NATIONAL OPEN UNIVERSITY OF NIGERIA
14/16 AHMADU BELLO WAY, VICTORIA ISLAND, LAGOS
SCHOOL OF SCIENCE AND TECHNOLOGY
MARCH/APRIL 2014 EXAMINATION

COURSE CODE: BIO 307
COURSE TITLE: EVOLUTION
TIME ALLOWED: 2 HOURS
INSTRUCTION: ANSWER ANY FOUR QUESTIONS

1ai. What do you understand by Biological Evolution?
ii. Write short notes on the following
(i) hybrid gender (ii) mechanical isolation
bi. Outline the key evolutionary innovations that can be used to trace the evolution of the plant kingdom.
ii. Seed have improved the adaptations of plants to living on land. Discuss.

2ai. Define genetic recombination.
ii. Write short notes on the following
(i) delaterious alleles (ii) fate of mutant alleles
bi. Enumerate the various techniques that can be used to investigate polymorphism in the laboratories.
ii. Describe the mechanisms for balancing selection.

3ai. Define an Ecosystem.
ii. Ecology and Evolution are considered sister disciplines of the life science. Discuss.
bi. Explain the meaning of population genetics.
ii. Linkage is important in population genetics.Discuss.

4ai. Define mutation.
ii. Outline the harmful mutations.
bi. List the causes of spontaneous mutation.
ii. Classify mutations on the basis of their functional effects.

5ai. Give the major reasons for extinction.
ii. Write short notes on the following:
(i) horizontal gene transfer (i) genetic structure.
bi. Define adaptation.
ii. Write short notes on allopatric speciation and peripatric speciation.

6ai. What is classification?
ii. Distinguish between prokaryotes and Eukaryotes.
bi. Outline five probable stages involved in the origin of life.
ii. Explain the following evidences of evolution:
(i) Bio-geographical (ii) Bio-chemical (iii) Anatomical