



NATIONAL OPEN UNIVERSITY OF NIGERIA

Plot 91 Cadastral Zone, Nnamdi Azikwe Express Way, Jabi, Abuja.

FACULTY OF EDUCATION

COURSE CODE: SED327

COURSE TITLE: ENVIRONMENT AND POPULATION

CREDIT UNIT: 3

TIME ALLOWED: 3 HOURS

INSTRUCTION: ANSWER QUESTION ONE AND ANY OTHER THREE

- 1ai. Distinguish between an algae and lichen **(4 marks)**
- ii. Life on land and water is possible mainly because of the existence of producers such as algae and green plants. Discuss any four (4) economic importance of algae. **(4 marks)**
- bi. Human population growths are usually affected by two important factors. Name the factors and give explanations on how they affect population explosion. **(4 marks)**
- ii. Discuss five (5) factors that contribute to the success of birth control programmes. **(5 marks)**
- ci. Feeding relationships in an ecosystem can be graphically represented by three types of pyramids. Explain these three ecological pyramids. **(6 marks)**
- ii. What is the most ideal way of representing relationships between organisms in different trophic levels and why? **(2 marks)**
- 2ai. What is an ecosystem? **(2 marks)**
- ii. 'If the bee disappears from the surface of the earth, Man would have no more than four years to live' (Albert Einstein). Explain this statement. **(4 marks)**
- b. Explain the difference between a biome and a habitat **(4 marks)**
- c. Biotic component of the ecosystem include plants, animals and microorganisms. What are the main processes through which the carbon in biotic component is returned to abiotic component? **(5 marks)**
- 3ai. Seed dormancy or rest is the innate inhibition of germination of a viable seed even when placed in most favourable environment for germination. What reasons will you give for the inhibition of germination of seed in favourable conditions? **(3 marks)**
- ii. What are the three major events involved in seed germination? **(3 marks)**
- b. Some factors are associated with the mature seed of many species which exhibit some degree of dormancy. What are these factors? **(3 marks)**
- c. From a named ecosystem that you know, give the meaning of Trophic levels and Food chain, giving an example of each. **(6 marks)**

- 4ai. What is spermatogenesis, where and by what process does it occur? **(3 marks)**
- ii. List the three (3) phases involved in the formation of spermatids **(3 marks)**
- bi. What is Fertilization? **(3 marks)**
- ii. What happens after fertilization in human? **(3 marks)**
- ci. What role do decomposers play in cycling of nutrients in ecosystems? **(2 marks)**
- ii. Give an example of a detritus food chain **(1 mark)**
- 5a. The earth is a closed system. What does this mean, and what are the implications of this fact? **(5 marks)**
- b. What are the efforts being employed in Nigeria to ensure conservation of environment/resources? **(5 marks)**
- c. 'The movement of energy through an ecosystem is unidirectional but the movement of nutrient is cyclic'. Discuss this statement. **(5 marks)**