



NATIONAL OPEN UNIVERSITY OF NIGERIA

14-16 AHMADU BELLO WAY, VICTORIA ISLAND LAGOS

SCHOOL OF SCIENCE AND TECHNOLOGY

MARCH/APRIL 2015 EXAMINATION

SCHOOL OF SCIENCE AND TECHNOLOGY

COURSE CODE: BIO 307

COURSE TITLE: EVOLUTION

TIME ALLOWED: 2 Hours

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

1a. What do you understand by Biological Evolution? (3 marks)

b. Outline the key evolutionary innovations that can be used to trace the evolution of plant kingdom. (4 marks)

c. Ecology and Evolution are considered sister disciplines of the life science. Discuss.

(8 marks)

d. Enumerate the various techniques that can be used to investigate polymorphism in the laboratories. (4 marks)

e. Describe the mechanisms for balancing selection. (6 marks)

2a. Distinguish between prokaryotes and Eukaryotes. (7 marks)

b. Write **short notes** on the following:

i. horizontal gene transfer (4 marks)

ii. genetic structure. (4 marks)

3a. Give the major reasons for extinction. (5 marks)

b. Account for the following evidences of evolution:

i. Bio-geographical (3 marks)

ii. Bio-chemical (3 marks)

iii. Anatomical (4 marks)

4a. Outline the harmful mutations. (7 marks)

b. Classify mutations on the basis of their functional effects. (8 marks)

5. Account for any three fundamental processes governing population genetics. (15 marks)

6a. List the causes of spontaneous mutation. (5 marks)

b. Write **short notes** on the following:

(i) deleterious alleles (5 marks)

(ii) fate of mutant alleles (5 marks)

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