Organisms and Populations

1. How is diapause different from hibernation?
2. If a marine fish is placed in a fresh water aquarium, will the fish be able to survive? Why or why not?
3. Define phenotypic adaptation. Give one example.
4. Most living organisms cannot survive at temperature above 45°C. How are some microbes able to live in habitats with temperatures exceeding 100°C?
5. List the attributes that populations but not individuals possess.
6. If a population growing exponentially double in size in 3 years, what is the intrinsic rate of increase (r) of the population?
7. Name important defence mechanisms in plants against herbivory.
8. An orchid plant is growing on the branch of mango tree. How do you describe this interaction between the orchid and the mango tree?
9. What is the ecological principle behind the biological control method of managing with pest insects?
10. Distinguish between the following:
    (a) Hibernation and Aestivation
    (b) Ectotherms and Endotherms
11. Write a short note on
    (a) Adaptations of desert plants and animals
    (b) Adaptations of plants to water scarcity
    (c) Behavioural adaptations in animals
    (d) Importance of light to plants
    (e) Effect of temperature or water scarcity and the adaptations of animals.
12. List the various abiotic environmental factors.
13. Give an example for:
    (a) An endothermic animal
    (b) An ectothermic animal
    (c) An organism of benthic zone
14. Define population and community.
15. Define the following terms and give one example for each:
    (a) Commensalism
    (b) Parasitism
    (c) Camouflage
    (d) Mutualism
    (e) Interspecific competition
16. With the help of suitable diagram describe the logistic population growth curve.
17. Select the statement which explains best parasitism.
    (a) One organism is benefited.
    (b) Both the organisms are benefited.
    (c) One organism is benefited, other is not affected.
    (d) One organism is benefited, other is affected.
18. List any three important characteristics of a population and explain.