

GPLUS EDUCATION

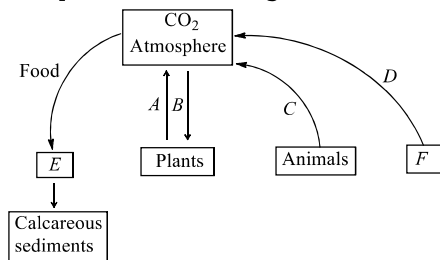
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BIOLOGY

ECOSYSTEM

Single Correct Answer Type

- Which ecosystem has the highest gross primary productivity
a) Rainforests b) Coral reefs c) Mangroves d) Grass lands
- In primary succession in water, the pioneer species are
a) Free floating angiosperm b) Small phytoplanktons
c) Rooted hydrophytes d) Lichens
- The pyramid of biomass will be inverted in the ecosystem of
a) Forests b) Ponds c) Grasslands d) Drylands
- Complete the following model of carbon cycle filling *A, B, C, D, E* and *F*

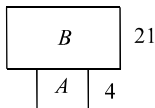


- A-Osmosis, B-Photosynthesis, C-Respiration, D-Burning of fuel wood, E-Forest food chain, F-Limestone
 - A-Photorespiration, B-Respiration, C-Respiration, D-Burning of organic debris, E-Pond food chain, F-Dolomite
 - A-Respiration, B-Photosynthesis, C-Respiration, D-Combustion of fossil fuels, E-Aquatic food chain, F-Coal, oil
 - A-Respiration, B-Photosynthesis, C-Respiration, D-Burning of forest, E-Terrestrial food chain, F-Forest
- Large unit of land having different types of plants and animals, is called
a) Uniform vegetation b) Biome c) Ecosystem d) Niche
 - Which of the following is known as the sedimentary cycle because its reservoir is a sedimentary rock?
a) Carbon cycle b) Hydrologic cycle c) Nitrogen cycle d) Phosphorus cycle
 - In ecological succession the communities in near equilibrium with the environment, are called
a) Climax communities b) Ecofriendly communities
c) Seral communities d) Pioneer communities
 - Dried plant parts such as leaves, bark, flowers, etc., and dead remains of animals including faecal matter, drop over the soil, constitute
I. below ground detritus
II. above ground detritus
III. litter fall
Choose the correct option
a) I and II b) I and IV c) II and III d) I and III
 - In the following, there is no difference.
a) Trophic level-I and herbivores b) Primary consumers and herbivores
c) Primary carnivores and trophic level-II d) Secondary consumer and herbivores
 - Consider the following statements about carbon cycle
I. Carbon is released into the atmosphere
II. The atmospheric input of carbon from rainfall is greater

III. Carbon gas is exchanged between organisms and atmosphere during respiration

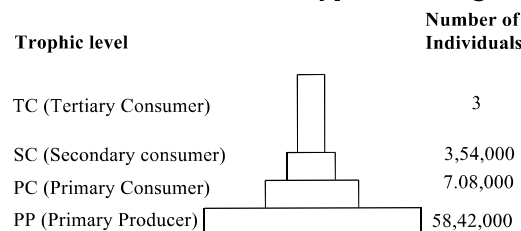
Which of the statement given above are correct?

- a) I and II b) I and III c) II and III d) I, II and III
11. Ecological pyramids were discovered by
a) Elton b) Odum c) Reiter d) None of these
12. Plant successions occurring in a sandy area is
a) Psammosere b) Hydrosere c) Xerosere d) Lithosere
13. An ecosystem is
a) Different communities of plants, animals and microbes interact together with their physico-chemical environments
b) Different communities of plants and microbes interact with their physico-chemical environments
c) A localised assemblage of several plants and animals
d) An assemblage of plants, animals and their surroundings
14. What do ecologists call the transfer of energy that begins with the sun and passes from one organism to the next in a food chain?
a) A food web b) A top consumer
c) Energy flow d) A pyramid of number
15. The energy invested in the production of new tissue by autotrophic organisms is termed
a) Gross primary production b) Decomposition
c) Gross photosynthetic activity d) Net primary production
16. Microbes that breakdown the complex organic matter into simple substances like carbon, nitrogen, water, etc., are
a) Producers b) Decomposers c) Consumers d) Symbionts
17. Which one of the following is no used for construction of ecological pyramids?
a) Dry weight b) Number of individuals
c) Rate of energy flow d) Fresh weight
18. Which element is formed by the weathering of rocks and absorbed by plant from the soil?
a) Phosphorus b) Carbon c) Nitrogen d) Oxygen
19. Given diagram represents a pyramid of biomass in an aquatic system



Identifies A of B and select correct options

- a) A is phytoplanktons and B is zooplanktons b) A is zooplanktons and B is phytoplanktons
c) A is smally body animals d) B is small body animals
20. Given below is one of the types of ecological pyramids

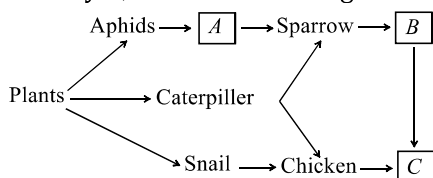


This type represents

- a) Pyramid of number in a grassland ecosystem b) Pyramid of energy in forest ecosystem
c) Pyramid of biomass in sea ecosystem d) Pyramid of biomass in terrestrial ecosystem
21. The process of breaking down complex organic matter into inorganic substances like CO₂, water and nutrient is called
a) Humification b) Mineralisation c) Decomposition d) Leaching
22. Series of changes in structure and comparition of communities on previously barren area is

- a) Sere b) Climax community c) Primary succession d) Secondary succession
23. Energy transferred from one trophic level to another is
 a) 5% b) 10% c) 15% d) 20%
24. When the two ecosystems overlap each other, the area is called
 a) Habitat b) Niche c) Ecotone d) Ecotype
25. The total amount of nutrients like carbon, phosphorus, calcium, etc., present in soil at any time is called
 a) Standing crop b) Standing state c) Nutrient crops d) Sediment
26. A food web is more realistic than a food chain for showing the feeding relationships in an ecosystem because
 a) It compares the number of consumers to the number of microorganisms in an ecosystem
 b) Food chains use only a small sampling of organisms
 c) A food web explains why there are more producers than consumers
 d) Producers are usually eaten by many different consumers and most consumers are eaten by more than one predator

27. Identify A, B and C from the given flow chart



- a) A-Bulbul, B-Snake, C-Monkey b) A-Beetle, B-Lizard, C-Praying mantis
 c) A-Ladybird, B-Snake, C-Hawk d) A-Lizard, B-Bird, C-Snake
28. Which of the following ecological pyramids are always inverted?
 a) Pyramid of number in parasitic food chain and pyramid of biomass in pond ecosystem
 b) Pyramid of number in pond ecosystem and pyramid of biomass in pond ecosystem
 c) Pyramid of number in parasitic food chain and pyramid of number in pond ecosystem
 d) All of the above
29. An individual transitional communities in ecological succession are termed as
 a) Climax community b) Pioneer community c) Seral communities d) Single community
30. The living organisms present in an ecosystem forms
 a) Abiotic components b) Biotic components
 c) Physical components d) Chemical components
31. The rate of biomass production per unit area over a time period by plants during photosynthesis is called
 a) Gross primary productivity b) Net primary productivity
 c) Secondary productivity d) Decomposition
32. The decomposition rate is higher when detritus is rich in
 a) Nitrogen and sugar b) Phosphorus and sugar
 c) Calcium and sugar d) Both (b) and (c)
33. A man-made ecosystem is
 a) Less in diversity b) More in diversity
 c) Man does not make ecosystem d) More stable than natural ecosystem
34. The green plants in an ecosystem which can trap solar energy to convert it into chemical bond energy are called
 a) Producer b) Decomposer c) Consumer d) Predators
35. Vegetable eating person acts as
 a) primary producer b) primary consumer c) secondary consumer d) tertiary consumer
36. Consider the following statements about food chain
 I. The transfer of energy from producers to top consumers through a series of organisms is called food chain

II. A food chain is always straight and proceeds in a progressive straight line

III. In a food chain, there is unidirectional flow of energy from sun to producers and subsequently to series of different types of consumers

Which of the statements given above are correct?

- a) I and II b) I and III c) II and III d) I, II and III
37. Food chain consists of
a) Plants b) Herbivores c) Carnivores d) All of these

38. Consider the following ecosystem
I. Pond ecosystem II. Terrestrial ecosystem
III. Oceans ecosystem IV. Forest ecosystem

There are mainly three food chain in natural ecosystem's grazing food chain, detritus food chain, parasite food chain

Find out which of the following will have grazing food chain?

- a) Pond ecosystem b) Terrestrial ecosystem c) Ocean ecosystem d) All of these
39. A much large fraction of energy flows in aquatic ecosystem through
a) grazing food chain b) Detritus food chain c) Complex food chain d) Food web

40. Consider the following statements concerning food chains.
I. Removal of 80% tigers from an area resulted in greatly increased growth of vegetation.
II. Removal of most of the carnivores resulted in an increased population of deers.
III. The length of food chains is generally limited to 3 to 4 trophic levels due to energy loss.
IV. The length of food chains may vary from 2 to 8 trophic levels.

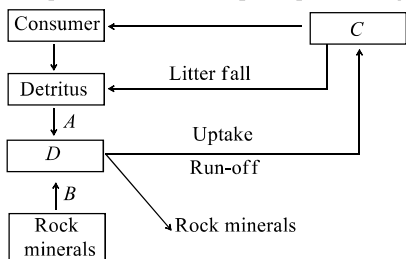
Which two of the above statements are correct?

- a) II and III b) III and IV c) I and IV d) I and II
41. Consider the following statements about food web
I. One organism hold more than one position
II. The flow of energy is very difficult to calculate
III. Instead of straight line it is a series of branching lines
IV. Competition is amongst the members of same and different trophic levels

Which of the statements given above are correct?

- a) I, II and III b) I, III and IV c) II, III and IV d) I, II, III and IV
42. The statement, 'Tiger is in the apex of food chain', indicates
a) Tiger has many enemies
b) Tiger has maximum biomass
c) Tiger is omnivorous
d) Tiger is dependent upon large number of herbivores and even more number of trees in forest

43. Simplified model of phosphorus cycling in a terrestrial ecosystem is given below. Identify A, B, C and D



- a) A-Weathering, B-Decomposition, C-Consumer, D-Soil
b) A-Decomposition, B-Weathering, C-Producer, D-Soil
c) A-Weathering, B-Decomposition, C-Decomposer, D-Soil
d) A-Decomposition, B-Decomposer, C-Weathering, D-Soil
44. Primary productivity is affected by
I. temperature

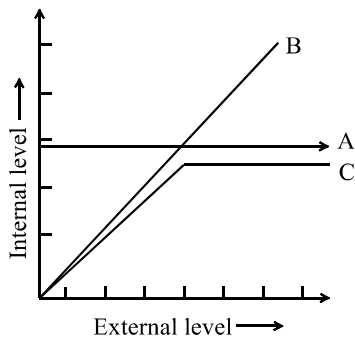
- II. sunlight
- III. moisture
- IV. availability of nutrients

- a) I and II
- b) I, II and III
- c) II, III and IV
- d) I, II, III and IV

45. Terai forest is

- a) Tropical forest
- b) Coniferous forest
- c) Deciduous forest
- d) Temperate deciduous forest

46. The figure given below is a diagrammatic representation of response of organisms to abiotic factors. What do A, B and C represent respectively?



- | A | B | C |
|----------------------|-------------------|-------------------|
| a) Conformer | Regulator | Partial regulator |
| b) Regulator | Partial regulator | Conformer |
| c) Partial Regulator | Regulator | Conformer |
| d) Regulator | Conformer | Partial regulator |

47. The ecological niche of population is a

- a) Geographical area that it covers
- b) Place where it lives
- c) Set of conditions and resource it uses
- d) None of the above

48. Inverted pyramid is found in

- a) Biomass pyramid of aquatic system
- b) Energy pyramid of grassland
- c) Biomass pyramid of grassland
- d) Pyramid of number of aquatic system

49. If a predator is overexploits its prey in a ecosystem then what might be consequences of this?

- a) Prey might be extinct
- b) Predator might be extinct
- c) Both (a) and (b)
- d) No affect on prey and predator

50. Which of the following organisms form the decomposers?

- a) *Pteris*
- b) Bacteria
- c) Saprophytic fungi
- d) Both (b) and (c)

51. Osmotrophs belong to

- a) Primary consumers
- b) Secondary consumers
- c) Top carnivores
- d) Decomposers

52. Greater primary productivity depends upon

- a) Rain (humidity)
- b) Availability of nutrients
- c) Both (a) and (b)
- d) None of these

53. Word detritus includes

- a) Dead plant parts
- b) Remains of animals
- c) Animal excretions
- d) All of these

54. Decomposition of organic matter is brought about by

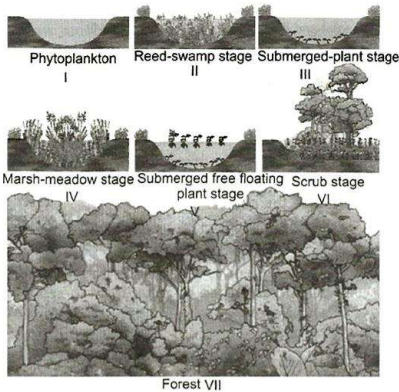
- a) Protozoa
- b) Plants
- c) Microorganisms
- d) None of these

55. Some of the stages in the hydrarch are labelled as

- I. Marsh meadow stage
- II. Reed swamp stage
- III. Submerged plant stage
- IV. Phytoplankton stage
- V. Submerged free floating plant stage

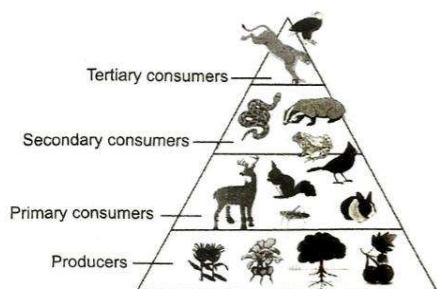
Identify the choice that represents the correct sequence of these stages

- a) IV, III, V, II and I b) III, V, I, II and IV c) II, IV, III, I and V d) IV, V, III, II and I
56. The correct sequence of food chain is
 a) Grass → insect → bird → snake b) Grass → bird → insect → snake
 c) Snake → bird → insect → grass d) Grass → snake → bird → insect
57. When the number of organisms at successive levels are plotted they assume the shape of a pyramid. This is called the pyramid of
 a) Biomass b) Number c) Energy d) None of these
58. Which kind of pyramid is represented by the given diagram
 Primary consumers 21
 Primary Producer 4
 a) Pyramid of number in tree ecosystem b) Pyramid of biomass in tree ecosystem
 c) Pyramid of biomass in aquatic ecosystem d) Pyramid of energy in tree ecosystem
59. In ecotone, some species become abundant called
 a) Sibling species b) Endemic species c) Rare species d) Edge species
60. Ecosystem may be defined as
 a) A species along with environment b) Plants found in water
 c) Plants found on land d) All plants and animal species along with their environment
61. Following are the different stages in primary succession in water



Which of the following is the logical sequence of primary succession in water?

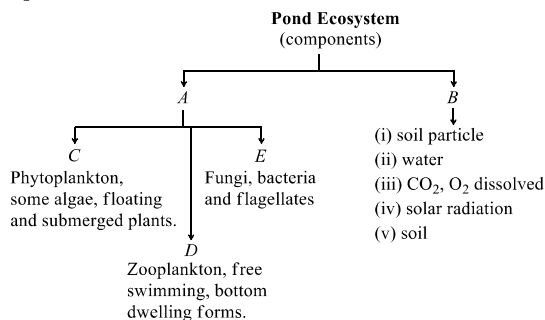
- a) II → IV → V → VII → I → III → V b) I → III → V → II → IV → VI → VII
 c) V → II → IV → VI → VII → III → I d) VI → VII → III → I → V → II → IV
62. Energy flow and energy transformation in living systems strictly conform to the
 a) Law of limiting factors b) Liebig's law of minimum
 c) Law's of thermodynamics d) Shelford's law of tolerance
63. Phosphorus is required for making
 I. shell
 II. bones
 III. teeth
 Choose the correct option
 a) I and II b) I and III c) II and III d) I, II and III
64. The species that invade a bare area in ecological succession are called
 a) Benthos b) Biological species c) Seral species d) Pioneer species
65. In a pond ecosystem, benthos means
 a) Primary consumers in the depth of a pond b) Virus
 c) Zooplankton on the water surface d) Bacteria
66. The given figure best represents



- a) Pyramid of number in parasitic food chain
 c) Pyramid of number in grassland ecosystem
- b) Pyramid of biomass in forest ecosystem
 d) Pyramid of number in forest ecosystem
67. Decomposers are
 a) Autotrophs b) Autoheterotrophs c) Organotrophs d) Heterotrophs
68. The lentic ecosystem includes
 a) Gravitational water b) Standing water c) Rain water d) Running water
69. Primary succession on rocks starts with
 a) Lichen b) Grass c) Mosses d) Ferns
70. Energy storage at consumer level is called
 a) Gross primary productivity b) Secondary productivity
 c) Net primary productivity d) Net productivity
71. True/False
 I. The total organic matter synthesised by the producers in the process of photosynthesis per unit time and area is known as gross primary productivity
 II. Net primary productivity is the weight of the organic matter stored by the producers in a unit area/volume per unit time
 a) I is true while II is false b) II is true, while I is false
 c) I and II are true d) I and II are false
72. Lion is kept under in Eltonian pyramid as
 a) Producer b) Primary consumer c) Secondary consumer d) Tertiary consumer
73. Maximum primary productivity of pond is achieved by
 a) Phytoplankton b) Zooplankton c) Floating plants d) Red algae
74. What is the medium by which carbon cycle takes place?
 a) Through atmosphere b) Through ocean
 c) Through living and dead organisms d) All of the above
75. temperature is required for the proper functioning of an enzyme. The most appropriate word
 a) Low b) High c) Optimum d) None of the above
76. In ecological pyramid the base always represent the ...A... and the apex represents ...B... Here A and B represents
 a) A-producers; B-top level consumers b) A-top level consumer; B-producers
 c) A-producers; B-secondary consumers d) A-producers; B-primary consumers
77. Maximum net productivity in the terrestrial ecosystem is in
 a) Rain forest b) Deciduous forest
 c) Mangrove plantation d) Both (a) and (b)
78. The primary consumers in a pond ecosystem are
 a) Phytoplankton b) Zooplankton c) Fishes d) Bacteria
79. Which of the following factor is contributing to an overload of the carbon cycle?
 a) Photosynthesis b) Cellular respiration c) Deforestation d) Aforestation
80. Which ones are the reservoirs of sulphur and carbon cycles respectively?
 a) Atmosphere and consumers b) Earth crust and atmosphere
 c) Earth crust and producer d) Atmosphere and predator

81. Ecosystem consists of
 a) Producers b) Consumers c) Decomposers d) All of these
82. Trophic level of food chain having greatest amount of energy, is
 a) Carnivores b) Herbivores c) Autotrophs d) Omnivores
83. The entire sequence of communities that successively changes in a given area are called
 a) Sere b) Climax c) Pioneer d) Xerarch
84. Energy flow in ecosystem is
 a) Bidirectional b) Unidirectional c) All around d) None of these
85. A bear that eats a fish that further ate bugs that ate algae is a
 a) Primary producer b) Primary consumer c) Secondary consumer d) Tertiary consumer
86. Acid secreted lichens on baren rock helps in
 I. dissolving rocks
 II. weathering
 III. soil formation
 Which of the statements given above are correct?
 a) I and II b) I and III c) II and III d) I, II and III
87. Ecological succession is
 a) Directional but unpredictable b) Directionless but predictable
 c) Directional but predictable d) Directionless but unpredictable
88. Which one of the following pairs is mismatched?
 a) Savanna - *Acacia* trees b) Prairie - Epiphyte
 c) Tundra - Permafrost d) Coniferous forest - Evergreen
89. In an ecosystem, the cycling of nutrient is known as
 a) Geological cycle b) Chemical cycle c) Geochemical cycle d) Biogeochemical cycle
90. The aquatic organism that can actively swim at will against the water current is
 a) Neuston b) Plankton c) Nekton d) Benthos
91. Green plants and green sulphur bacteria, prepare their organic food themselves with the help of sunlight, are known as
 a) Chemoautotrophs b) Photoautotrophs c) Heterotrophs d) Chemotrophs
92. The movement of nutrient elements through various components (abiotic and biotic) of an ecosystem is called
 a) Carbon cycle b) Geochemical cycle c) Biogeochemical cycle d) Chemical cycle
93. Biotic community along with its interacting physical environment comprises
 a) Phytosociology b) Phytogeography c) Ecosystem d) Ecology
94. The relation between producers and consumers in an ecosystem can be graphically represented in the form of a pyramid called
 a) Ecological pyramid b) Tropical level c) Pi chart d) Pyramid of biomass
95. Energy stored at the consumer level is
 a) Primary productivity b) Secondary productivity
 c) Net primary productivity d) Productivity
96. Actively moving organisms in aquatic ecosystem are
 a) Nekton b) Benthos c) Viruses d) None of these
97. The secondary succession is easy and is completed quickly, because the area
 a) Already has soil and some vegetation b) Is soilless
 c) Is barren d) None of the above
98. Gross primary productivity is utilised by ...A... in ...B...
 Choose the correct option for A and B
 a) A-plants; B-photosynthesis b) A-plants; B-respiration
 c) A-animal; B-respiration d) A-animal; B-digestion

99. What will happen if all the bacteria and fungi are destroyed?
 a) There will be no disease and death
 b) No antibiotics would become available
 c) Dead bodies and excretions will pile up
 d) Soil will become rich of all nutrients
100. A simplified model of pond ecosystem is given below. Identify A, B, C, D and E and choose the correct option



- a) A-Biotic, B-Abiotic, C-Autotrophs, D-Heterotrophs, E-Detritivores
 b) A-Biotic, B-Abiotic, C-Producer, D-Primary consumers, E-Detritivores
 c) A-Abiotic, B-Biotic, C-Producer, D-Consumers, E-Detritivores
 d) A-Biotic, B-Chemical, C-Primary consumers, D-Secondary consumers, E-Tertiary consumers
101. Abiotic components refers to
 a) Non-living physico-chemical factors
 b) Living physico-chemical factors
 c) Gases produced by industries
 d) Living organisms
102. Which of the following ecological pyramids can never occur in an inverted form
 a) Pyramid of number
 b) Pyramid of biomass
 c) Pyramid of energy
 d) Pyramid of species richness
103. Identify the correct type of food chain.
 Dead animal → Blow fly maggots → Common frog → Snake
 a) Grazing food chain
 b) Detrital food chain
 c) Decomposer food chain
 d) Predator food chain
104. Which of the following is expected to have the highest value (gm/m²/yr) in a grassland ecosystem?
 a) Secondary production (SP)
 b) Tertiary production (TP)
 c) Gross production (GP)
 d) Net production (NP)
105. Ecosystem is
 a) Always open
 b) Always closed
 c) Both open and closed depending upon community
 d) Both open and closed depending upon biomass
106. Which of the following pair is a sedimentary type of biogeochemical cycle?
 a) Carbon and nitrogen
 b) Phosphorus and sulphur
 c) Phosphorus and nitrogen
 d) Phosphorus and oxygen
107. Tropical dense forests are due to
 a) Low rainfall and low temperature
 b) High rainfall and low temperature
 c) Low rainfall and high temperature
 d) High rainfall and high temperature
108. In a lake, phytoplankton grow I abundance in
 a) Littoral zone
 b) Limnetic zone
 c) Profundal zone
 d) Benthic region
109. At each step of food chain when food energy is transferred from one trophic level to the next higher trophic level only about 10% of energy is passed onto next level. This is known as ...A... given by ...B... in ...C.... Here A, B and C Refers to

- a) A-Energy flow law, B-Lindeman, C-1942 b) A-10% law, B-Lindeman, C-1942
 c) A-Energy flow law, B-Lipemann, C-1940 d) A-10% law, B-Lipemann, C-1940
110. The process of accumulation of a dark coloured amorphous substance that is highly resistant to microbial action and undergoes decomposition at an extremely slow rate is called
 a) Mineralisation b) Humitication c) Organisation d) Transformation
111. Total energy fixed by an ecosystem is called
 a) Primary production b) Gross production
 c) Net production d) Secondary production
112. A detrivore is
 a) Animal feeding on plant matter
 b) Animal feeding on dead and decaying organic matter
 c) A plant feeding on an animal
 d) Animal feeding on another animal
113. All the animals that depend on plants for food are called
 a) Decomposers b) Root feeders c) Consumers d) Grazers
114. Regarding the mode of obtaining food, the organisms occurring in an ecosystem are classified into plants, animals and microorganisms. These are respectively called
 a) Producer, consumers and decomposers
 b) Primary, secondary and tertiary consumers
 c) Consumers, producer and decomposers
 d) Autotrophs, heterotrophs and producers
115. Out of the following biogeochemical cycles which one is gaseous?
 I. sulphur II. Phosphorus
 III. nitrogen IV. Carbon
 Choose the correct option
 a) Only I b) Only II c) Only IV d) III and IV
116. The amount of living matter present in an ecosystem at a given time is called
 a) Biomass b) Standing crop c) Standing state d) Productivity
117. In a food chain, the maximum population of
 a) Producers b) Primary consumers c) Secondary consumer d) Tertiary consumers
118. Overlapping region between two ecosystems is called
 a) Biome b) Ecotone c) Niche d) Photic zone
119. The major functions of an ecosystem includes
 I. productivity II. Decomposition
 III. energy flow IV. Nutrient flow
 Choose the correct option
 a) I, II and III b) II, III and IV c) I, III and IV d) I, II, III and IV
120. Most diverse organism of an ecosystem is
 a) Producer b) Consumer c) Decomposer d) Carnivore
121. In grazing food chain energy comes from
 a) Organic remain b) Air c) Water d) All of these
122. The amount of usable energy, which is available for doing work, when the temperature and pressure are uniform throughout the system is called
 a) Enthalpy b) Activation energy c) Spontaneous energy d) Free energy
123. Which one of the following is correct for xerarch succession?
 a) Successional series from xeric to mesic condition b) Successional series from hydric to mesic condition
 c) Both (a) and (b) d) None of the above
124. Biotic components refer to
 a) Gases produced by industries b) Nutrient-deficient soil

- c) Living organisms
 d) Fossil fuels
125. Which one of the following is correct matching of a plant, its habitat and the forest type where it normally occurs?
- a) *Prosopis*, tree, scrub
 b) *Saccharum officinarum*, grass, forest
 c) *Shorea robusta*, herb, tropical rain forest
 d) *Acacia catechu*, tree, coniferous forest

126. Select the options that correctly identifies *A*, *B* and *C* in the given table

Organisms	Trophic Level	Types of Food Chains
Eagle	<i>A</i>	Grazing
Earthworm	Primary consumer	<i>B</i>
<i>C</i>	Secondary consumer	Grazing

- a) A-Secondary consumer, B-Grazing, C-Algae
 b) A-Top carnivore, B-Detritus, C-Frog
 c) A-Scavenger, B-Grazing, C-Hawk
 d) A-Decomposer, B-Detritus, C-Perch
127. What is common in earthworm, soil mites and dung beetle in an ecosystem?
- a) They all are detritivores
 b) Primary consumer
 c) Secondary consumer
 d) Tertiary consumer
128. Which one of the following is involved in sedimentary cycle?
- a) Carbon
 b) Nitrogen
 c) Hydrogen
 d) Phosphorus
129. Which of the following pyramid is always upright and can never be inverted?
- a) Pyramid of biomass
 b) Pyramid of number
 c) Pyramid of energy
 d) Both (a) and (c)

130. Choose the correct statements

- I. Productivity is expressed in $\text{gm}^{-2}\text{yr}^{-1}$ or $(\text{kcal m}^{-2})\text{yr}^{-1}$
 II. The amount of biomass or organic matter produced per unit area over a time period in plants during photosynthesis is called primary production
 III. Primary production is expressed in term of weight (g^{-2}) or energy (kcal m^{-2})
 IV. Sugarcane have more efficiency to trap sunlight, so they accumulate more primary productivity

Choose the correct option

- a) I and II
 b) I and IV
 c) I, II, III and IV
 d) None of these
131. The 10% law is related to
- a) Mendelian genetics
 b) Non-Mendelian genetics
 c) Energy transfer from lower trophic to higher trophic level
 d) Energy consumption during photosynthesis in C_4 -plants

132. Which of the following two organisms are producers?

- a) Plants and phytoplanktons
 b) Plants and consumers
 c) Zooplanktons and phytoplanktons
 d) Phytoplanktons and chlorophyll

133. Consider the succession of plants

- I. In hydrarch succession series progress from hydric to the mesic condition
 II. In xerarch succession series progress from xerarch to the mesic condition
 III. In xerarch succession if it is started on bare rock the pioneer species is lichens
 IV. In hydrarch and xerarch succession series progress from mesarch to xerarch condition

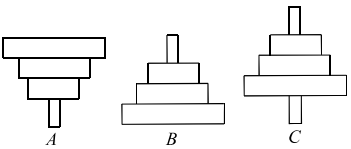
Which of the following is correct combination match from above statements?

Choose the correct option

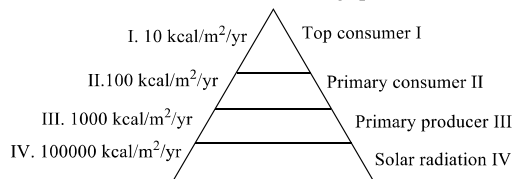
- a) II and III
 b) III and IV
 c) II and IV
 d) I, II and III
134. Which creatures are direct or indirect food of all creatures on the ocean's surface?
- a) Protozoans
 b) Phytoplankton
 c) Fish
 d) Aquatic insects
135. An inverted pyramid of ...A... may occasionally be observed in ...B... communities
- a) A-energy; B-grassland
 b) A-energy; B-forest

- c) A-biomass; B-marine
d) A-biomass; B-grassland
136. Which one of the following is not a functional unit of an ecosystem?
a) Productivity b) Stratification c) Energy flow d) Decomposition
137. Which one of the following types of organisms occupy more than one trophic level in a pond ecosystem?
a) Phytoplankton b) Fish c) Zooplankton d) Frog
138. Humus is
a) Dark coloured amorphous organic matter rich in lignin
b) Dark coloured organic matter rich in cellulose
c) Both (a) and (b)
d) Red coloured substances rich in iron
139. In terrestrial ecosystem such as forest, maximum energy is found in which trophic level?
a) T_1 b) T_2 c) T_3 d) T_4
140. Frog, that feeds on insects, is a
a) Primary consumer b) Secondary consumer
c) Tertiary consumer d) Decomposer
141. The organisms, which attack dead animals are
a) First link of the food chain and are known as primary producers
b) Second link of the food chain and are herbivorous
c) Third link of the food chain and are tertiary consumers
d) Present at the end of food chain and are detritivores
142. Pyramid of energy in aquatic ecosystem is
a) Always upright b) Always inverted c) Bell-shaped d) None of these
143. Consider the following statements about ecological pyramids
I. Charles Elton developed the concept of ecological pyramid
II. After the name these pyramids are also called as Eltonian pyramids
III. It is a graphical representation or pyramid shaped diagram which depicts the number of organisms, biomass and energy at each trophic level
Which of the statements given above are correct?
a) I and II b) I and III c) II and III d) I, II and III
144.
- I. 10 kcal/m²/yr II. 100 kcal/m²/yr
 III. 1000 kcal/m²/yr IV. 100000 kcal/m²/yr
 Refer to the above diagram of energy pyramid. The ecological efficiency at primary consumer level, in comparison to that at secondary consumer level, is
 a) Same b) More
 c) Less d) Cannot be ascertained from the data
145. Which of the following pyramid of numbers in ecology is not upright?
a) Pond ecosystem b) Desert ecosystem c) Tree ecosystem d) Forest ecosystem
146. A lion that eats a zebra that ate grass is a
a) Primary producer b) Primary consumer
c) Secondary consumer d) Quaternary consumer
147. Pyramids of biomass in pond ecosystem is
a) Inverted
b) Upright

- a) Food chain b) Ecological pyramid c) Food web d) None of these
161. The changes that occur in successive seral stages to reach a climax community are
 I. changes in the diversity of species of organisms
 II. increase in the number of species and organisms
 III. increase in the total biomass
 Choose the correct option
 a) I and II b) I and III c) II and III d) I, II and III
162. Which one of the following is a gaseous cycle?
 a) Sulphur cycle b) Phosphorus cycle c) Nitrogen cycle d) All of these
163. Which of the following statements are correct?
 I. Least productive ecosystems are deserts and deep lakes
 II. Sugarcane is the most productive crop
 III. Most productive ecosystem is coral reef
 Choose the correct option
 a) I and II b) I and III c) II and III d) I, II and III
164. Pyramid of energy in ecosystem is
 a) Always upright b) Always inverted c) Mostly upright d) Mostly inverted
165. A plant is
 a) An autotroph b) A heterotroph c) A primary producer d) Both (a) and (c)
166. Ecosystem having the highest primary productivity is
 a) Pond b) Ocean c) Desert d) Forest
167. The Great Barrier Reef along the east coast of Australia can be categorized as
 a) Population b) Community c) Ecosystem d) Biome
168. A much smaller fraction of energy flows in a terrestrial ecosystem through
 a) Grazing food chain b) Detritus food chain
 c) Complex food chain d) Food web aquatic ecosystem
169. ...A... is required for higher primary productivity. ...B... have the lowest primary productivity as the soil is deficient in moisture.
 Choose the correct option for A and B
 a) A-Rain; B-desert b) A-Heat; B-forest c) A-Rain; B-forest d) A-Forest; B-desert
170. Driving force of any ecosystem is
 a) Organic fuels and carbohydrates b) Biomass
 c) Solar energy d) Decomposers
171. Climax community is
 a) Stable b) Self perpetuating
 c) Final biotic community d) All of these
172. Stratification occurs in
 a) Desert b) Tropical forest c) Deciduous forest d) Tundra
173. Plant species having a wide range of genetical distribution evolve into a local population known as
 a) Ecotype b) Biome c) Ecosystem d) Population
174. Regarding 10% law
 I. This law was put forward by Lindeman in 1942
 II. According to this law, during the transfer of food energy from one trophic level to the other, only about 10% is stored at higher trophic level and the remaining 90% is lost in respiration, decomposition and waste in the form of heat
 Which of the statements given above is/are correct?
 a) Only I b) Only II c) I and II d) None of these
175. Ecological succession is a
 a) Long term process b) Very fast process c) Short term process d) Migration

176. At which latitude, heat gain through insolation approximately equals heat loss through terrestrial radiation?
 a) 66° North and South
 b) $22\frac{1}{2}^{\circ}$ North and South
 c) 40° North and South
 d) $42\frac{1}{2}^{\circ}$ North and South
177. Rabbits eats grass and other plants to survive, but they do not eat animals. Refer the best category for rabbits?
 a) Decomposers b) Carnivores c) Producers d) Herbivores
178. If we completely remove the decomposers from an ecosystem, its functioning will be adversely affected because
 a) Herbivores will not receive solar energy
 b) Mineral movement will be blocked
 c) The rate of decomposition will be very high
 d) Energy flow will be blocked
179. To show how many organisms are present at each level of a food chain, ecologists use a model called
 a) An energy flow pyramid
 b) Pyramid of numbers
 c) Pyramid of energy
 d) Food chain/food web pyramid
180. Competition for food, light and space is most severe between two
 a) Closely related species growing in different niches
 b) Distantly related species growing different niches
 c) Closely related species growing in same niches
 d) Distantly related species growing in same niches
181. What human activities are responsible increase to the amount of CO_2 in the atmosphere?
 a) Deforestation
 b) Massive burning of fossil fuels
 c) Vehicle for energy
 d) All of the above
182. The reservoir for the gaseous type of biogeochemical cycle exists in
 a) Stratosphere b) Atmosphere c) Ionosphere d) Lithosphere
183. Autotrophs
 a) Make their own food
 b) Are the base of the food chain
 c) Are primary producers
 d) All of the above
184. An ecosystem, which can be easily damaged but can recover after some time if damaging effect stops, will be having
 a) Low stability and high resilience
 b) High stability and low resilience
 c) Low stability and low resilience
 d) High stability and high resilience
185. Which of the following ecosystem types has the highest annual net primary productivity?
 a) Tropical rain forest
 b) Tropical deciduous forest
 c) Temperate evergreen forest
 d) Temperate deciduous forest
186. In pond ecosystem, diatoms represent
 a) Producers b) Primary consumer c) Secondary consumer d) Tertiary consumer
187. The importance of ecosystem lies in
 a) Cycling of materials b) Flow of energy c) Both (a) and (b) d) Its biomass
188. Two species occupying same or overlapping area are called as
 a) Sympatric b) Allopatric c) Parapatric d) Ring species
189. Which of the following representations show the pyramid of numbers in a grassland ecosystem?

 a) A b) B c) C d) None of these
190. Choose the area which will take minimum time for succession
 a) Newly created reservoir b) Bare rock

- c) Buried or cut forest
 d) Newly cooled lava
191. Each tropical level has a certain mass of living material at a particular time called
 a) Standing crop
 b) Biomass
 c) Branching lines
 d) Progressive straight line
192. What is the rate of secondary production in the energy pyramid given below?



- a) Uncertain b) 100 kcal/m²/yr c) 10 kcal/m²/yr d) 110 kcal/m²/yr
193. Energy transfers or transformation are never 100% efficient. This is due to
 a) Entropy b) Homeostasis c) Catabolism d) Anabolism
194. The process by which water soluble inorganic nutrients go down into the soil horizon and get precipitated as unavailable salts is called as
 a) Fragmentation b) Leaching c) Catabolism d) Mineralization
195. The nature of climax community in ecological succession is most dependent upon
 a) Climate b) Water c) Soil fertility d) None of the above
196. Group of two or more than two plant species is called as
 a) Plant community b) Animal ecosystem c) Plant ecosystem d) Ecological niche
197. The products of decomposition process are
 a) Humus b) Inorganic nutrients c) Organic nutrients d) Both (a) and (b)
198. The reservoir for the sedimentary cycle exists in
 a) Earth crust b) Organic sediments c) Calcareous sediments d) Limestone
199. Standing crop refers to
 a) All the photosynthetic living forms in an area
 b) All the living forms in an area
 c) The amount of living matter in a component population of an ecosystem at any time
 d) All the crop plants in an area
200. Nektons are
 a) Organisms that swim in water b) Floating plants
 c) Suspended lower plants d) Animals associated with plants
201. Vertical distribution of different species occupying different levels in an ecosystem is called
 a) Stratification b) Decomposition c) Fragmentation d) Humification
202. Fill in the missing stages (A to D) in the given primary hydrarch succession.
 Phytoplankton → (A) → (B) → (C) → Marsh-meadow stage → (D) → Forest plant stage
 a) A-Read-swamp-stage, B-Sub-merged plant stage, C-Sub-merged free-floating plant stage, D-Scrub stage
 b) A-Sub-merged plant stage, B-Sub-merged free-floating plant stage, C-Read-swamp-stage, D-Scrub stage
 c) A-Scrub stage, B-Sub-merged plant stage, C-Read-swamp-stage, D-Sub-merged free-floating plant stage
 d) A-Read-swamp stage, B-Scrub stage, C-Sub-merged plant stage, D-Sub-merged free floating plant stage
203. A community that starts the process of succession in a barren habitat is called
 a) Emotional community b) Climax community
 c) Seral community d) Pioneer community
204. How much incident sun radiation on earth is utilised by producers (plants)?
 a) 0.01 b) 0.001 c) 1 d) 2
205. Percentage of Photosynthetically Active Radiation (PAR) that is captured by plants in synthesis of organic matter is
 a) 50-80% b) 40-60% c) 70-100% d) 2-10%
206. The term 'homeostasis' in an ecosystem refers to

- a) Feedback mechanism
c) Influence of production
207. Trophic level in ecosystem is formed by
a) Only bacteria
c) Only herbivores
208. Which one of the following is a sedimentary cycle?
a) Sulphur cycle b) Nitrogen cycle c) Carbon cycle d) Oxygen cycle
209. Select the matched ones.
I. Sedimentary nutrient - Nitrogen cycle
II. Pioneer species - Lichens
III. Secondary succession - Burned forests
IV. Pyramid of biomass in sea - Upright
a) I, II and IV only b) I and III only c) II and III only d) II and IV only
210. Which of the following is an example of man-made ecosystem?
a) Herbarium b) Aquarium c) Tissue culture d) Forest
211. PAR stands for
a) Photosynthesis Active Reaction b) Photosynthesis Absorb Radiation
c) Photosynthetically Active Radiation d) Photosynthetically Active Reaction
212. The sunlight directly regulates the primary productivity because
a) Gross primary productivity is utilised by plants in respiration
b) The plants perform respiration with the help of sunlight
c) The plants perform photosynthesis with the help of sunlight
d) None of the above
213. What is the reason behind deficit rising in nutrient reservoir?
a) Due to imbalance in the rate of influx b) Due to imbalance in the rate of efflux
c) Due to imbalance in the rate of influx and efflux d) None of the above
214. "Complete competitors cannot coexist" is true for
a) Character displacement b) Competitive exclusion
c) Primary succession d) Secondary succession
215. In a comparative study of grassland ecosystem and pond ecosystem, it may be observed that
a) The biotic components are almost similar
b) The abiotic components are almost similar
c) Primary and secondary consumers are similar
d) Both biotic and abiotic components are different
216. Food chain refers to
a) Number of humans forming a chain for food b) Animals gathered near a source of food
c) Transfer of energy from producers to consumers d) None of these
217. A person who eats a chicken that ate grain is a
a) primary producer b) primary consumer
c) secondary consumer d) quaternary consumer
218. Pyramid that is never inverted
a) Energy b) Mass c) Number d) Size
219. Major ecological community of plants and animals extending over large natural areas is known as
a) Bioregion b) Biosphere c) Biota d) Biome
220. In a pyramid of numbers in a grassland ecosystem, the largest population is that of
a) Producers b) Tertiary consumers c) Secondary consumers d) Primary consumers
221. The exchange pool in the carbon cycle is
a) Fossil fuels b) Sedimentary rock c) Water d) Atmosphere
222. Primary productivity is

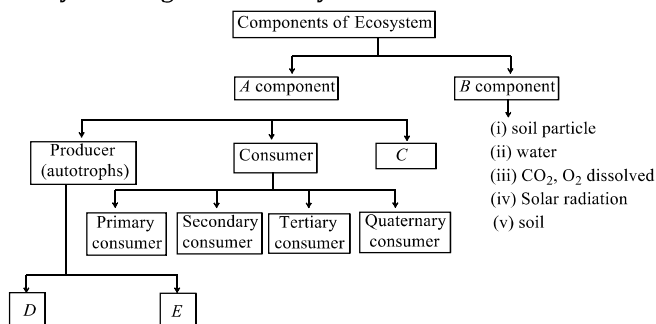
- I. is 10% less than secondary productivity
- II. is the rate of formation of new organic matter by consumers
- III. is expressed in terms of weight or energy
- IV. is the amount of biomass or organic matter produced per unit area over a time period in plants during photosynthesis

Which of the statements given above are correct?

- a) I, II and III b) I and II c) III and IV d) II and IV
223. Which of the following is false?
- a) Quantity of biomass at a trophic level at a particular period is called as standing crop
 - b) The energy content in a trophic level is determined by considering individuals of a species in that trophic level
 - c) The succession that occurs in newly cooled lava is called primary succession
 - d) Rate of succession is faster in secondary succession
224. These belong to the category of primary consumers.
- a) Snakes and frogs b) Water insects c) Eagle and snakes d) Insects and cattle
225. Total amount of living material at the various trophic level of a food chain is depicted by pyramids of
- a) Numbers b) Energy c) Biomass d) All of the above
226. Primary productivity depends upon
- a) Availability of nutrients b) Photosynthetic capacity of plants
 - c) Both (a) and (b) d) None of the above
227. Consider the following statements
- I. Producer are also called as transducers because they are able to change radiant energy into chemical form
 - II. Consumers are animals, which feed on other organisms or their parts
 - III. Decomposers are saprotrophs, which feed on dead bodies of organisms
- Which of the statements given above are correct?
- a) I, II and III b) I and II c) I and III d) II and III
228. Only a small amount of the energy stored in food is available to the next organism in a food chain because
- a) There are more producers than consumer in a food chain
 - b) There are fewer top consumers than producers in a food chain
 - c) Primary and secondary consumers compete for food
 - d) Most of the energy is used for life processes
229. The process of accumulation of a dark coloured ...A... substance called ...B... that is highly resistant to microbial action and undergoes decomposition at an extremely slow rate is called ...C...
- Choose the correct option for A, B and C
- a) A-amorphous, B-humus, C-humification
 - b) A-solid, B-minerals, C-mineralisation
 - c) A-water soluble, B-inorganic nutrients, C-leaching
 - d) A-enzymatic, B-detritus, C-catabolism
230. In autogenic succession,
- a) Early and continued dominance of autotrophic organism takes place like green plants
 - b) Replacement of existing communities cause largely by any other external condition
 - c) Early dominance of heterotrophs takes place such as bacteria, fungi and other animals
 - d) Community itself modifies its own environments thus causing its own replacement by new communities
231. Which of the following communities is more vulnerable to invasion by outside animals and plants?
- a) Temperate forests b) Tropical evergreen
 - c) Oceanic island communities d) Mangroves
232. The average trophic efficiency of transfer of energy from one trophic level to the higher trophic level is

- called
- a) Assimilation efficiency
b) Exploitation efficiency
c) Lindemann's trophic efficiency rule
d) Gross primary production
233. The two components of an ecosystem are
a) Plants and animals
b) Weeds, trees, animals and man
c) Energy flow and mineral cycling
d) Biotic and abiotic
234. The food chain which begin with dead organic matter is called
a) Detritus food chain
b) Predator food chain
c) Parasitic food chain
d) Ecosystem
235. The rate of formation of new organic matter by rabbit in a grassland is called
a) Net productivity
b) Secondary productivity
c) Net primary productivity
d) Gross primary productivity
236. The sequence of communities showing a gradual change in composition is called
a) Continuum
b) Bio indicator
c) Succession
d) Pyramid of number
237. Which of the following is the logical sequence of primary succession in water?
a) Small phytoplanktons → Free-floating angiosperms → Rooted hydrophytes → Sedges → Grasses → Trees
b) Free-floating angiosperms → Small phytoplanktons → Rooted hydrophytes → Grasses → Sedges → Trees
c) Small phytoplanktons → Sedges → Free floating angiosperms → Rooted hydrophytes → Grasses → Trees
d) Small phytoplanktons → Sedges → Grasses → Free-floating angiosperms → Rooted hydrophytes → Trees
238. In an aquatic ecosystem, the trophic level equivalent to cows in grasslands is
a) Phytoplankton
b) Zooplankton
c) Nekton
d) Benthos
239. Energy for the detritus food chain comes from
a) Organic remain
b) Air
c) Radiation
d) Water
240. The organic substance, which decompose slowly are
a) Chitin
b) Lignin
c) Cellulose
d) All of these
241. Stability of ecosystem depends upon
a) Primary productivity
b) Interchange between producers and consumers
c) Number of producers
d) Number of consumers
242. Mr. X is eating curd/yoghurt. For this food intake in a food chain, he should be considered as occupying
a) First trophic level
b) Second trophic level
c) Third trophic level
d) Fourth trophic level

243. Study the diagram carefully and fill in the blanks



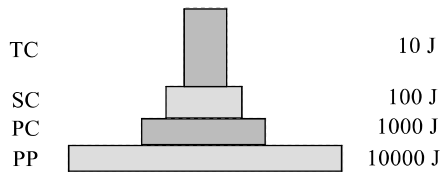
Choose the correct option for A, B, C, D and E

- a) A-Biotic, B-Abiotic, C-Decomposers, D-Photoautotrophs, E-Chemoautotrophs
b) A-Physical, B-Chemical, C-Phytoplanktons, D-Plants, E-Parasites
c) A-Biotic, B-Abiotic, C-Decomposers, D-Autotrophs, E-Mixotrophs
d) A-Physical, B-Chemical, C-Bacteria and Fungi, D-Autotrophs, E-Heterotrophs
244. A pyramid of number in grassland ecosystem shows
a) There are always a large number of producers at the bottom and fewer top consumers

- b) There are always a large number of top consumers and fewer producers
 - c) There are an equal number of producers and consumers
 - d) There are more top consumer than primary consumers
245. Phosphorus is needed for the production of
- a) DNA and RNA b) Cellular membranes c) Bones and teeth d) All of these
246. Which of the following statement is true about ecosystem?
- a) The term 'ecosystem' was coined by Sir AG Tansley
 - b) The size of the ecosystem varies from small pond to a large forest or sea
 - c) In a forest ecosystem, trees occupy top vertical strata or layer, shrubs occupies the second layer and herbs and grasses occupies the bottom layers
 - d) All of the above
247. Which food chain correctly describes the flow of energy in an ecosystem?
- a) Grass → cow → human b) Caterpillar → leaf → human
 - c) Cow → grass → human d) Leaf → bird → caterpillar
248. Phosphorus is the major constituent of
- I. biological membranes
 - II. nucleic acids
 - III. cellular energy transfer system
- Choose the correct option
- a) I and II b) I and III c) II and III d) I, II and III
249. The biomass available for consumption by the herbivores and the decomposers is called
- a) Net primary productivity b) Secondary productivity
 - c) Standing crop d) Gross primary productivity
250. 'Sun basket' is
- a) The device to utilize sun rays directly to meet the requirement of heat energy
 - b) The sufficient amount of sunlight stored in a cell
 - c) A device of taking sunbath
 - d) All of the above
251. In a grazing food chain carnivores may also the referred to as
- a) Primary producers
 - b) Secondary producers
 - c) Primary consumers
 - d) Secondary consumers
252. In a food chain, the total amount of living material is depicted by
- a) Pyramid of biomass b) Pyramid of energy c) Pyramid of number d) Trophic levels
253. In an ecosystem, the insectivorous plants are placed in
- a) Herbivores b) Primary producers c) Predators d) None of these
254. Find the correct statement
- a) Low temperature and aerobic conditions inhibit decomposition
 - b) Plants capture only 2-10%, of the PAR and sustain the entire living world
 - c) In aquatic and terrestrial ecosystems the GFC is the major conduit for energy flow
 - d) Measurement of biomass in terms of fresh weight is more accurate than dry weight
255. The rate of which organic compounds are formed in a green plant or in a population of green plants per unit time and area is known as the
- a) Net primary productivity b) Gross primary productivity
 - c) Community productivity d) Secondary productivity
256. The correct sequence of plants in a hydrosere is
- a) Oak → *Lantana* → *Scirpus* → *Pistia* → *Hydrilla* → *Volvox*
 - b) *Volvox* → *Hydrilla* → *Pistia* → *Scirpus* → *Lantana* → Oak

- c) *Pistia* → *Volvox* → *Scirpus* → *Hydrilla* → Oak → *Lantana*
 d) Oak → *Lantana* → *Volvox* → *Hydrilla* → *Pistia* → *Scirpus*
257. A sequence of species or organism through which the food energy pass in a community is called
 a) Pyramid of energy b) Food chain c) Food web d) Nutrient cycle
258. Detritus food chain law accounts for more energy flow than garzing food chain because
 a) Most organisms die without having being eaten
 b) Most organisms do not die
 c) Most organisms having being eaten
 d) None of the above
259. Select the formula for ecological efficiency.
- | | |
|--|--|
| a) $\frac{\text{Gross primary productivity}}{\text{Incident total solar radiatio}} \times 100$ | b) $\frac{\text{Food energy assimilated}}{\text{Food energy ingested}} \times 100$ |
| c) $\frac{\text{Net primary productivity}}{\text{Gross primary productivity}} \times 100$ | d) $\frac{\text{Energy in biomass production at trophic level}}{\text{Energy in biomass production at previous trophic level}} \times 100$ |
260. Primary consumers are
 a) Carnivores b) Herbivores c) Decomposers d) Omnivores
261. A functional aspect of an ecosystem is
 a) Productivity and decompositions b) Energy flow and nutrient cycling
 c) Both (a) and (b) d) None of the above
262. Consider the following statements
 I. In a food chain one organism holds only one position
 II. In a food chain the flow of energy can be easily calculated
 III. In food chain competition is limited to the members of same trophic level
 Which of the statements given above are correct?
 a) I, II and III b) I and II c) I and III d) II and III
263. What is the percentage of Photosynthetically Active Radiation (PAR), if incident solar radiation is considered 100%?
 a) 100% b) 1-6% c) 2-20% d) 50%
264. Choose the wrong pair.
 a) *Salvadora* – Desert b) *Cenchrus* – Savanna
 c) *Abies* – Coniferous forest d) *Tectona* – Temperate forest
265. Which is an example of true pyramid in an ecosystem?
 a) Pyramid of a biomass b) Pyramid of number c) Pyramid of energy d) None of the above
266. The minimum number of components required for an ecosystem to survive
 a) Producer and primary consumer b) Producer and decomposer
 c) Primary consumer and decomposer d) Primary and secondary consumer
267. The 10% energy transfer law of food chain was given by
 a) Lederberg b) Lindemann c) Weismann d) Lindley
268. In plant succession, when climax community is reached, the net productivity
 a) Continues to increase b) Becomes zero c) Becomes reduced d) Becomes stable
269. In plant succession, when climax is reached, the net productivity
 a) Continues to increase b) Becomes halved c) Becomes stable d) Becomes zero
270. The transition zone between two communities is known as
 a) Ecotone b) Keystone species c) Edge effect d) Critical link species
271. Primary productivity is
 a) The rate of formation of new organic matter by consumers
 b) The rate of conversion of light into chemical energy in an ecosystem

- c) The rate of energy production per unit area over a time period during photosynthesis
d) None of the above
272. In food chain, maximum energy is stored in
a) Producer
b) Primary consumer
c) Secondary consumer
d) Decomposer
273. Consider the following statements about pyramid of biomass
I. When we plot the biomass (net dry weight) of producers, herbivores, carnivores and so on we have a pyramid of biomass
II. Two types of pyramid of biomass are found, *i. e.*, upright and inverted
III. When larger weight of producers support a smaller of biomass weight of consumers an upright pyramid results
IV. When smaller weight of producers support larger weight of consumers an inverted pyramid of biomass is formed
Which of the statements given above are correct?
a) I, II and III
b) I, III and IV
c) II, III and IV
d) I, II, III and IV
274. The final stable community in ecological succession is
a) Pioneers
b) Sere
c) Climax
d) Carnivores
275. In what order do a hawk, grass and rabbit form a food chain in a meadow?
a) Hawk → grass → rabbit
b) Grass → hawk → rabbit
c) Rabbit → grass → hawk
d) Grass → rabbit → hawk
276. Pond is defined as a
a) Biome
b) Agroecosystems
c) Natural ecosystem
d) Community
277. What is the amount of carbon fixed in biosphere through photosynthesis annually?
a) 4×10^{13} kg
b) 5×10^{13} kg
c) 4×10^{16} kg
d) 5×10^{16} kg
278. Find out the correct order of succession levels in xerarch.
a) Lichen, moss stage, annual herb stage, perennial herb stage, scrub stage, forest
b) Annual herb stage, perennial herb stage, lichen, moss stage, scrub stage, forest
c) Perennial herb stage, annual herb stage, lichen, moss stage, scrub stage, forest
d) Scrub stage, forest, annual herb stage, perennial herb stage, lichen, moss stage
279. Niche is defined as the
a) Position of species in a community in relation to other species
b) Place where organism lives
c) Place where organism lives and performs its duty
d) Place where population perform their duties
280. In the phosphorus cycle, weathering makes phosphate available first to
a) Producers
b) Decomposers
c) Consumers
d) None of these
281. Most stable ecosystem is
a) Desert
b) Marine
c) Mountain
d) Forest
282. Which of the following is wrongly matched?
a) Temperate zone - 20 – 40° latitude
b) Hypolimnion - Thermal stratification in lakes
c) Ozone layer - Stratosphere
d) Profundal zone - Dark zone
283. The factors influencing the rate of decomposition are
a) Temperature
b) Moisture
c) Both (a) and (b)
d) Catabolism
284. Given below is the diagram of the ecological pyramids



This type represents

- a) Pyramid of number in a grassland
- b) Pyramid of biomass in a lake
- c) Pyramid of biomass in a land
- d) Pyramid of energy

285. Decomposers like fungi and bacteria are

- I. autotrophs
- II. heterotrophs
- III. saprotrophs
- IV. chemoautotrophs

Choose the correct option

- a) I and II
- b) I and IV
- c) II and III
- d) I and III

286. Which of the following groups is absolutely essential functional component of the ecosystem?

- a) Producers
- b) Producers and herbivores
- c) Producers and detritivores
- d) Detritivores

287. Lichens that start the succession on a rock belongs to

- a) Climax community
- b) Intermediate community
- c) Pioneer community
- d) Seral community

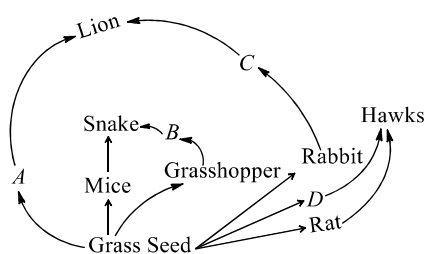
288. Peacock eats a snake and snake eats frog and frog eats insect while insect eats green plant, the position of peacock is

- a) Primary producer
- b) Secondary producer
- c) Decomposer
- d) Top at the apex of food pyramid

289. The enzymatic process by which degraded detritus is converted into simpler inorganic substances is called

- a) Catabolism
- b) Leaching
- c) Mineralisation
- d) Fragmentation

290. Given food web contains some missing organisms A, B, C and D. Identify these organisms and select the correct answer



- a) A-Deer, B-Frog, C-Foxes, D-Sparrow
- b) A-Dog, B-Squirrel, C-Deer, D-Hawks
- c) A-Cat, B-Eagle, C-Cow, D-Rat
- d) A-Eagle, B-Sparrow, C-Dog, D-Cat

291. Consider the following statements

- I. The pyramid of biomass is inverted in a pond ecosystem
- II. Pyramid of energy is never inverted
- III. Pyramid of number is inverted in a tree ecosystem
- IV. Pyramid of biomass in forest ecosystem is upright

Which of the statements given above are correct?

- a) I, II and III
- b) I, III and IV
- c) II, III and IV
- d) I, II, III and IV

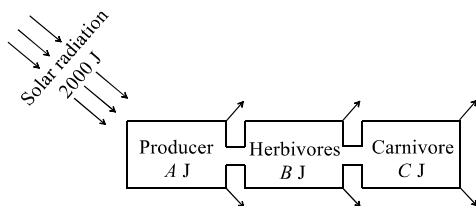
292. Plants which are attached to the rocks are called

- a) Lithophytes
- b) Aerophytes
- c) Halophytes
- d) Psammophytes

293. Community is a group of independent and interacting population of

- a) Different species
- b) Same species

- c) Same species in a specific area d) Different species in a specific area
294. The ecological pyramid that is always upright
 a) Pyramid of energy b) Pyramid of biomass c) Pyramid of number d) None of these
295. The sequential, gradual and predictable changes in the species compositions in an area are called
 a) Seral community b) Climax community c) Ecological succession d) Pioneer species
296. Food chain is a series of population, which starts with producers. It is concerning with
 a) Biotic components only b) Energy flow and transfer of nutrients
 c) Both (a) and (b) d) Abiotic components and decomposers
297. The total amount of energy that plants assimilate by photosynthesis is called
 a) Gross primary productivity b) Net primary productivity
 c) Community productivity d) Secondary productivity
298. One model that shows how energy passes from one trophic level to another trophic level is called
 a) An energy link b) A food chain
 c) A phytoplankton cycle d) Photosynthesis
299. Suppose 2000 J of solar energy is incident on green vegetation. On the basis of 10% law of Lindeman. Identify A, B and C

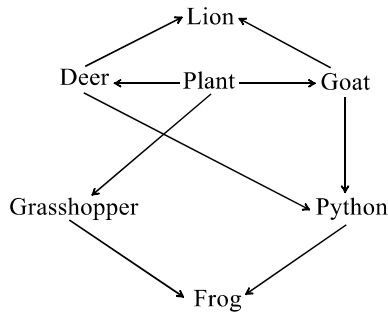


- a) A-20 J, B-2 J, C-0.2 J b) A-200 J, B-20 J, C-2 J c) A-400 J, B-40 J, C-4 J d) A-40 J, B-4 J, C-0.4 J
300. In an ecosystem, in which an organism occupies a specific place in a food chain
 a) Branching lines b) Progressive straight line
 c) Trophic level d) Standing crop
301. Pollution caused by persistent pesticides is relatively more hazardous to which type of organisms?
 a) Herbivores b) First level carnivores
 c) Producers d) Top carnivores
302. All are true for climax community except
 a) Rapidly keeps on changing to reach equilibrium b) Final community
 c) End of succession d) Stable
303. Productivity is the rate of production of biomass expressed in terms of
 I. $(\text{kcal m}^{-3}\text{yr}^{-1})$
 II. $\text{g}^{-2}\text{yr}^{-1}$
 III. $\text{g}^{-1}\text{yr}^{-1}$
 IV. $(\text{k cal m}^{-2})\text{yr}^{-1}$
 Choose the correct option
 a) II b) III c) II and IV d) I and III
304. Excessive moisture inhibit the process of decomposition due to
 a) Anaerobiasis b) Aerobiasis
 c) Photoxidation d) Photophosphorylation
305. Select the true statements
 I. Gross primary productivity is equal to the net primary productivity minus respiration
 II. Gross primary productivity is equals to net primary productivity plus photosynthesis
 III. Net primary productivity is equal to photosynthesis plus respiration
 IV. Net primary productivity is equal to gross primary productivity minus respiration
 V. Flow of energy in an ecosystem is unidirectional
 a) I, II and III b) I, IV and V c) II and III d) IV and V

306. Which of the following statements regarding food chain is false?
 a) In an aquatic ecosystem, grazing food chain is the major conduit for energy flow
 b) In terrestrial ecosystems, a large fraction of energy flows through detritus food chain
 c) The detritus food chain begins with dead organic matter
 d) Primary consumers belong to the first trophic level
307. Phytoplanktons
 a) Actively floating microscopic plant
 b) Floating angiosperm
 c) Benthic organisms
 d) Passively floating microscopic plant
308. Which of the following pair is a gaseous type of biogeochemical cycle?
 a) Nitrogen and carbon cycle
 b) Phosphorus and carbon cycle
 c) Nitrogen and sulphur cycle
 d) Sulphur and carbon cycle
309. Which zone of a lake has no photosynthetic organism?
 a) Profundal zone
 b) Littoral zone
 c) Limnetic zone
 d) Both (b) and (c)
310. The second stage of hydrosere is occupied by the plants like
 a) *Salix*
 b) *Vallisneria*
 c) *Azolla*
 d) *Typha*
311. If decomposers are removed what will happen to the ecosystem?
 a) Energy cycle is stopped
 b) Mineral cycle is stopped
 c) Consumers cannot absorb solar energy
 d) Rate of decomposition of mineral increases
312. If a single plant species is removed from a food web, then most likely
 a) An animal species will fill the unoccupied niche
 b) Other plants will produce enough food for herbivores
 c) Dependent herbivores will have to find new food sources
 d) Carnivores will be unaffected by the loss
313. Food chain starts with
 a) N₂-fixation
 b) Osmosis
 c) Respiration
 d) Photosynthesis
314. Fungi in a forest ecosystem is
 a) Producer
 b) Decomposer
 c) Top consumer
 d) Autotroph
315. The ultimate energy source of ecosystem is
 a) Solar energy
 b) Biomass
 c) Producer
 d) Carbohydrates
316. Lichen is the pioneer vegetation on which succession?
 a) Hydrosere
 b) Lithosere
 c) Psammosere
 d) Xerosere
317. Benthic organisms are found in
 a) Surface of marine water
 b) Middle of water in sea
 c) Bottom of sea
 d) On ground
318. Organisms that breakdown the detritus into matter particles are
 a) Herbivores
 b) Carnivores
 c) Detritivores
 d) None of these
319. The assemblage of all the population of different species that function as an integrated unit through coevolved metabolic transformation in a specific area is called
 a) Biome
 b) Biotic community
 c) Population
 d) Ecosystem
320. The organisms which physically and chemically breaks the complex dead organic remains are known as
 a) Scavengers
 b) Decomposers
 c) Both (a) and (b)
 d) Parasites
321. Which of the following helps in the growth of terrestrial pteridophytes in tropical rain forest?
 a) Microclimate
 b) C₄ –pathway
 c) Eutrophication
 d) Biological magnification
322. Which one of the following shows detritus food chain?
 a) Organic waste → Bacteria → Molluscs
 b) Grass → Insects → Snakes
 c) Plankton → Small fishes → Large fishes
 d) All of the above
323. Energy enters the ecosystem through
 a) Herbivore
 b) Carnivore
 c) Producer
 d) Decomposer

324. Deserts, grasslands, forests and tundra are the examples of
 a) Biomes
 b) Biogeographical regions
 c) Ecosystems
 d) Biospheres
325. Decomposers of an ecosystem includes
 a) Microscopic animals
 b) Bacteria and fungi
 c) Earthworm and Arctic Raven
 d) All of the above
326. The pyramid of energy is always upright for any ecosystem. This situation indicates the fact that
 a) Producers have the lowest energy conversion efficiency
 b) Carnivores have a better energy conversion efficiency than herbivores
 c) Energy conversion efficiency is the same in all trophic levels
 d) Herbivores have a better energy conversion efficiency than carnivores
327. Term 'ecosystem development' to ecological succession was given by
 a) Odum
 b) Clements
 c) R Misra
 d) Blackman
328. Organisms are classified into trophic levels according to
 a) Their habitat
 b) The source of their nutrients
 c) How much they weight
 d) All of the above
329. The tiger biomass is 10 kg in grass-deer-tiger food chain. The grass biomass will be
 a) 100 kg
 b) 2000 kg
 c) One tonne
 d) 10 tonne
330. Organisms living in open sea are called
 a) Planktons
 b) Nektons
 c) Pelagic
 d) Benthos
331. Study the four statements (I-IV) given below and select the two correct ones out of them
 I. A lion eating a deer and a sparrow feeding on grain are ecologically similar in being consumers.
 II. Predator star fish *Pisaster* helps in maintaining species diversity of some invertebrates.
 III. Predators ultimately lead to the extinction of prey species.
 IV. Production of chemicals such as nicotine, strychnine by the plants are metabolic disorders.
 a) II and III
 b) III and IV
 c) I and IV
 d) I and II
332. In food chain, lion is a
 a) Tertiary consumer
 b) Secondary consumer
 c) Primary consumer
 d) None of these
333. Building of biomass or storage of energy by green plants in a unit time and area is called
 a) Productivity
 b) Net primary productivity
 c) Gross primary productivity
 d) Primary productivity
334. Sal and teak are dominant in
 a) Tropical rain forest
 b) Temperate broad leaf forest
 c) Temperate needle leaf forest
 d) Tropical deciduous forest
335. Rate of conversion of light energy into chemical energy of organic molecules in an ecosystem is
 a) gross primary productivity
 b) Net primary productivity
 c) Net secondary productivity
 d) Gross secondary productivity
336. What percentage of herbivore's chemical energy is transferred to the chemical energy within the carnivore tissue?
 a) 100%
 b) 50%
 c) 1%
 d) 10%
337. In which layer of soil decomposition occurs at maximum rate?
 a) Upper layer of soil
 b) Middle layer of soil
 c) Lower layer of soil
 d) None of these

338.



How many food chains are there in the food web shown above?

- a) 2 b) 3 c) 5 d) 7

339. Which one of the following is one of the characteristics of a biological community?

- a) Stratification b) Natalty c) Mortality d) Sex ratio

340. In the given formula, what does 'a' represent?

$$\text{Assimilatory efficiency} = \frac{\text{Use of energy in food}}{a} \times 100$$

- a) Energy obtained through primary producer b) Biomass at own level
 c) Biomass at lower trophic level d) Energy obtained through food

341. Term 'ecosystem' was given by

- a) Odum b) Koestler c) Tansley d) Mobius and Forbes

342. Most diverse organisms of an ecosystem are

- a) Producers b) Consumers c) Carnivores d) Decomposers

343. Primary succession is the development of communities on

- a) Cleared forest area b) Previously unoccupied sites
 c) Fresh harvested crop field d) Pond filled after a day season

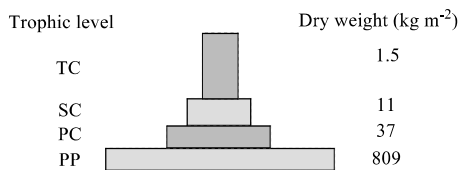
344. Select the incorrect food chain

- a) Grass → frog → vulture
 b) Grass → grasshopper → frog → snake → eagle
 c) Grass → deer → lion
 d) Phytoplankton → zooplankton → fish (perch) → fish (bass) → man

345. Which one of the following correctly represents as organism and its ecological niche?

- a) *Vallisneria* and pond b) Desert locust (*Scistocerca*) and desert
 c) Plant lice (aphids) and leaf d) Vultures and denes forest

346. Given below is one of the type of ecological pyramids



This type represents

- a) Pyramid of energy in a grassland b) Pyramid of biomass
 c) Pyramid of number in a lake d) Pyramid of energy in a fallow land

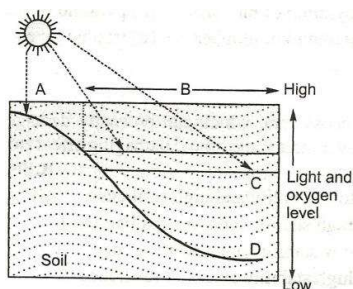
347. The pyramid of number of a parasitic food chain in tree ecosystem is

- a) Always inverted b) Always upright
 c) Mixture of inverted and upright d) Sometimes inverted and sometimes upright

348. Stratification is more pronounced in

- a) Tropical rainforest b) Deciduous forest c) Temperate forest d) Tropical savannah

349. Choose the correct combination of labelling of the zones in water in a lake.



- a) A- Limnetic zone B-Profundal zone C-Littoral zone D-Benthic zone
 b) A- Littoral zone B-Benthic zone C-Profundal zone D-Limnetic zone
 c) A- Littoral zone B-Limnetic zone C-Profundal zone D-Benthic zone
 d) A- Limnetic zone B-Littoral zone C-Benthic zone D-Profundal zone
350. Breakdown of detritus into smaller particles by earthworm is a process called
 a) Humification b) Fragmentation c) Mineralisation d) Catabolism
351. What is true about the phosphorus cycle?
 I. Rocks are the natural reservoirs of phosphorus
 II. Weathering of sedimentary rocks makes phosphate available to the soil
 III. Herbivores and carnivores obtain phosphorus from plant directly or indirectly
 Choose the correct option
 a) I and II b) I and III c) II and III d) I, II and III
352. How much carbon is dissolved in the oceans?
 a) 61% b) 71% c) 81% d) 51%
353. Broad-leaved forests of oak are found in
 a) Tropical deciduous forest b) Tropical evergreen forest
 c) Temperate deciduous forest d) North coniferous forest
354. The greatest biomass of autotrophs in the world's oceans is that of
 a) Benthic brown algae, coastal red algae and daphnids
 b) Benthic diatoms and marine viruses
 c) Sea grasses and slime moulds
 d) Free-floating micro-algae, cyanobacteria and nanoplankton
355. Which one of the following is commonly found in temperate coniferous forests?
 a) *Quercus* b) *Dipterocarpus* c) *Shorea robusta* d) *Pinus wallichiana*
356. Littoral zone is located along the
 a) High mountains b) Sea c) Rivers d) Desert
357. Biological equilibrium is found among the
 a) Producers, consumers and decomposers b) Producers and consumers
 c) Producers and decomposers d) None of the above
358. Net primary productivity is utilised by
 a) Autotrophs b) Heterotrophs c) Decomposers d) All of the above
359. Which of the following is the logical sequence of primary succession in rocks?
 a) Small bryophytes → Lichen → Herb → Shrubs → Tress → Forest
 b) Lichen → Small bryophytes → Herbs → Shrubs → Tress → Forest
 c) Lichen → Herb → Shrubs → small bryophytes → Tress → Forest
 d) Herb → Shrubs → Lichen → Small bryophytes → Tress → Forest
360. Another name of nutrient cycling is
 a) Gaseous cycle b) Sedimentary cycle c) Biogeochemical cycle d) Carbon cycle
361. Which one of the following statements for pyramid of energy is incorrect, whereas the remaining three are correct?
 a) It show energy content of different trophic level of b) It is inverted in shape

organisms

c) It is upright in shape

362. Transition zone between two ecosystems is

a) Ecotype

b) Niche

d) Its base is broad

c) Ecotone

d) Biome

