

**HOWARD UNIVERSITY
COLLEGE of ARTS and SCIENCES
COMPREHENSIVE SCIENCES**

LIFE SCIENCES: UNIT IX – ECOLOGY STUDY QUESTIONS

1. Define: (a) Ecology, (b) ecosystem, (c) biosphere, (d) biome, (e) community, (f) population, (g) ecological niche, (h) habitat.
2. List two abiotic and two biotic factors of the environment.
3. Why is the flow of energy (solar and chemical) through the ecosystem described as one-way (unidirectional)?
4. (a) Sketch a four-level “food” pyramid to indicate the occupants at each level (base to apex). (b) What type of organism is always found at the base of a pyramid, chain, or web?
5. At which level are the decomposers in the food pyramid?
6. What are the two factors that constitute a K-level for a population?
7. Name two density-dependent factors that can control the growth of a population.
8. Name two density-independent factors that can control the growth of a population.
9. Define (a) commensalism, (b) parasitism, (c) mutualism
10. What type of symbiosis is applicable to a lichen? To mycorrhizae?
11. List two terrestrial and two aquatic biomes.
12. Distinguish between primary and secondary succession.
13. List the PRIMARY organisms that are affected by: (a) pollution of the water by oil spills. (b) pollution of the air by photochemical smog. (c) pollution of the landscapes by plastic containers and non-biodegradable items.
14. Name one earth renewable and one non-renewable resource.
15. What is a niche? For the following organisms, indicate (a) its niche (b) two abiotic factors that it needs for its growth. Organisms: (i) a bacterium, (ii) a fungus, (iii) a deciduous tree, (iv) a field mouse and (v) man.