National Open University of Nigeria
Plot 91, Cadastral Zone, Nnamdi Azikiwe Expressway, Jabi - Abuja
Faculty of Science
Department of Pure and Applied Sciences
SEPTEMBER, 2020 EXAMINATION

COURSE CODE: BIO307
COURSE TITLE: EVOLUTION
CREDIT UNIT: 2
TIME ALLOWED: 2 HOURS

INSTRUCTION: ANSWER **QUESTION 1** AND **ANY OTHER THREE** QUESTIONS

1. a. Define the following terms:
   i. Natural selection **2 Marks**
   ii. Genetic drift **2 Marks**
   iii. Mutation **2 Marks**
   iv. Phylogenetics **2 Marks**
   b. Enumerate the contribution of Baptiste Jean Lamarck to the understanding of evolution **5 Marks**
   d. Write a concise note on Binomial nomenclature **7 Marks**
   e. Using an annotated diagram only, describe the mechanisms of speciation **5 Marks**

2. a. Explain the term Vestigial structure as an evidence of evolution **6 Marks**
   b. List any four divisions of Era. **4 Marks**
   c. With the aid of an annotated evolutionary tree, ONLY, describe the evolution of green plants **5 Marks**

3. a. Compare the Greek evolution with the Medieval evolution **6 Marks**
   b. State Hardy-Weinberg Principle **2 Marks**
   c. List six (6) evolutionary influences that could alter the Hardy-Weinberg equilibrium **3 Marks**
   d. expatiate on the term Genetic Hitchhiking **4 Marks**

4. a. Draw a generalized life cycle of plant **6 Marks**
   b. Mention six (6) assumptions underlying Hardy-Weinberg equilibrium **3 Marks**
   c. Describe the generalized morphology of angiosperms flower **4 Marks**
   d. List two (2) examples of Gymnosperm **2 Marks**

5. 5a. a. Write the logistic growth equation and interpret it. **3 Marks**
   b. What will be the population of Teaks in a Teak plantation after 10 years given that No = 4000, per capita growth rate = 0.5, Euler's Constant = 2.71828. **3 Marks**

c. Draw an annotated logistic growth curve **3 Marks**

d. Explain ecology as an important aspect of evolution **6 Marks**