

P-402[ECOLOGY & CONSERVATION BIOLOGY]

1. Answer the following questions.

[1 mark]

1. Ecology deals with the study of:

- a) Living beings
- b) Living and non living components
- c) Reciprocal relationship between living and non living components
- d) Environment

2. Autoecology deals with

- a) Ecology of species
- b) Ecology of many species
- c) Ecology of community
- d) All the above

3. Synecology deals with

- a) Ecology of many species
- b) Ecology of many populations
- c) Ecology of community
- d) None of the above

4. Ecotype is a type of species in which environmentally induced variations are

- a) Temporary
- b) Genetically fixed
- c) Genetically not related
- d) None of the above

5. The term 'Biocoenosis' was proposed by

- a) Transley
- b) Carl Mobius
- c) Warming
- d) None of the above

6. The pyramid of energy in any ecosystem is

- a) Always upright
- b) May be upright or inverted
- c) Always inverted
- d) None of the above

7. Energy flow in ecosystem is

- a) Unidirectional
- b) Bidirectional
- c) Multidirectional
- d) None of the above

8. An ecosystem must have continuous external source of

- a) minerals
- b) energy
- c) food
- d) All of the above

9. The source of energy in an ecosystem is

- a) ATP
- b) Sunlight
- c) D.N.A
- d) R.N.A

10. Trophic levels are formed by

- a) Only plants
- b) only animals
- c) Only carnivorous
- d) Organisms linked in food chain

11. Biotic potential is counteracted by

- a) Competition with other organisms
- b) Producer is the largest
- c) Limitation of food supply
- d) None of the above

12. Definition of ecosystem is

- a) The community of organisms together with the environment in which they live
- b) The abiotic component of a habitat
- c) The part of the earth and its atmosphere which inhibits living organisms
- d) A community of organisms interacting with one another

13. In a food chain of grassland ecosystem the top consumers are

- a) Herbivorous
- b) Carnivorous
- c) Bacteria
- d) Either carnivorous or herbivorous

14. MAB stands for

- a) Man and biosphere
- b) Man, antibiotics and bacteria
- c) Man and biotic community
- d) Mayer, Anderson and Bisby

15. Species that occur in different geographical regions separated by special barrier are:

- a) Allopatric

- b) Sympatric
- c) Sibling
- d) None of the above

Answers:

1-c	2-a	3-c	4-b	5-b
6-a	7-a	8-b	9-b	10-d
11-d	12-a	13-b	14-a	15-a

2. Answer the following questions within 2-3 sentences.

[1.5 mark]

1. What is meant by physical environment ?
2. What is a biotic environment ?
3. What is a niche width ?
4. What do you mean by niche overlapping ?
5. What is an example of resource partitioning ?
6. Differentiate between exponential and logistic growth .
7. Distinguish between density dependent and density independent regulation.
8. What is meant by metapopulation ?
9. What do you mean by demes ? Give examples.
10. Define dispersal. Why it is important in evolution ?
11. What are interdemec extinctions ?
12. What is population interaction ?
13. What is allee effect ?
14. Mention structure of community .
15. How do you measure species diversity ?
16. What are the levels of species diversity ?
17. Mention some major terrestrial biomes.
18. What is the theory of island biogeography ?
19. State project tiger .
20. What are biogeographical zones ?

3. Answer the following questions within 75-100 words.

[2 marks]

1. State about biotic and abiotic interactions.
2. Give the concept of habitat and niche.
3. Differentiate between fundamental and realized niche.
4. What is resource partitioning ?
5. What is character displacement ?
6. What are characteristics of a population ?
7. Mention two types of population growth curves .
8. Mention two types of population regulation .

9. What is r-selection ?
10. What is k-selection ?
11. Who coined the term “metapopulation”? What is the theory of metapopulation ?
12. What is active and passive dispersal ?
13. What is an age structured population ?
14. Name some type of population interactions.
15. Mention some attributes of community .
16. What is ecotone and edge effect.
17. What is primary production ?
18. What is the structure of ecosystem ?
19. What is ecosystem ? Mention its components.
20. State energy flow.

4. Answer the following questions within 500 words.

[6marks]

1. Write a short note on physical environment.
2. What are biotic and abiotic interactions ?
3. Give the concept of habitat and niche. Add a note on niche width and overlap.
4. What are characteristics of population.
5. Explain about population growth curves.
6. Give an account on population regulation.
7. What is r and k selection ?
8. Give the concept of metapopulation.
9. What are the different types of population interactions.
10. What is the nature of communities ?
11. Give the structure and attributes of communities .
12. What are the levels of species diversity and its measurement .
13. What are edges and ecotones ?
14. Give the structure and function of ecosystem.
15. Give a brief account on energy flow and mineral cycling (C,N,P).
16. What do you mean by primary production and decomposition ?
17. Write the structure and function of terrestrial ecosystem (forest , grassland).
18. Give the structure and function of aquatic ecosystem (marine , estuarine , fresh water) .
19. Write about the major terrestrial biomes.
20. What is theory of island biogeography.
21. State the bio-geographical zones of India.
22. Give an account on air pollution.
23. Write about water pollution.
24. Describe noise pollution.
25. State about global environmental change.
26. Write short note on status , monitoring and documentation of biodiversity.
27. What are the major drivers of biodiversity changes ?
28. State about biodiversity management approaches .
29. What are the principles of conservation.

30. What are the major approaches to management ?
31. Give the Indian case studies on conservation /management strategy (Project Tiger , Biosphere reserves) .