



BIOLOGY

BOOKS - TRUEMAN BIOLOGY

ECOSYSTEM

Mcq

1. The tiny free-swimming animals on the surface of water constitute

- A. phytoplankton
- B. nekton
- C. benthos
- D. zooplankton

Answer: D



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2. A rat feeding on potato tuber is a

- A. carnivore
- B. decomposer
- C. producer
- D. primary consumer

Answer: D

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3. The nature's cleaners are

- A. producers
- B. consumers
- C. decomposers

D. symbiosis

Answer: C



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4. Total amount of living material at the various trophic levels of a food chain is depicted by pyramids of

A. numbers

B. energy

C. biomass

D. all of these

Answer: C



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5. The more abundant animals in a desert and grassland are

A. arboreal

B. diurnal

C. aquatic

D. fossorial

Answer: D



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6. In a food chain, the largest population is that of

A. primary consumers

B. Tertiary consumers

C. producer

D. decomposers

Answer: D



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7. The nature of climax community is most dependent upon

- A. climate
- B. water
- C. soil fertility
- D. none

Answer: A



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8. Biogeochemical cycles are also called

- A. gaseous cycles

B. sedimentary cycles

C. material cycles

D. water cycles

Answer: C



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9. Plant succession occurring in a sandy area is

A. psammosere

B. hydrosere

C. halosere

D. lithosere

Answer: A



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10. When the vegetation of a region reaches climatic climax, it usually becomes

- A. hydrophytic
- B. xerophytic
- C. lithophytic
- D. mesophytic

Answer: D



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11. Primary succession on rocks starts with

- A. herbs
- B. animals
- C. lichens
- D. trees

Answer: C



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12. First plants to appear on a badly burnt forest area will be

- A. mosses
- B. ferns
- C. liverworts
- D. grasses

Answer: B



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13. Pioneer in a hydrosere are

- A. Diatoms

B. ferns

C. lichens

D. Lemna

Answer: A



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14. The rate at which light energy is changed into chemical energy of organic molecules by the producers is

A. net primary productivity

B. gross primary productivity

C. net secondary productivity

D. gross secondary productivity

Answer: B



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15. The concept of ecological pyramids was given by

- A. Darwan
- B. Odum
- C. Reiter
- D. Elton

Answer: D



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16. Frog that feeds on insects is a

- A. primary consumers
- B. secondary consumer
- C. tertiary consumer
- D. decomposers

Answer: B



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17. If by radiation all nitrogenase enzymes are inactivated then there will be no

- A. fixation of atmospheric nitrogen
- B. conversion from nitrate to nitrite in legumes
- C. conversion from ammonium to nitrate in soil
- D. fixation of nitrogen in legumes

Answer: A



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18. Which of these belong to the category of primary consumers ?

- A. Insects and cattle
- B. Eagle and snakes
- C. Water insects and lizards
- D. Snakes and frogs

Answer: A

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19. GPP is equal to

- A. $\text{NPP} + \text{Loss of cellular respiration}$
- B. $\text{NPP} - \text{Loss of respiration}$
- C. NPP
- D. Loss of cellular respiration

Answer: A

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20. In ecosystem, the insectivorous plants are placed in

- A. herbivorous
- B. primary producers
- C. predators
- D. none correct

Answer: B



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21. Round worms in the intestine of human beings are belonging to

- A. trophic level -1
- B. trophic level -2
- C. trophic level -3

D. trophic level -5

Answer: C



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22. Nitrosomonas and Nitrobacter like nitrifying bacteria are members of

A. trophic level -1

B. trophic level -2

C. trophic level -5

D. none correct

Answer: A



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23. Example of man made terrestrial ecosystem is

A. forests

B. rivers

C. grasslands

D. botanical gardens and parks

Answer: D



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24. On earth, maximum amount of dry matter is synthesized by

A. sea weeds

B. forest trees

C. diatoms and dinoflagellates

D. grasses and sedges

Answer: C



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25. Organisms associated with detritus food chain are

- A. fungi, termites, earthworms
- B. caterpillars and grasshoppers
- C. cyanobacteria
- D. mosses

Answer: A



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26. Highly productive and shallow lakes are

- A. oligotrophic lakes
- B. eutrophic lakes
- C. lotic waters

D. none correct

Answer: B



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27. Predaceous fungi belong to

A. decomposers

B. primary consumers

C. herbivorous

D. secondary consumers

Answer: D



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28. Parasitic angiosperms are

- A. tertiary consumers
- B. primary consumers
- C. secondary consumers
- D. decomposers

Answer: B

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29. Primary productivity is measured in terms of

- A. Kg per m^2 per yr
- B. g per m^2 per yr
- C. Tonnes per hectare per yr
- D. All correct

Answer: D

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30. Predators derive energy from

- A. live hosts
- B. animal tissues only
- C. living as well as dead host body
- D. decaying organic matter

Answer: A



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31. Osmotrophs belong to

- A. primary consumers
- B. secondary consumer
- C. top carnivores

D. decomposers

Answer: D



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32. Limnology is related to

A. study of fresh-waters

B. grasslands

C. oceanography

D. epiphytic plants

Answer: A



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33. Energy content of the biomass is determined by using

A. bomb calorimeter

B. hygrometer

C. barometer

D. auxanometer

Answer: A



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34. Highest rate of primary productivity is found in

A. agricultural ecosystems

B. coral reef community

C. grasslands

D. deserts

Answer: B



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35. Which one is a secondary consumer ?

- A. Photoautotrophs
- B. Parasites
- C. Omnivores and phagotrophs
- D. Saprotrophs

Answer: C



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36. A branch of ecology which is concerned with the study of individual species at all stages of its life cycle in relation to environment is called

- A. ecological niche
- B. synecology
- C. reproductive ecology

D. autecology

Answer: D



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37. The study of an entire community in relation to its environment is called

A. autecology

B. synecology

C. resource ecology

D. space ecology

Answer: B



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38. Both the zebra and African lion live in the tropical grasslands but occupy different.

- A. biospheres
- B. environments
- C. ecological niches
- D. habitats

Answer: C



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39. Competition for nutrients, food, light and space is more severe between two

- A. unrelated species occupying different niches
- B. unrelated species occupying the same niche
- C. closely related species occupying the same niche

D. closely related species occupying different niches

Answer: C



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40. Which of the following ecosystem is least productive ?

A. Deep oceans

B. Moist forest

C. Shallow oceans

D. Grasslands

Answer: A



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41. When man eats fish, which feeds on zooplankton, which have eaten small plants, the producer in the chain is

- A. fish
- B. small plants
- C. zooplankton
- D. man

Answer: B



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42. An ecosystem is a complex interacting system of

- A. populations
- B. individuals
- C. communities and their soil conditions
- D. communities and their physical environment

Answer: D



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43. Largest terrestrial community of an entire geographical belt over which plant and animal species may be found is called

- A. biome
- B. habitat
- C. range
- D. niche

Answer: A



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44. Major communities of the world are

- A. shrubs, jungles and gardens
- B. ocean, grassland and forest communities
- C. parks, ponds and lakes
- D. both (2) and (3)

Answer: B

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45. Desert can be converted into grassland by

- A. plankton
- B. psammophytes
- C. halophytes
- D. tropical trees

Answer: B

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46. Which type of forest is found near equator ?

- A. Coniferous forests
- B. grasslands
- C. Deciduous forests
- D. Tropical forests

Answer: D



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47. What is plankton ?

- A. Pond scum
- B. Floating vegetation
- C. Benthic organisms

D. Floating microscopic plants and animals

Answer: D



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48. Plants which are attached to the stones and rocks are

A. halophytes

B. aerophytes

C. lithophytes

D. psammophytes

Answer: C



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49. Biogeochemical cycling means

- A. 1)cycling of water
- B. 2)cycling of nutrients in an ecosystem
- C. 3)cycling of energy in an ecosystem
- D. 4)cycling of gases between plants and the atmosphere

Answer: B

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50. Which of the following is the logical sequence of carbon cycle ?

- A. Photosynthesis-consumer-decomposer
- B. Photosynthesis-decomposer-consumer
- C. Consumer-photosynthesis-decomposer
- D. Decomposer-photosynthesis-consumer

Answer: A

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51. Maximum contribution of oxygen is got from

- A. grasslands
- B. phytoplankton
- C. dense forests
- D. herbs and shrubs

Answer: B



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52. Burning of fossil fuels affects one of the following cycles in nature

- A. water cycle
- B. nitrogen cycle
- C. phosphorous cycle

D. carbon cycle

Answer: D



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53. All populations in a given physical area are defined as

A. population

B. ecosystem

C. biotic community

D. territory

Answer: A



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54. Stratification is present in

- A. desert
- B. grasslands
- C. tropical rain forest
- D. both (2) and (3)

Answer: B

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55. Which of the following utilizes inorganic materials ?

- A. Autorophs
- B. Decomposers
- C. Saprophytes
- D. Heterotrophs

Answer: B

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56. Which of the following is an artificial ecosystem ?

- A. Forest
- B. Lake
- C. Rice field
- D. Grassland

Answer: D



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57. Factors connected with form and behaviour of earth's surface are

- A. 1)edaphic
- B. 2)topographic
- C. 3)Climatic

D. 4)Biotic

Answer: D



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58. In an ecosystem bacteria are considered as

- A. microconsumers
- B. macroconsumers
- C. primary consumers
- D. secondary consumers

Answer: C



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59. In which ecosystem species diversity is low ?

- A. Tundra
- B. Deciduous forests
- C. Desserts
- D. Grasslands

Answer: B

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60. The term biosphere used for the zone of earth where life exists is

- A. lithosphere
- B. hydrosphere
- C. lithosphere and hydrosphere
- D. lithosphere, hydrosphere and atmosphere

Answer: A

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61. In India, tropical rain forests occur in

- A. Jammu and Kashmir
- B. Andamans
- C. Uttar Pradesh
- D. Himachal Pradesh

Answer: B



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62. What fraction of assimilated energy is used in respiration by the herbivore ?

- A. 1)10 per cent
- B. 2)30 per cent
- C. 3)40 per cent

D. 4)60 per cent

Answer: B



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63. Position of herbivores in the pyramid of biomass is

A. first

B. second

C. third

D. last

Answer: B



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64. A habitat not suitable for primary productivity is

A. cave

B. meadow

C. river bank

D. pond

Answer: A



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65. Which crop utilizes solar energy most efficiently ?

A. potato

B. sugarcane

C. wheat

D. rice

Answer: B



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66. An ecosystem is

- A. 1) always open
- B. 2) always closed
- C. 3) both open and closed on the basis of community
- D. 4) may be open or closed based on biomass

Answer: A



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67. One of the following is not an example of prey-predator food chain

- A. Mangrove → Shed leaves → Detritus → Shrimps → Small fishes
→ Large fishes
- B. Grass → Grasshopper → Lizard → Hawk

C. Green plants → Deer → Tiger

D. Grass → Grasshopper → Frog → Snake → Eagle

Answer: A



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68. One way cycle is

A. carbon cycle

B. water cycle

C. free energy cycle

D. O_2 cycle

Answer: C



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69. Living organisms and water, air and earth collectively form

A. hydrosphere

B. atmosphere

C. lithosphere

D. biosphere

Answer: D



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70. The graphic representation of interrelationship between plants and animals is

A. ecological niche

B. ecological pyramid

C. trophic level

D. none of these

Answer: B



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71. Ecosystem of a pond is

- A. Lotic
- B. Lentic
- C. Benthic
- D. Xeric

Answer: B



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72. Maximum biomass of autotrophs in oceans is formed by

- A. benthic brown algae, coastal red algae and moulds

B. seagrass and slime moulds

C. free floating microalgae, cyanobacteria and nanoplanktons

D. benthic diatoms

Answer: C



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73. In a lake, the upper warmer oxygen-rich water zone is called

A. 1)epilimnion

B. 2)hypolimnion

C. 3)limnetic zone

D. 4)profundal zone

Answer: A



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74. The statement "Tiger is the apex of food chain" indicates

- A. tiger is carnivore
- B. tiger has many enemies
- C. tiger has maximum biomass
- D. tiger is dependent upon large number of trees

Answer: A



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75. Pyramid that is never inverted -

- A. pyramid of energy
- B. pyramid of biomass
- C. pyramid of number
- D. pyramid of dry biomass

Answer: A



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76. Which one is an inverted pyramid ?

- A. pyramid of numbers in a grassland
- B. pyramid of energy in pond ecosystem
- C. pyramid of biomass in a grassland
- D. pyramid of biomass in pond ecosystem

Answer: D



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77. Treeless terrestrial biome of cold climate is

- A. taiga

B. savanna

C. tundra

D. plankton

Answer: C



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78. A biome is

A. sum of ecosystems in a geographical area

B. sum of all ecosystems on the earth

C. biotic components in a population

D. biotic components in an ecosystem

Answer: A



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79. Second trophic level in a lake is

- A. 1)fishes
- B. 2)phytoplankton
- C. 3)zooplankton
- D. 4)benthos

Answer: C



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80. Which one has maximum biomass ?

- A. Temperate forest
- B. Tropical rain forest
- C. Alpine vegetation
- D. Desserts

Answer: B



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81. In grass-deer-tiger food chain, grass biomass is one tonne. The tiger biomass shall be

A. 1)100 kgs

B. 2)10 kgs

C. 3)200 kgs

D. 4)1 kg

Answer: B



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82. Tip of an ecological pyramid is occupied by

- A. producers
- B. herbivores
- C. carnivores
- D. none of the above

Answer: C

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83. Choose the correct sequence

- A. phytoplankton → zooplanktons → crustacean → fish
- B. crustaccans → fish → zooplankton → phytoplankton
- C. zooplanktons → phytoplanktons → crustaceans → fish
- D. fish → crustacean → zooplankton → phytoplankton

Answer: A

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84. In which habitat does the diurnal soil temperature vary most ?

- A. Forest
- B. Grassland
- C. Shrubland
- D. deserts

Answer: D



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85. Which of the following is most stable ecosystem ?

- A. Mountain
- B. Desert
- C. Forest

D. Ocean

Answer: D



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86. The great barrier reef along the east coast of Australia can be categorized as

A. population

B. community

C. ecosystem

D. biome

Answer: C



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87. What do you mean by key stone species.

- A. A rare species that has minimal impact on the biomass and on other species in the community
- B. A dominant species that constitutes a large proportion of the biomass and which affects many other species
- C. A species which makes up only a small proportion of the total biomass of a community, yet has a huge impact on the community's organization and survival
- D. A common species that has plenty of biomass, yet has a fairly low impact on the community's organization

Answer: C



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88. An ecosystem which can be easily damaged but can recover after some time if damaging effect stops will be having

- A. low stability and low resilience
- B. high stability and high resilience
- C. low stability and high resilience
- D. high stability and low resilience

Answer: C



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89. Which of the following is expected to have the highest value ($gm/m^2/yr$) in a grassland ecosystem?

- A. Gross Production (GP)
- B. Net Production (NP)
- C. Secondary Production

D. Tertiary Production

Answer: A



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90. About 70% of total global carbon is found in

A. 1) forests

B. 2) grasslands

C. 3) agroecosystems

D. 4) oceans

Answer: D



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91. 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 - 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. (i), (ii)
- B. (ii), (iii)
- C. (iii), (iv)
- D. (i), (iv)

Answer: B



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92. 'All the pyramids, of number, of energy and biomass are upright'.

(i) Grass land (ii) A big tree

(iii) A sugarcane field (iv) The Arabian Sea

Find the option which correctly tells the ecosystem (s) for which the above statement doesn't hold true.

A. (ii), (iii) and (iv)

B. (i) & (ii)

C. (ii) and (iv)

D. (iii) & (iv)

Answer: C



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93. All the following are limitations of ecological pyramids, except

A. doesn't account for the same species in two or more trophic levels

- B. saprophytes are not given any place
- C. not good for a food web
- D. not good if there are more than three trophic levels

Answer: D



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94. Find the correct statement

- A. 1) Low temperature and aerobic conditions inhibit decomposition
- B. 2) Plants capture only 2 - 10% of the PAR and sustain the entire living world
- C. 3) In aquatic and terrestrial ecosystems the GFC is the major conduit for energy flow
- D. 4) Measurement of biomass in terms of fresh weight is more accurate than dry weight

Answer: B



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95. Consider the following statements

In an ecosystem energy

- (i) Movement is unidirectional
- (ii) Is lost irretrievably
- (iii) Movement is non-cyclic
- (iv) Movement is from higher to lower trophic levels

Of these statements

- A. 1)(i), (ii) and (iii) are correct
- B. 2)(i) and (ii) are correct
- C. 3)(i), (iii) and (iv) are correct
- D. 4)(ii), (iii) and (iv) are correct

Answer: A





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96. Match list-I with list-II and select the correct answer using the codes given below the lists

List-I

List-II

- | | |
|------------|--|
| A. Ecotone | 1. Running water |
| B. Benthic | 2. Replacement of one community by another |
| C. Sere | 3. Transitional zone between two communities |
| D. Lotic | 4. Zone found at the bottom of the sea |

A. 1) A B C D
3 4 2 1

B. 2) A B C D
4 3 2 1

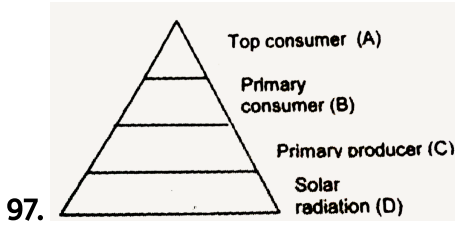
C. 3) A B C D
3 4 1 2

D. 4) A B C D
4 3 1 2

Answer: A



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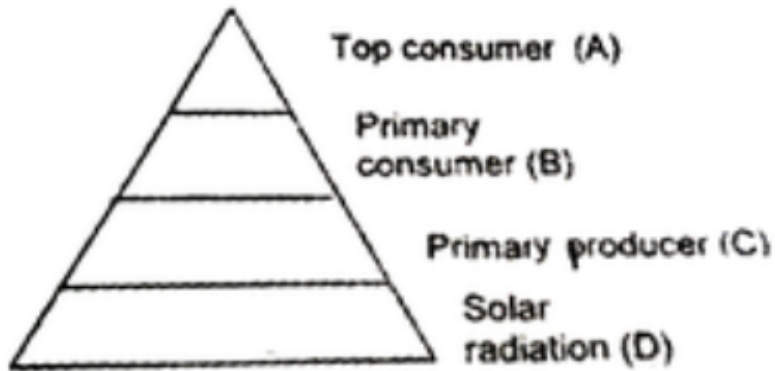
- (A) $10\text{kcal} / \text{m}^2 / \text{yr}$
- (B) $100\text{kcal} / \text{m}^2 / \text{yr}$
- (C) $1,000\text{kcal} / \text{m}^2 / \text{yr}$
- (D) $1,00,000\text{kcal} / \text{m}^2 / \text{yr}$

In the above energy pyramid for an ecosystem, the rate of secondary production is

- A. uncertain
- B. $100\text{kcal} / \text{m}^2 / \text{yr}$
- C. $10\text{kcal} / \text{m}^2 / \text{yr}$
- D. $110\text{kcal} / \text{m}^2 / \text{yr}$

Answer: B

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98.

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. can not be ascertained from the data

Answer: A



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99. The stratification pattern in a community is well illustrated by a

- A. Grassland community
- B. Beach community
- C. Desert community
- D. Forest community

Answer: D



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100. In the absence of decomposers, ecosystem functioning is adversely affected due to

- A. 1)Blocking of energy flow
- B. 2)Blocking of mineral cycling
- C. 3)Blocking of solar energy to herbivores
- D. 4)Rate of decomposition of other components will increase

Answer: B



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101. The tendency towards increased variety and density of species at community junctions is known as the

- A. Biotic potential
- B. Variability
- C. Vital index
- D. Edge effect

Answer: D



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102. Climax communities

- A. Are short lived than pioneer communities
- B. Are less stable than pioneer communication
- C. Have simple food chains than pioneer communities
- D. Have greater niche, specialization than pioneer communities

Answer: D

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103. Both algae and fungi are not independently capable of initiating seral changes on bare rocks but lichens can do so because they

- A. Adapt suitably to mesic conditions
- B. Are a combination of algae and fungi
- C. Can secrete acids for weathering
- D. Do not require much sunlight

Answer: C

104. Match List-I with List-II and select the correct answer using the codes given below the lists

List-I

- A. The amount of energy accumulation in green plants through the process
- B. The total organic matter synthesized by the producers in the process
- C. Rate of storage of organic matter in plant tissues in excess of the resp
- D. Rate of energy storage at consumer level

A.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
1	2	3	4

B.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
2	1	4	3

C.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
1	3	4	2

D.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
2	1	3	4

Answer: D

105. Agroecosystem is unstable because of

- A. lack of variety
- B. lack of producers
- C. both (a) and (b)
- D. being dependent on sun-light

Answer: A

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106. Primary consumers in detritus food chain are

- A. herbivores
- B. bacteria and fungi
- C. insect larvae, nematodes
- D. all the above

Answer: B

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107. Putrefying organisms are

- A. producer organisms
- B. reducer organisms
- C. consumer organisms
- D. parasitic organisms

Answer: B



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108. A pea-cock eats snakes which eat frogs. These eat hoppers which in turn thrive on leaves of the plants. The peacock is

- A. primary consumer
- B. secondary consumer
- C. decomposer

D. apex of the food pyramid

Answer: D



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109. Which of the food chain directly depends on solar radiations?

A. Parasitic

B. Grazing

C. Detritus

D. None of these

Answer: B



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110. Converters or transducer organisms in the food chain are called

- A. herbivores
- B. carnivores
- C. decomposers
- D. producers

Answer: D

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111. In parasitic food chain, the pyramid of number is

- A. linear
- B. upright
- C. inverted
- D. inverted upright

Answer: C

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112. Ascending trophic level in grazing food chain pyramid represents

- A. gradual decrease in biomass from apex to base
- B. gradual decrease in biomass from base to the apex
- C. gradual increase of the biomass from producers to the tertiary consumers
- D. no change in biomass

Answer: B



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113. Phytoplankton are dominant in

- A. limnetic zone
- B. profundal zone

C. littoral zone

D. benthic zone

Answer: A



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114. Which ones are reservoirs of Phosphorus and Nitrogen cycles respectively

A. consumers

B. atmosphere and bedrock

C. atmosphere and producers

D. bedrock and atmosphere

Answer: D



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115. An organism contains carbon molecules which have passed through three levels of ecosystem. The organism is

- A. primary consumer
- B. predator
- C. producer
- D. tertiary consumer

Answer: D



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116. Identify the following food chain: Dead animal → Blow fly maggots → Common Frog → Snake

- A. Grazing food chain
- B. Predator food chain
- C. Parasitic food chain

D. Detritus food chain

Answer: D

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117. Ecological efficiency is

- A. $\frac{\text{Food primary assimilated}}{\text{Food energy ingested}} \times 100$
- B. $\frac{\text{Gross primary productivity}}{\text{Incident total solar radiation}} \times 100$
- C. Volume of CO_2 evolved/volume of O_2 consumed
- D. $\frac{\text{Energy in biomass production at a trophic level}}{\text{Energy in biomass production at previous trophical level}} \times 100$

Answer: D

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118. The breakdown of detritus into smaller particles by earthworm is a process called

- A. humification
- B. fragmentation
- C. mineralisation
- D. catabolism

Answer: B



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119. Decomposers like fungi and bacteria are

- (i) Autotrophs (ii) Heterotrophs
- (iii) Saprotrophs
- (iv) Chemo-autotrophs

Choose the correct answer

A. (i) and (iii)

B. (i) and (iv)

C. (ii) and (iii)

D. (i) and (ii)

Answer: C



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120. The process of mineralisation by micro organisms helps in the release of

A. inorganic nutrients from humus

B. both organic and inorganic nutrients from detritus

C. organic nutrients from humus

D. inorganic nutrients from detritus and formation of humus

Answer: A

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121. Which of the following is not a producer?

- A. Spirogyra
- B. Agaricus
- C. Volvox
- D. Nostoc

Answer: B

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122. Among the following, where do you think the process of decomposition would be the fastest?

- A. Tropical rain forest
- B. Antarctic

C. Dry arid region

D. Alpine region

Answer: A

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123. How much of the net primary productivity of a terrestrial ecosystem is eaten and digested by herbivores?

A. 1 %

B. 10 %

C. 40 %

D. 90 %

Answer: B

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124. During the process of ecological succession the changes that take place in communities are

- A. orderly and sequential
- B. random
- C. very quick
- D. not influenced by the physical environment

Answer: A



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125. Which of the following type of ecosystem is expected in an area where evaporation exceeds precipitation, and mean annual rain-fall is below 100mm ?

- A. Grassland
- B. Shrubby forest

C. Desert

D. Mangrove

Answer: C



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126. The zone at the edge of a lake or ocean which is alternatively exposed to air and immersed in water is called

A. pelagic zone

B. benthic zone

C. lentic zone

D. littoral zone

Answer: D



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127. Edaphic factor refers to

- A. water
- B. soil
- C. relative humidity
- D. altitude

Answer: B



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128. Oceans occupy A percent of the earth surface and have a productivity of B percent of the productivity of the whole biosphere

Choose the option which fits best for A & B in order

- A. 50, 50
- B. 70, 10
- C. 70, 30

D. 30, 70

Answer: C



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129. Bacterial and fungal enzymes degrade the detritus into simple inorganic substances, this process is called

- A. leaching
- B. catabolism
- C. fragmentation
- D. mineralisation

Answer: B



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130. Read the following statements about 'Humus', Choose the best option

- (i) Humus is colloidal in nature
- (ii) Easily and Quickly decomposed by microbial action
- (iii) Reservoir of nutrients
- (iv) Dark coloured

- A. (i) and (ii) are false
- B. Only (iii) and (iv) are true
- C. Only (ii) is false
- D. All are true

Answer: C



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131. All favour the process of decomposition except

- A. sugar rich detrius
- B. absence of oxygen
- C. warm temperature
- D. no exception, as all given factors favour it

Answer: B

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132. Sun is the only source of energy for the given ecosystems except

- A. deep sea hydrothermal ecosystem
- B. savannah ecosystem
- C. shallow lake ecosystem
- D. mangrove ecosystem

Answer: A

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133. In a terrestrial ecosystem the large fraction of energy flows through

- A. detritus food chain
- B. grazing food chain
- C. herbivores
- D. carnivores

Answer: A



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134. Choose how many out of the given list are omnivores- Rabbit, Sparrow, Hydra, Crow, Man, Fox, Cockroach, Bobcat

- A. Three
- B. Six
- C. Five

D. Four

Answer: D



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135. Choose the option which gives the correct order of the organisms in the ascending order of their energy level.

- A. Caterpillar, Pea plant, Sparrow, Eagle
- B. Sparrow, Caterpillar, Pea plant, Eagle
- C. Eagle, Sparrow, Caterpillar, Pea plant
- D. Pea plant, Caterpillar, Sparrow, Eagle

Answer: C



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136. Go through the following Statements

(i) A trophic level represents one species

(ii) Pyramid of energy can never be inverted

(iii) Ecological pyramids hold true only for simply food chains

(iv) Saprophytes are included in the lower most bar in an energy pyramid

Choose the best options regarding them

A. Only (iv) is false

B. (ii) and (iii) are true

C. (i) and (ii) are true

D. All are true

Answer: B



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137. All are true for "Climax community" except

A. Rapidly keeps on changing to reach equilibrium

B. Final community

C. End of succession

D. Stable

Answer: A



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138. Choose the area which will take minimum time for succession.

A. Newly Cooled lava

B. Newly created pond

C. Abandoned farm land

D. Bare rock

Answer: C



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139. Lichen is pioneer in succession of

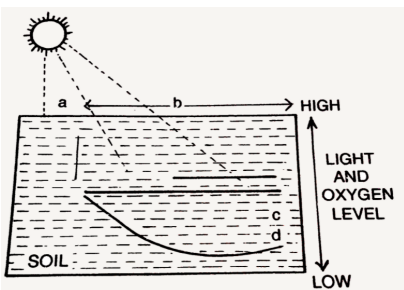
- A. hydrosere
- B. lithosere
- C. psammosere
- D. xerosere

Answer: B

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140. 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-Littoral zone, b-Profundal zone, c-Benthic zone, d-Limnetic zone

Answer: C



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141. Which one of the following types of organisms occupy more than one trophic level in a pond ecosystem?

A. Zooplankton

B. Frog

C. Phytoplankton

D. Fish

Answer: D

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142. The correct sequence of plants in a hydrosere is

- A. Pistia → Volvox → Scirpus → Hydrilla → Oak → Lantana
- B. Oak → Lantana → Volvox → Hydrilla → Pistia → Scirpus
- C. Oak → Lantana → Scirpus → Pistia → Hydrilla → Valvax
- D. Volvox → Hydrilla → Pistia → Scirpus → Lantana → Oak

Answer: D

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143. The term Homeostasis in an ecosystem refers to

- A. Feed back mechanism
- B. Self regulatory mechanism
- C. Influence of production

D. State of equilibrium

Answer: D



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144. Maximum energy amongst ecosystems is contributed by

A. crops

B. forests

C. coral

D. fuel gas

Answer: B



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145. The biomass available for consumption by the herbivores and the decomposers is called

- A. Gross primary productivity
- B. Net primary productivity
- C. Secondary productivity
- D. Standing crop

Answer: D



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

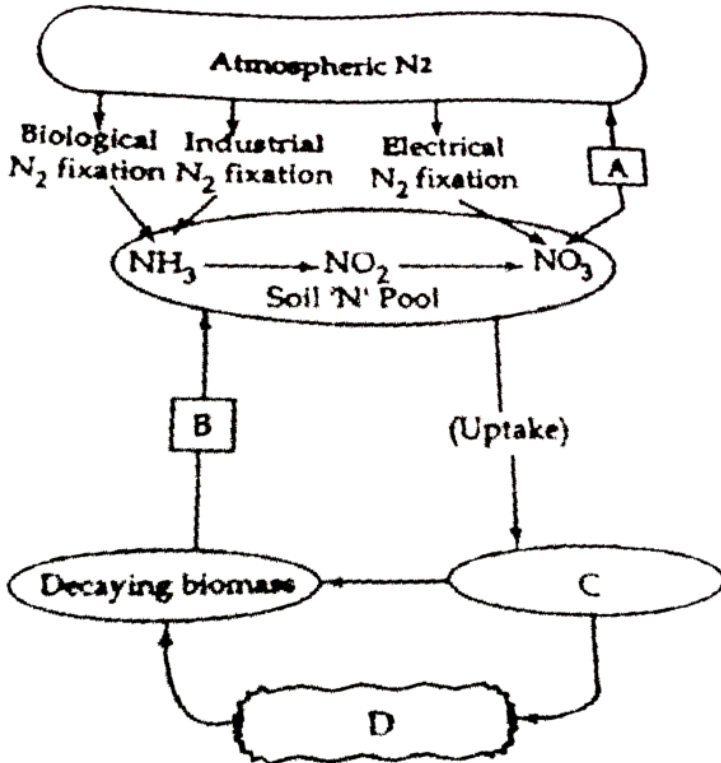
- A. Sex-ratio
- B. Stratification
- C. Natality

D. Mortality

Answer: B

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147. Study the cycle shown below and select the option which gives correct words for all the four blanks A, B, C and D.



A. *A* *B* *C* *D*
Nitrification Ammonification Animal Plants

B. *A* *B* *C* *D*
Denitrification Ammonification Plants Animals

C. *A* *B* *C* *D*
Nitrification Denitrification Animals Plants

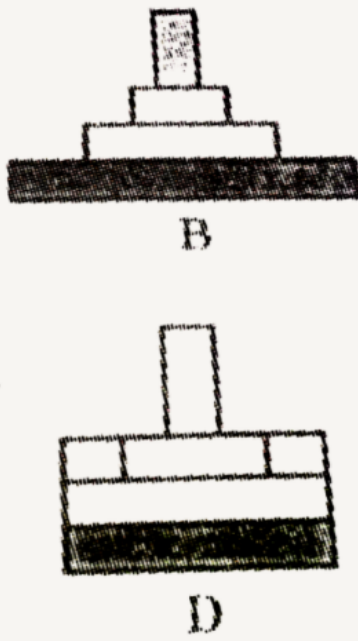
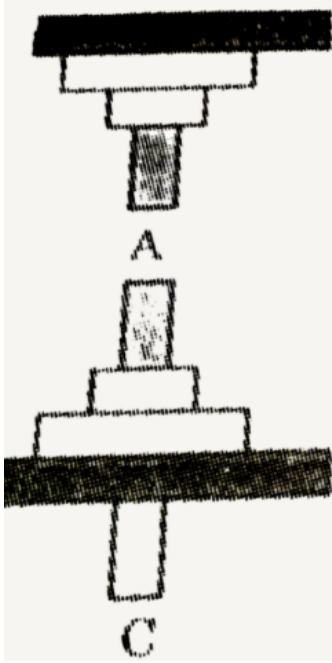
D. *A* *B* *C* *D*
Denitrification Nitrification Plants Animals

Answer: B



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148. Which of the following representations shows the pyramid of numbers in a forest ecosystem?



A. D

B. A

C. B

D. C

Answer: D

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149. The plants convert light into chemical energy with a photosynthetic efficiency of

- A. 3 – 6 %
- B. 6 – 20 %
- C. 20 – 35 %
- D. 35 – 41 %

Answer: A



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150. Primary succession is development of communities on

- A. Cleared forest area
- B. Previously unoccupied sites
- C. Freshly harvested crop field
- D. Pond filled after a dry season

Answer: B



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151. Which one of the following statements for pyramid of energy is incorrect, whereas the remaining three are correct?

- A. Its base is broad
- B. It shows energy content of different trophic level organisms
- C. It is inverted in shape
- D. It is upright in shape

Answer: C



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152. Which one of the following animals may occupy more than one trophic levels in the same ecosystem at the same times?

A. Sparrow

B. Lion

C. Goat

D. Frog

Answer: A



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153. Both, hydrarch and xerarch successions lead to

A. medium water conditions

B. xeric conditions

C. highly dry conditions

D. excessive wet conditions

Answer: A



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154. Identify the possible link "A" in the following food chain

Plant → insect frog → "A" → Eagle

- A. Wolf
- B. Cobra
- C. Parrot
- D. Rabbit

Answer: B



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155. The upright pyramid of number is absent in

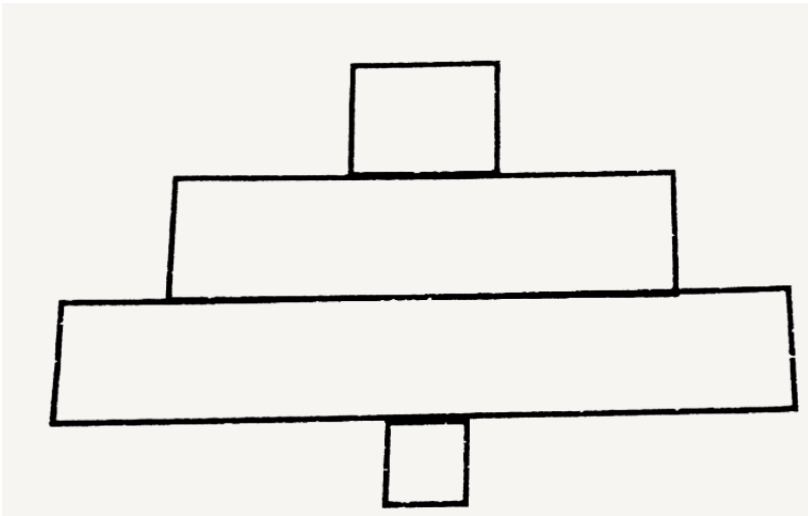
- A. Forest
- B. Lake
- C. Grassland

D. Pond

Answer: A

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156. Given below is an imaginary pyramid of numbers. What could be one of the possibilities about certain organisms at some of the different levels?



A. 1) Level PP is "phytoplanktons" in sea and "Whale" on top level TC

B. 2) Level one PP is "pipal trees" and the level SC is "sheep"

C. 3)Level PC is "rats" and level SC is "cats"

D. 4)Level PC is "insects" and level SC is "small insectivorous birds"

Answer: D



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157. Which one of the following is not a functional unit of an ecosystem

A. Decomposition

B. Productivity

C. Stratification

D. Energy flow

Answer: C



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158. Which one of the following is not a gaseous biogeochemical cycle in ecosystem?

- A. Phosphorus cycle
- B. Nitrogen cycle
- C. Carbon cycle
- D. Sulphur cycle

Answer: A



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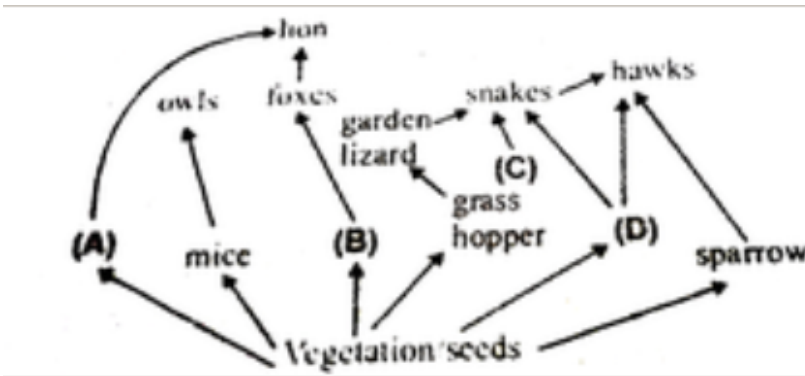
159. The second stage of hydrosere is occupied by plants like

- A. Salix
- B. Vallisneria
- C. Azolla
- D. Typha

Answer: B

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160. Identify the likely organisms (A), (B), (C) and (D) in the food web shown below



- A. $\begin{pmatrix} A \\ B \\ C \\ D \end{pmatrix}$, (rat, dog, tortoise, crow)
- B. $\begin{pmatrix} A \\ B \\ C \\ D \end{pmatrix}$, (squirrel, cat, rat, pigeon)
- C. $\begin{pmatrix} A \\ B \\ C \\ D \end{pmatrix}$, (deer, rabbit, frog, rat)

D. $\begin{pmatrix} A \\ B \\ C \\ D \end{pmatrix}$, (dog, squirrel, bat, deer)

Answer: C

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161. The rate of formation of new organic matter by rabbit in a grassland is called

- A. net primary productivity
- B. Gross primary productivity
- C. Net productivity
- D. Secondary productivity

Answer: D

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162. Food web' refers to

- A. transfer of energy from one trophic level to the next trophic level
- B. unidirectional energy flow
- C. capturing solar energy by autotrophs
- D. connecting feeding pattern in a biotic community

Answer: D



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163. The study of interaction between groups of various organisms with their environment is

- A. ecology
- B. zoogeography
- C. synecology
- D. system biology

Answer: C



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164. The pyramid of biomass in sea is

- A. Upright
- B. Slanting
- C. Horizontal
- D. Inverted

Answer: D



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165. Natural reservoir of phosphorus is

- A. Rock

B. Fossils

C. Sea water

D. Animal bones

Answer: A



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166. Which one of the following processes during decomposition is correctly described?

A. Catabolism - Last step in the decomposition under fully anaerobic condition

B. Leaching - Water soluble inorganic nutrients rise to the top layers of soil

C. Fragmentation - Carried out by organism such as earthworm

D. Humification - Leads to the accumulation of a dark coloured substance humus which undergoes microbial action at a very fast rate

Answer: C



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167. Most animals are tree dwellers in a

- A. thorn woodland
- B. temperate deciduous forest
- C. tropical rain forest
- D. coniferous forest

Answer: C



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168. Vertical distribution of different species occupying different levels in a biotic community is known as

- A. Stratification
- B. Zonation
- C. Pyramid
- D. Divergence

Answer: A



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169. The mass of living material at a trophic level at a particular time is called

- A. standing state
- B. Net primary productivity
- C. standing crop

D. gross primary productivity

Answer: C



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170. In an ecosystem the rate of production of organic matter during photosynthesis is termed as

- A. Gross primary productivity
- B. secondary productivity
- C. Net productivity
- D. net primary productivity

Answer: A



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171. Secondary succession takes place on/in

- A. degraded forest
- B. Newly created pond
- C. newly cooled lava
- D. Bare rock

Answer: A



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172. In which of the following both pairs have correct combination?

(1) Gaseous nutrient cycle Sedimentary nutrient cycle	Carbon and Nitrogen Sulphur and Phosphorus
--	---

(2) Gaseous nutrient cycle Sedimentary nutrient cycle	Carbon and sulphur Nitrogen and Phosphorus
(3) Gaseous nutrient cycle Sedimentary nutrient cycle	Nitrogen and sulphur Carbon and Phosphorus
(4) Gaseous nutrient cycle Sedimentary nutrient cycle	Sulphur and Phosphorus Carbon and Nitrogen



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173. During ecological succession

- A. the gradual and predictable change in species composition occurs in a given area
- B. the establishment of a new biotic community is very fast in its primary phase
- C. the numbers and types of animals remain constant

D. the changes lead to a community that is in near equilibrium with the environment and is called pioneer community

Answer: A

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174. Which one of the following is a characteristic feature of cropland ecosystem?

- A. Least genetic diversity
- B. Absence of weeds
- C. Ecological succession
- D. Absence of soil organisms

Answer: A

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175. Which of the following would appear as the pioneer organisms on bare rocks?

A. 1)Liverworts

B. 2)Mosses

C. 3)Green algae

D. 4)Lichens

Answer: D



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176. The term ecosystem was coined by

A. A.G. Tansley

B. E. Haeckel

C. E. Warming

D. E.P. Odum

Answer: A



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177. Which ecosystem has the maximum biomass ?

- A. Forest ecosystem
- B. Grassland ecosystem
- C. Pond ecosystem
- D. Lake ecosystem

Answer: A



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178. Presence of plants arranged into well-defined vertical layers depending on their height can be seen best in

A. Tropical Savannah

B. Tropical rain forest

C. Grassland

D. Temperate Forest

Answer: B



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179. What type of ecological pyramid would be obtained with the following data?

Secondary consumer : 120 g

Primary consumer : 60 g

Primary producer : 10 g

A. 1) Upright pyramid of biomass

B. 2) Upright pyramid of numbers

C. 3) Pyramid of energy

D. 4) Inverted pyramid of biomass

Answer: D



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