



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 $N_0 = 4000$, 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