



National Open University Of Nigeria
Plot 91, Cadastral Zone, Nnamdi Azikiwe Expressway, Jabi - Abuja
Faculty of Science
OCTOBER/NOVEMBER, 2016 EXAMINATION

COURSE CODE: BIO 307

COURSE TITLE: EVOLUTION

TIME ALLOWED: 2 Hours

INSTRUCTION: Answer question ONE (1) and any other THREE (3) questions

1. (a) Define genetic recombination (3 marks)
(b) Write short notes on the following:
 (i) Deleterious alleles (5 marks)
 (ii) Fate of mutant alleles (5 marks)
(c) Explain the concept of mutation in relation to in Molecular Biology and Genetics (12 marks)
2. (a) Define the term mutation. (2 marks)
(b) Outline the key evolutionary innovations for tracing the evolution of the plant kingdom (4 marks)
(c) Classify mutations on the following basis:
 (i) Inheritance (6 marks)
 (ii) Special class (3 marks)
3. Adaptation, speciation and hybrid vigor are very important in Evolution- Discuss with reference to their outcomes (15 marks; 5 for each)
4. (a) Enumerate the techniques that can be used to investigate polymorphism (9 marks)
(b) Give a detailed description of the mechanisms for balancing selection (6 marks)
5. Account for **any three** of the four fundamental processes governing population genetics (15 marks; 5 for each)
6. (a) Distinguish between prokaryotes and eukaryotes (7 marks)
(b) Write **short notes** on allopatric speciation and peripatric speciation. (8 marks)