

CHAPTER – 18

Ecosystem

1. Which of the following is a biotic component of anecosystem?

- a) Water
- b) Sunlight
- c) Plants
- d) Soil

2. What term describes the role of an organism in anecosystem, including its interactions with biotic andabiotic factors?

- a) Habitat
- b) Niche
- c) Community
- d) Population

3. In an ecosystem, the term 'producer' refers to:

- a) Organisms that produce their own food throughphotosynthesis
- b) Organisms that consume other organisms
- c) Organisms that decompose dead matter
- d) Organisms that recycle nutrients

Which of the following is an example of a primaryconsumer?

- a) Herbivore
- b) Carnivore
- c) Omnivore
- d) Decomposer

5. The process by which plants convert sunlight intochemical energy is called:

- a) Respiration
- b) Photosynthesis
- c) Digestion
- d) Transpiration

6. In a food chain, which of the following organisms would be at the top?
- a) Producer
 - b) Primary consumer
 - c) Secondary consumer
 - d) Tertiary consumer
7. Which of the following cycles involves the movement of carbon between the atmosphere and living organisms?
- a) Nitrogen cycle
 - b) Carbon cycle
 - c) Water cycle
 - d) Phosphorus cycle
8. Which term refers to the gradual change in species composition in an ecosystem over time?
- a) Succession
 - b) Adaptation
 - c) Competition
 - d) Colonization
9. The term 'biomass' refers to:
- a) The total mass of all living organisms in an ecosystem
 - b) The mass of dead organic matter in an ecosystem
 - c) The energy stored in plants
 - d) The number of species in an ecosystem
10. Which type of ecosystem interaction involves one species benefiting while the other is harmed?
- a) Mutualism
 - b) Commensalism
 - c) Parasitism

d) Competition

11. The term 'trophic level' refers to:

- a) The position of an organism in a food chain
- b) The amount of energy an organism consumes
- c) The diversity of species in an ecosystem
- d) The interaction between different species

12. In a typical food web, the arrows represent:

- a) The flow of energy
- b) The flow of nutrients
- c) The movement of organisms
- d) The distribution of species

13. Which of the following is an example of a decomposer?

- a) Fungi
- b) Grasshopper
- c) Rabbit
- d) Hawk

14. The term 'keystone species' refers to:

- a) A species that has a disproportionately large impact on its environment
- b) A species that is at the top of the food chain
- c) A species that is critical for nutrient cycling
- d) A species that competes with other species

15. Which of the following best describes an 'energy pyramid'?

- a) A diagram showing the amount of energy at each trophic level
- b) A diagram showing the number of individuals at each trophic level
- c) A diagram showing the amount of biomass at each trophic level
- d) A diagram showing the distribution of species in an ecosystem

16. In a terrestrial ecosystem, which of the following is considered a limiting factor?

- a) Temperature
- b) Soil pH
- c) Water availability
- d) All of the above

17. Which term describes the process by which nitrogen is converted into a form usable by plants?

- a) Nitrogen fixation
- b) Nitrogen mineralization
- c) Nitrification
- d) Denitrification

18. The term 'food chain' refers to:

- a) A linear sequence of organisms where each is eaten by the next
- b) A complex network of feeding relationships
- c) The amount of energy transferred between organisms
- d) The interactions between different species in an ecosystem

19. In an ecosystem, the term 'abiotic factors' refer to:

- a) Non-living components
- b) Living components
- c) Interactions between species
- d) The energy flow through the ecosystem

20. Which of the following is an example of an abiotic factor?

- a) Temperature
- b) Plants
- c) Animals
- d) Microorganisms

21. Which of the following describes a climaxcommunity?

- a) A stable and mature community
- b) A community in the early stages of succession
- c) A community with high species diversity
- d) A community undergoing rapid change

22. Which ecological term refers to the variety ofdifferent species in an ecosystem?

- a) Biodiversity
- b) Biomass
- c) Productivity
- d) Energy flow

23. In the nitrogen cycle, which process convertsatmospheric nitrogen into ammonia?

- a) Nitrogen fixation
- b) Nitrification
- c) Denitrification
- d) Ammonification

24. The term 'ecological niche' includes:

- a) The role of an organism in its environment
- b) The physical space an organism occupies
- c) The genetic makeup of an organism
- d) The total number of individuals in a population

25. Which of the following is NOT a part of the watercycle?

- a) Precipitation
- b) Evaporation
- c) Photosynthesis
- d) Condensation

26. Which type of ecological succession occurs on asite where no soil exists?

- a) Primary succession
- b) Secondary succession
- c) Tertiary succession
- d) Climax succession

27. The term 'trophic cascade' refers to:

- a) The top-down effects of predators on lower trophic levels
- b) The competition between species at the same trophic level
- c) The effects of producers on decomposers
- d) The flow of energy between different ecosystems

28. Which of the following processes is part of the carbon cycle?

- a) Photosynthesis
- b) Respiration
- c) Decomposition
- d) All of the above

29. Which of the following best describes an 'ecosystem service'?

- a) A benefit provided by ecosystems to humans
- b) A service provided by humans to ecosystems
- c) The energy flow through an ecosystem
- d) The process of ecological succession

30. Which term describes the transfer of energy from one trophic level to the next?

- a) Energy transfer
- b) Energy flow
- c) Energy pyramid
- d) Energy cycle

31. Which of the following best describes the role of producers in an ecosystem?

- a) They convert solar energy into chemical energy

- b) They consume other organisms for energy
- c) They decompose dead organic matter
- d) They recycle nutrients in the soil

32. Which term refers to the total energy stored in the biomass of organisms at each trophic level?

- a) Gross primary productivity
- b) Net primary productivity
- c) Biomass
- d) Trophic efficiency

33. Which process in the nitrogen cycle converts ammonia into nitrites and nitrates?

- a) Nitrification
- b) Nitrogen fixation
- c) Denitrification
- d) Ammonification

34. In an energy pyramid, the amount of energy available decreases from one trophic level to the next due to:

- a) Heat loss
- b) Increased biomass
- c) Decreased predation
- d) Increased productivity

35. Which of the following ecosystems is known for high biodiversity and productivity?

- a) Desert
- b) Temperate forest
- c) Tropical rainforest
- d) Tundra

36. Which term describes the relationship between different species living in close physical proximity, often interacting with each other?

- a) Symbiosis
- b) Competition
- c) Parasitism
- d) Predation

37. Which ecological term refers to the maximum population size an environment can sustain?

- a) Carrying capacity
- b) Biotic potential
- c) Population density
- d) Ecological footprint

38. Which process involves the breakdown of organic matter by decomposers?

- a) Decomposition
- b) Photosynthesis
- c) Respiration
- d) Nitrogen fixation

39. In an ecosystem, which group of organisms is most affected by changes in the primary producers?

- a) Primary consumers
- b) Secondary consumers
- c) Tertiary consumers
- d) Decomposers

40. The term 'ecological footprint' refers to:

- a) The impact of human activities on the environment
- b) The total energy available in an ecosystem
- c) The diversity of species in an ecosystem
- d) The area occupied by an organism

41. Which of the following best describes the process of

transpiration?

- a) The release of water vapor from plants into the atmosphere
- b) The absorption of water by plant roots
- c) The movement of water through soil
- d) The conversion of water into glucose

42. Which type of symbiotic relationship benefits both species involved?

- a) Mutualism
- b) Commensalism
- c) Parasitism
- d) Competition

43. The term 'biotic factors' refers to:

- a) Living components of an ecosystem
- b) Non-living components of an ecosystem
- c) Energy flow through an ecosystem
- d) Nutrient cycling

44. Which of the following best describes 'secondary productivity'?

- a) The energy stored by heterotrophs
- b) The energy captured by autotrophs
- c) The energy lost as heat
- d) The energy used for growth

45. Which of the following factors is NOT a density-dependent factor?

- a) Disease
- b) Predation
- c) Natural disasters
- d) Competition

46. Which term describes the process where different species evolve similar traits due to similar

environmental pressures?

- a) Convergent evolution
- b) Divergent evolution
- c) Adaptive radiation
- d) Coevolution

47. Which term describes a decrease in population size due to a sudden event or change?

- a) Population crash
- b) Carrying capacity
- c) Ecological succession
- d) Biodiversity loss

48. In an ecosystem, which group of organisms is considered to be the ultimate source of energy?

- a) Producers
- b) Primary consumers
- c) Secondary consumers
- d) Decomposers

49. Which of the following is an example of an ecosystem disturbance?

- a) Forest fire
- b) Plant growth
- c) Water evaporation
- d) Soil formation

Answer key

1	2	3	4	5
C	B	A	A	B
6	7	8	9	10
D	B	A	A	C
11	12	13	14	15
A	A	A	A	A
16	17	18	19	20
D	A	A	A	A
21	22	23	24	25
A	A	A	A	C
26	27	28	29	30
A	A	D	A	B
31	32	33	34	35
A	C	A	A	C
36	37	38	39	40
A	A	A	A	A
41	42	43	44	45
A	A	A	A	C
46	47	48	49	50
A	A	A	A	A