



NATIONAL OPEN UNIVERSITY OF NIGERIA
14-16 AHMADU BELLO WAY, VICTORIA ISLAND LAGOS
MARCH/APRIL 2016 EXAMINATION

SCHOOL OF SCIENCE AND TECHNOLOGY

COURSE CODE: BIO307
COURSE TITLE: EVOLUTION

TIME: 2 HOURS

CREDIT UNIT: 2

INSTRUCTION: ANSWER QUESTION ONE (1) AND ANY OTHER THREE (3) QUESTIONS

- 1a. Define genetic recombination. (3 marks)
- b. Analyze the concept of mutation in molecular biology and genetics. (12 marks)
- c. Write **short notes** on the following:
 - (i) deleterious alleles (5 marks)
 - (ii) fate of mutant alleles (5 marks)
- 2ai. Enumerate the key evolutionary innovations that can be used to trace the evolution of Plant kingdom. (3 marks)
- ii. Explain how seeds have improved the adaptations of plants to living on land. (4 marks)
- b. Write **short notes** on the following:
 - (i) hybrid gender (4 marks)
 - (ii) mechanical isolation (4 marks)
- 3a. Outline the techniques that can be used to investigate polymorphism. (9 marks)
- b. Give a detailed description of the mechanisms for balancing selection. (6 marks)
- 4ai. what do you understand by Biological Evolution? (3 marks)
- ii. Distinguish between prokaryotes and Eukaryotes. (7 marks)
- b. Linkage is important in population genetics. Discuss. (5 marks)
- 5a. Outline the harmful mutations. (7 marks).
- b. Write **short notes** on the following:
 - (i) allopatric speciation (4 marks)
 - (ii) peripatric speciation. (4 marks)
- 6ai. What do you understand by the term mutation? (3 marks)
- ii. Enumerate the causes of spontaneous mutation. (6 marks)
- b. Classify mutations on the basis of their functional effects. (6 marks)