in Evolutionary history to be the first set of animals to permanently colonize land, mention some of the adaptation features that aided them. (5 marks)
 - (ii) Mention the three characteristics that are unique to all mammals and give two examples of placental mammals. (5marks)
 2. (a) Highlight four differences between Toads and Frogs. (4 marks)
 - (ii) What do you understand by the term **pentadactyl limb**? (3 marks)
 - (b) Mention five features which distinguish members of the Phylum Coelentrata. (5 marks)
 - (ii) State the organism referred to as the first chordate and Human's oldest ancestor. (3 marks)
 - (c) Enumerate five features which distinguish members of the Phylum Hemichordata. (5 marks)
 3. (a) Define the term **Adaptation**. (3 marks)
 - (ii) Explain briefly the term **Endosymbiosis**. (2 marks)
 - (b) Highlight five Ecological adaptation features seen in desert animals. (10 marks)
 - (c) Mention the two invertebrate sub-phyla found in the Phylum Chordata. (5 marks)
 4. (a) Evolutionary history records that early land plants and animals had to combat some challenges in the course of migration from the aquatic environment. Enumerate these challenges. (8 marks)
 - (b) Give two common examples of Echinoderms. (2 marks)
 - (ii) List five characteristics of the Phylum Echinodermata. (5 marks)
 - (c) In a tabular form, distinguish between a plant cell and an animal cell (5marks)

5. (a) What are the five major characteristics of the Class Reptilia? (5 marks)
(ii) Enumerate five characteristics of Phylum Mollusca. (5 marks)
- (b) Aves are cosmopolitan and found in all Continents. Highlight five of the characteristics which distinguish them. (5 marks)
(ii) Discuss briefly the evolutionary sequence that exists among animals. (5 marks)