



## 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 hydrosphere 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.  $NPP + \text{Loss of cellular respiration}$
- B.  $NPP - \text{Loss of respiration}$
- 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. cycling of water
- B. cycling of nutrients in an ecosystem
- C. cycling of energy in an ecosystem
- D. 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. edaphic
- B. topographic
- C. geological

D. geographic

**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. Tundras

B. Deciduous forests

C. Deserts

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. 10 per cent
- B. 30 per cent
- C. 40 per cent

D. 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. always open
- B. always closed
- C. both open and closed on the basis of community
- D. 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. epilimnion

B. hypolimnion

C. limnetic zone

D. 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. Which type of the following pyramids are 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. fishes
- B. phytoplankton
- C. zooplankton
- D. benthos

**Answer: C**



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80. Which one has maximum biomass ?

- A. Temperate forest
- B. Tropical rain forest
- C. Alpinc vegetation
- D. Deserts

**Answer: B**



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

A. 100 kgs

B. 10 kgs

C. 200 kgs

D. 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 are 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. forests

B. grasslands

C. agroecosystems

D. 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. 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

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

B.    A   B   C   D  
      4   3   2   1

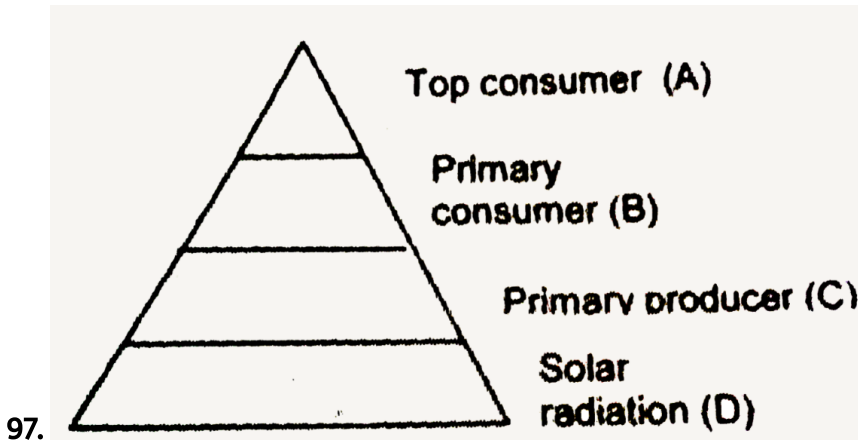
C.    A   B   C   D  
      3   4   1   2

D.    A   B   C   D  
      4   3   1   2

**Answer: A**



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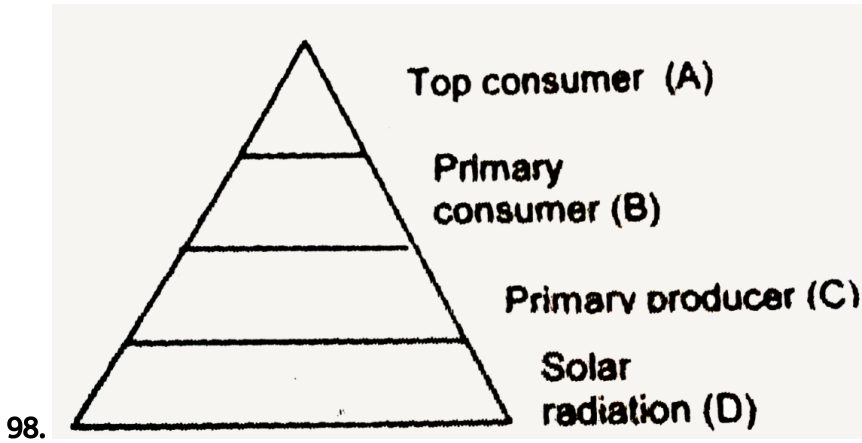
- (A)  $10\text{kcal}/\text{m}^2/\text{yr}$
- (B)  $100\text{kcal}/\text{m}^2/\text{yr}$
- (C)  $1,000\text{kcal}/\text{m}^2/\text{yr}$
- (D)  $1,00,000\text{kcal}/\text{m}^2/\text{yr}$

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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(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. 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. Blocking of energy flow
- B. Blocking of mineral cycling
- C. Blocking of solar energy to herbivores
- D. 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 alge and fungi
- C. Can secrete acids for weathering
- D. Do not require much sunlight

**Answer: C**



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**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 of photosynthesis
- B. The total organic matter synthesized by the producers in the process of photosynthesis
- C. Rate of storage of organic matter in plant tissues in excess of the respiratory requirements
- D. Rate of energy storage at consumer level

- A.  $A \ B \ C \ D$   
1 2 3 4
- B.  $A \ B \ C \ D$   
2 1 3 4
- C.  $A \ B \ C \ D$   
1 3 4 2
- D.  $A \ B \ C \ D$   
2 1 4 3

**Answer: D**

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**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. both 1 and 2

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

**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 rainfall is below 100 mm :

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 detrius 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. all of the above

**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

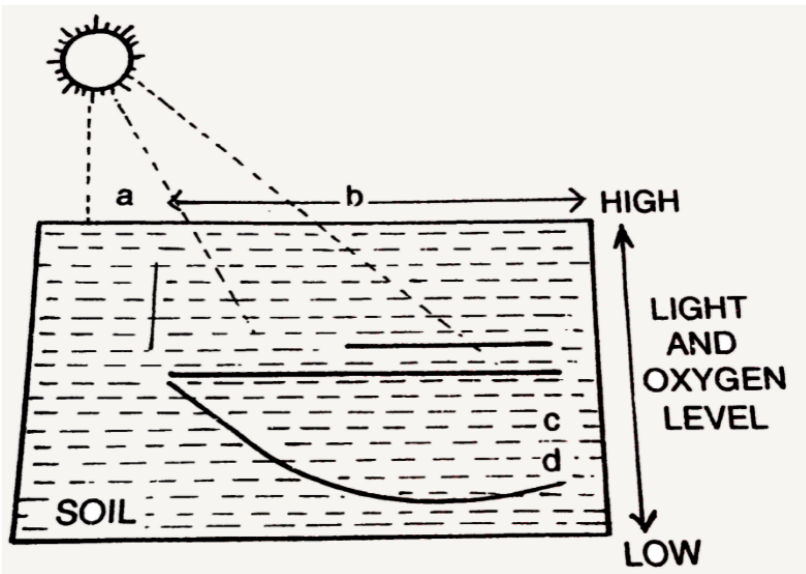
- A. hydrosere
- B. lithosere
- C. psammosere

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

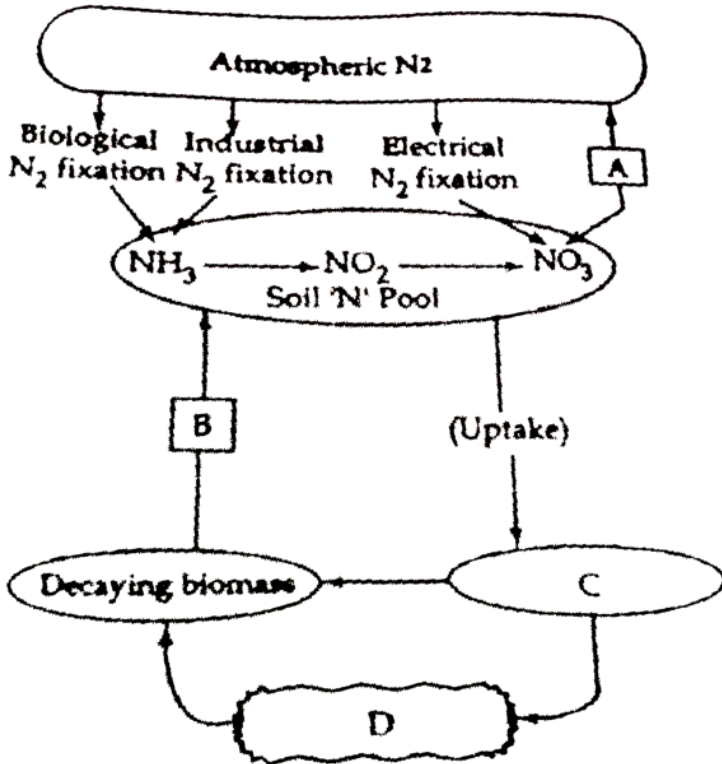
B. Stratification

C. Natality

D. Mortality

**Answer: B**

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               | B               | C       | D       |
| A. | Nitrification   | Ammonification  | Animal  | Plants  |
| B. | A               | B               | C       | D       |
|    | Denitrification | Ammonification  | Plants  | Animals |
| C. | A               | B               | C       | D       |
|    | Nitrification   | Denitrification | Animals | Plants  |

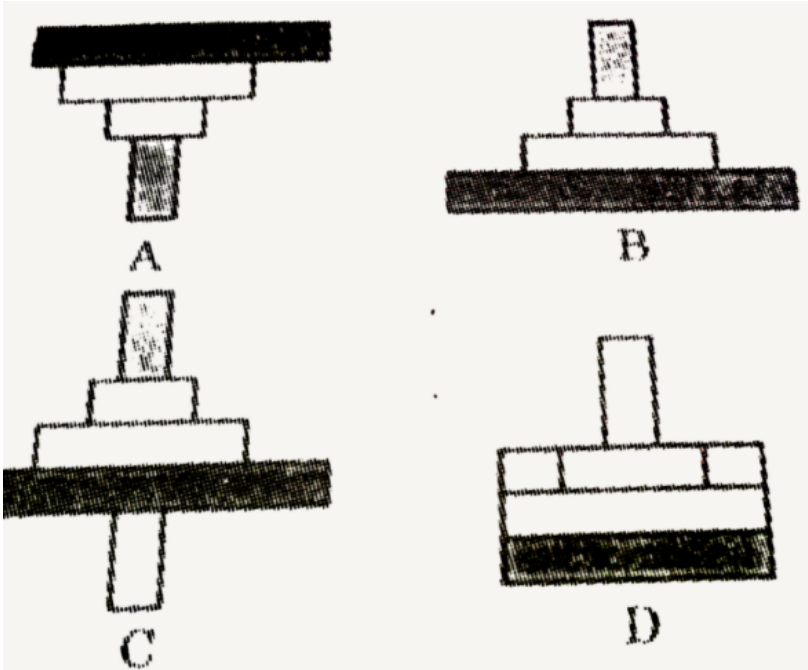


- D. *A*                      *B*                      *C*                      *D*  
Denitrification    Nitrification    Plants    Animals

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

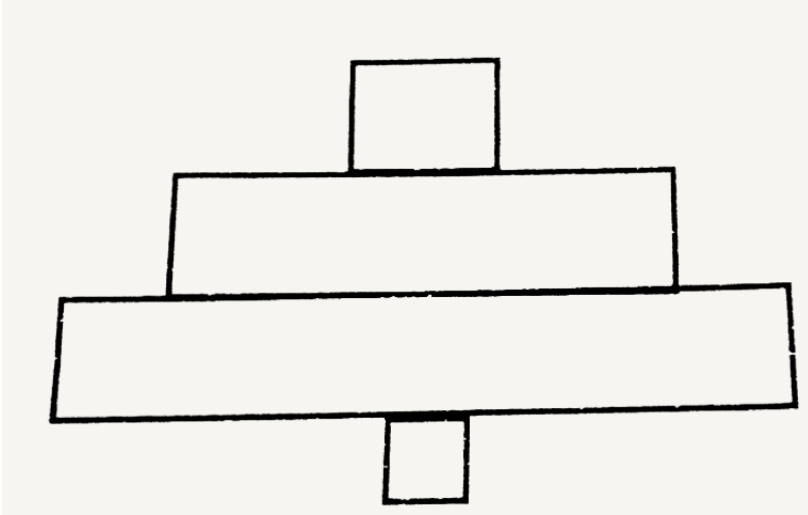
**Answer: A**



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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. Level PP is "phytoplanktons" in sea and "Whale" on top level TC
- B. Level one PP is "pipal trees" and the elvel SC is "sheep"
- C. Level PC is "rats" and level SC is "cats"
- D. 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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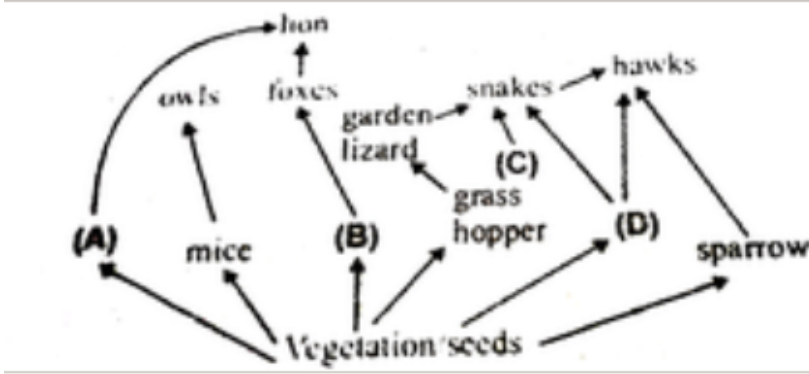
159. The second stage of hydrosere is occupied by plants like

- 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. Liverworts

B. Mosses

C. Green algae

D. 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. Upright pyramid of biomass
- B. Upright pyramid of numbers
- C. Pyramid of energy
- D. Inverted pyramid of biomass

**Answer: D**



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