NEET : CHAPTER WISE TEST- 12

SUBJECT :- BIOLOGY **DATE.....**
CLASS :- 12th **NAME.....**
CHAPTER :- ECOSYSTEM **SECTION.....**

(SECTION-A)

1. Which of the following is true regarding ecosystem?
(A) Self-regulating unit
(B) Cyclic exchange of materials between living beings and environment
(C) Unidirectional flow of energy
(D) All of these

2. Vertical distribution of different species occupying different levels in an ecosystem is called
(A) Standing crop.
(B) Stratification.
(C) Standing state.
(D) Species diversity

3. How many of the following components are biotic components?

Soil, pathogen, temperatures, air, light, slope, water, decomposers

(A) Three (B) Four
(C) Five (D) Two

4. The driving force of ecosystem is
(A) Producers. (B) Solar energy.
(C) Biomass. (D) Microorganism.

5. Ecosystem has two components:
(A) Plants and animals.
(B) Biotic and abiotic.
(C) Consumers and producers.
(D) Consumers and decomposers

6. If we completely remove the decomposers from an ecosystem, the ecosystem functioning will be adversely affected because
(A) Herbivores will not recover solar energy.
(B) Rate of decomposition of other components will be very high.
(C) Mineral movement will be blocked.
(D) Energy flow will be blocked.

7. Select the incorrectly matched pair.
(A) Edaphic factors-Soil —related factors
(B) Key industry animals—Secondary consumer
(C) Herbivores—Primary consumer
(D) Transducers — Green plants

8. The transition zone between two communities is called
(A) Ecocline. (B) Ecophene.
(C) Ecotype. (D) Ecotone.

9. How much percent of PAR is captured for GPP?
(A) 1-5% (B) 2-10%
(C) 0.8-4% (D) 50%

10. Most productive ecosystem is
(A) Coastal seas.
(B) Very deep lakes.
(C) Grassland.
(D) Tropical forest.

11. The rate of biomass production in terms of energy is expressed as
(A) (kcal m^{-2}) yr^{-1} (B) (kg m^{-2}) yr^{-1}
(C) (kcal m^{-3})/year (D) $kg^{-2}m^{-1}$ yr^{-1}

12. What percentage of incident solar radiations are captured by plants during photosynthesis?
(A) 1-5% (C) >50%
(B) 0.2-1% (D) 15-25%

13. The available biomass for the consumption heterotrophs (herbivores and decomposers) is to
(A) GPP.
(B) NPP.
(C) Secondary productivity.
(D) Photosynthetic efficiency.

14. Which of the following is an incorrect statement?
(A) The NPP of the whole biosphere is approximately 170 billion tonnes of organic matter.
(B) NPP GPP- R
(C) NPP is limited by light and available nutrients in an aquatic ecosystem.
(D) NPP is very high for tropical rainforest.

15. The most limiting nutrient of the marine ecosystem is
(A) Carbon. (B) Hydrogen.
(C) Nitrogen. (D) Oxygen.

16. Which ecosystem has the lowest productivity?
(A) Ocean (B) Grassland
(C) Forest (D) Maize field

17. The process by which water-soluble inorganic nutrients go down into the soil horizon and get precipitated as unavailable salts is called
(A) Fragmentation.
(B) Leaching
(C) Stratification.
(D) Flumification

18. In which of the following biomes, decomposition of detritus will be fastest?
(A) Desert
(B) Tundra
(C) Tropical rainforest
(D) Coniferous forest

19. Go through the following processes of decomposition.
A. Humification: Process of formation of dark- coloured amorphous, slightly acidic substances, which are highly resistant to microbial action.
B. Fragmentation: Carried out by earthworm and termites.
C. Catabolism: Carried out by microorganisms under fully anaerobic conditions, by their extracellular enzymes.
D. Leaching: Water-soluble organic nutrients go down into the soil layers and get precipitated. The correctly described processes are
(A) (A) and (C).
(B) (A), (B), and (C).
(C) (A) and (B).
(D) (A), (B), (C), and (D).

20. All the given features are related to humus, except
(A) Reservoir of nutrients.
(B) Fast decomposition.
(C) Dark coloured.
(D) Amorphous.

21. Leaching is one of the important steps of decomposition. During leaching, which of the following nutrients go down into the soil horizon?
(A) Water-soluble inorganic substances
(B) Water-insoluble inorganic substances
(C) Water-soluble organic substances
(D) Water-insoluble organic substances

22. Which layer of soil is the main site for decomposition processes in the ecosystem?
(A) Upper layer
(B) Lower layer
(C) Middle layer
(D) All layers are equally important

23. Match the following columns and select the correct option.

	Column I		Column II
(a)	Grass	(i)	Decomposers
(b)	Deer	(ii)	Primary carnivore
(c)	Wolf	(iii)	Key industry animal
(d)	Bacteria	(iv)	Primary producers

(A) a (iv), b (iii), c (ii), d (i)
(B) a (i), b (iii), c (ii), d (iv)
(C) a (iii), b (ii), c (i), d (iv)
(D) a (iv), b (ii), c (iii), d (i)

24. Study the given food chain.
Detritus $\rightarrow$ Earthworm $\rightarrow$ X $\rightarrow$ Falcon
Choose the correct option for organism X.
(A) Snake (B) Sparrow
(C) Frog (D) Rat

25. Which of the following ecosystems has a simple food chain and little cycling of nutrients?
(A) Forest (B) Grassland
(C) Pond (D) Wheat field

26. Which of the food chains will be represented by spindle- shaped pyramid of numbers?
(A) Tree $\rightarrow$ Herbivorous birds $\rightarrow$ Parasites
(B) Tree$\rightarrow$ Herbivorous birds $\rightarrow$ Hawk
(C) Plant$\rightarrow$ Rabbit $\rightarrow$ Fox
(D) Grass Grasshopper $\rightarrow$ Frog$\rightarrow$ Snake

27. Which of the given ecological pyramids is not upright?
(A) Pyramid of number in tree ecosystem
(B) Pyramid of number in grassland
(C) Pyramid of biomass in grassland
(D) Pyramid of biomass in pond

28. **Statement A:** In the parasitic food chain, the size of the organism finally reduces at the higher trophic level.
Statement B: In an aquatic ecosystem, DFC is the major conduit of energy flow.
(A) Only (A) is correct.
(B) Only (B) is correct.
(C) Both (A) and (B) are correct.
(D) Both (A) and (B) are incorrect

29. State as true (T) or False (F) for the following statements and select the correct option.
A. House sparrow can be primary as well as secondary consumer.
B. Occurrence of food web provides stability to an ecosystem.
C. The amount of all the inorganic nutrients present in the soil at any time is referred to as standing crop.
D. NPP is the available biomass for consumption of carnivores.

	A	B	C	D
(A)	T	T	F	F
(B)	T	F	F	T
(C)	F	T	F	T
(D)	F	F	T	T

30. An ecological pyramid, devised by C. Elton 1927, is a graphic diagram that shows relationship between
(A) Transfer of food through food chain.
(B) Organisms.
(C) Various tropic levels of a food chain.
(D) Population and communities within an ecosystem.

31. In ecological pyramids, which of the following is not drawn?
(A) Decomposers
(B) Top carnivores
(C) Herbivores
(D) Producers

32. Which of the following ecological pyramids may be upright or inverted?
A. Pyramid of energy
B. Pyramid of number
C. Pyramid of biomass
(A) Only (A) and (B)
(B) Only (B)
(C) Only (B) and (C)
(D) All (A), (B), and (C)

33. Which of the following has the largest population in a food chain?
(A) Secondary producers
(B) Primary consumers
(C) Secondary consumers
(D) Decomposers

34. Base of the ecological pyramid is occupied by
(A) Producer. (B) Decomposer.
(C) Primary consumer. (D) Top carnivore.

35. The gradual and fairly predictable changes that occur in the species of a given area is called
(A) Biogeochemical cycles.
(B) Humification.
(C) Ecological succession.
(D) Wood web

(SECTION-B)

36. Ecological succession is
(A) Directional but unpredictable.
(B) Directional and predictable.
(C) Directional and predictable.
(D) Directionless and unpredictable

37. Identify the following statements as true (T) or false (F) for climax community and choose the option accordingly.
A. It is last community in biotic succession.
B. It is less stable than transitional communities.
C. It is in near equilibrium with the environment of that area.
D. It has a simple food chain and food webs.

	A	**B**	**C**	**D**
(A)	T	T	T	F
(B)	T	F	F	T
(C)	F	T	F	T
(D)	T	F	T	F

38. Which of the following forms the pioneer community in hydrarch succession?
(A) Wolffia
(B) Phytoplankton
(C) Lichen
(D) Submerged free-floating plants

39. Choose the option that correctly fills in the blanks for several stages A, B, and C.
Phytoplankton → Submerged plant stage → A → B → Marsh meadow stage → C → Forest stage

	A	B	C
(A)	Submerged free-floating plants stage	Reed-swamp Stage	Scrub stage
(B)	Submerged free-floating plants stage	Reed-swamp stage	Herb stage
(C)	Reed-swamp stage	Submerged free- Floating plants stage	Scrub stage
(D)	Reed-swamp stage	Herb stage	Scrub stage

40. How many of the following changes occur during ecological succession?
(a) Increase in species diversity
(b) Increase in structural complexity
(c) Decrease in humus content of soil
(d) Niche becomes specific and narrower
(e) Less immobilisation of nutrients
(A) Three (B) Two
(C) Four (D) Five

41. Phosphorus cycle differs from carbon cycle in
(A) Type of biogeochemical.
(B) Reservoir pool.
(C) Involvement of biotic components.
(D) All except (C).

42. In hydrarch succession, reed-swamp stage is replaced by
(A) Floating stage.
(B) Marsh meadow stage.
(C) Scrub stage.
(D) Submerged stage.

43. Out of the total quantity of global carbon, 71% is found in
(A) Oceans.
(B) Agroecosystem.
(C) Grasslands.
(D) Forests.

44. One of the differences between carbon and phosphorus cycles is that in the later
(A) There is no respiratory release of phosphorus into atmosphere.
(B) There is no role of bacteria.
(C) The atmospheric inputs of phosphorus through rainfall are much larger.
(D) Only the gaseous exchange of phosphorus between organisms and the environment occurs.

45. An average price tag put by Robert Costanza and his colleagues for ecosystem services is
(A) USD 33 trillion a year.
(B) USD 18 trillion a year.
(C) USD 16 trillion a year.
(D) USD 6.6 trillion a year

46. According to Robert Costanza and his colleagues, out of the total cost of various ecosystem services, soil formation accounts for
(A) About 6%. (B) Less than 10%.
(C) About 10%. (D) About 50%.

47. Mark the odd one with respect to non mineral biogeochemical cycle.
(A) Carbon (B) Hydrogen
(C) Nitrogen (D) Phosphorus

48. The pioneer community in hydrarch succession is
(A) Hydrilla. (B) Vallisneria.
(C) Phytoplankton. (D) Typha

49. Biomass in several community is
(A) Less than climax stage.
(B) More than climax stage.
(C) Equal to climax stage.
(D) Less than climax communit

50. On barren rocks, pioneers of xerosere succession are
(A) Lichens. (B) Moss.
(C) Algae. (D) Phytoplankton.