



BIOLOGY

BOOKS - CENGAGE BIOLOGY (ENGLISH)

ECOSYSTEM

Exercise Choose The Correct Option

1. Which is not true regarding ecosystem?

- A. Self-sufficient unit.
- B. Cyclic exchange of materials between living beings and environment
- C. Only requirement is input of energy.

D. Characterized by a major vegetation type.

Answer: D

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2. Which is not a structural aspect of ecosystem?

A. Productivity

B. Species composition

C. Diversity

D. Life cycle

Answer: A

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3. The amount of living material and nutrients present in different trophic levels and soils at any given time are called, respectively.

- A. Standing state and standing crop
- B. Standing crop and standing state
- C. Standing state and standing quality
- D. Biomass and standing crop

Answer: B

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4. An ecosystem contains

- A. Green plants and animals
- B. Green plants and decomposers

C. Green plants, animals, decomposers, and abiotic environment

D. Producers and consumers

Answer: C

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5. When a habitat is subdivided into parts which show distinct properties, it is called.

A. Mini-habitat

B. Micro-habitat

C. Mega-habitat

D. Macro-habitat

Answer: B



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6. Which of the following are artificial aquatic ecosystems?

A. Large dams and reservoirs

B. Lakes and canals

C. Aquarium and pond

D. All of these

Answer: D



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7. The amount of biogenetic nutrients present in the abiotic environment per unit area at any time is called.

- A. Standing state
- B. Standing crop
- C. NPP
- D. Nutrients immobilization

Answer: A

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8. Which of the following is a functional aspect of an ecosystem?

- A. Species composition
- B. Inorganic nutrients

C. Homeostasis

D. Topography

Answer: C

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9. Which of the following are called key industry animals?

A. Autotrophs

B. Decomposers

C. Herbivores

D. Top carnivores

Answer: C

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10. NPP is given by the formula

A. $NPP = GPP \times 100$

B. $NPP = GDP - \text{Secondary productivity}$

C. $NPP = GPP - \text{Respiration rate}$

D. $NPP = GPP / 100$

Answer: C



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11. Which of the following ecosystem has the highest gross primary productivity?

A. Tropical deciduous forest

B. Temperate coniferous forest

C. Tropical rain forest

D. Desert shrub

Answer: C

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12. For NPP, energy captured is

A. 1 – 5 % of incident radiation

B. 2 – 5 % of PAR

C. 0.8 – 4 % of incident radiation

D. 2 – 10 % of PAR

Answer: D

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13. Plant life is restricted in sea to

- A. Photic zone or euphotic zone
- B. Aphotic zone
- C. Abyssal area
- D. Continental shelf

Answer: A



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14. Gross primary productivity is-

- A. Rate at which organic molecules are formed in an autotroph
- B. Rate at which organic molecules are used up by autotroph

C. Storage of organic molecules in the body of an autotroph

D. Rate at which organic molecules are transferred to the next higher trophic level

Answer: A



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15. In tropical rain forest, most of the energy in ecosystem flows through

A. Grazing food chain

B. Detritus food chain

C. Parasitic food chain

D. Both (1) and (3)

Answer: B



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16. The respiratory losses of producers, herbivores and carnivores are, respectively,

A. 10 % , 20 % , 30 %

B. 20 % , 30 % , 60 %

C. 20 % , 40 % , 80 %

D. Always 10 %

Answer: B



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17. Which of the following ecological pyramids can be both upright and inverted?

- A. Pyramid of number
- B. Pyramid of biomass
- C. Pyramid of energy
- D. Both (1) and (2)

Answer: D

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18. Which of the following ecological pyramids is the most representative of the functional characteristics of an ecosystem?

- A. Pyramid of number

- B. Pyramid of biomass
- C. Pyramid of energy
- D. All are equally representative

Answer: C

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19. $(\text{NPP}/\text{GPP}) \times 100$ is

- A. Assimilation efficiency
- B. Net production efficiency
- C. Ecological efficiency
- D. Photosynthetic efficiency

Answer: B



20. Which is not true for humus?

- A. Dark colored amorphous substance
- B. Highly resistant to microbial action
- C. Acts as reservoir of nutrients and increases water holding capacity of soil
- D. Degradation product of proteins and fats and produced by the process of mineralization

Answer: D

21. Nutrient immobilization

- A. Prevents leaching of nutrients
- B. Is incorporation of nutrients in microbes
- C. Is covalent linking of nutrients with one another
- D. More than one option is correct

Answer: D

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22. If producer is a large tree that supports a number of herbivorous animals which are further attacked by ectoparasites, the pyramid of number shall be

- A. Inverted
- B. Upright
- C. Irregular

D. Spindle shapped

Answer: A

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23. Ecological pyramids are also called

- A. Pyramid of number
- B. Eltonian pyramids
- C. Pyramids of energy
- D. Pyramids of biomass

Answer: B

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24. A food web

- A. Increases the variety of food at each trophic level
- B. Delicately balances the inter-relations amongst organisms
- C. Decreases the variety of food but increases the quantity of food at each trophic level
- D. Increases the variety as well as the quantity of food at each trophic level

Answer: D



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25. Ten percent law of energy transfer in a food chain was enunciated by

- A. Elton

B. Lindeman

C. Haeckel

D. Schimper

Answer: B



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26. The importance of ecosystem lies in

A. Flow of energy

B. Cycling of materials

C. Both (1) and (2)

D. Consumers

Answer: C





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27. Earth is an

- A. Open system
- B. Closed system
- C. Both (1) and (2)
- D. None of these

Answer: C



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28. Biogeochemical cycle having a small gaseous component is found in

- A. Phosphorus

B. Nitrogen

C. Carbon

D. Sulfur

Answer: D



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29. Annually, 1 ha of a healthy forest will

A. Produce 10 ton of O_2 and absorb 10 ton of CO_2

B. Produce 20 ton of O_2 and absorb 20 ton of CO_2

C. Produce 10 ton of O_2 and absorb 30 ton of CO_2

D. Produce 30 ton of O_2 and absorb 30 ton of CO_2

Answer: C



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30. How many overlapping water cycles are found in nature ?

- A. Two
- B. Three
- C. One
- D. There is no overlapping cycle

Answer: A



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31. Phosphates remain outside the natural cycle for a long time

- A. When they form compounds with metals

B. When they are incorporated in bones and teeth

C. When the bodies of the organisms excrete and decompose

D. Both (1) and (2)

Answer: D



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32. Human dominated environment is called

A. Biosphere

B. Noosphere

C. Socio-cultural environment

D. None of these

Answer: B





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33. Energy requirement for the maintenance of body with successively higher trophic level

- A. Decreases
- B. Increases
- C. Remains same
- D. Is always 10%

Answer: B



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34. In which of the following biogeochemical cycles is atmospheric phase absent/negligible?

A. Nitrogen

B. Sulfur

C. Phosphorus

D. Water

Answer: C



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35. Stratification is well developed in

A. Tropical rain forests

B. Grasslands

C. Alpine vegetations

D. Temperate forests

Answer: A



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36. An orderly sequence of community development on an area is called

- A. Succession
- B. Cover
- C. Establishment
- D. Diversity

Answer: A



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37. The terminal stage of a successional process is called

- A. A) Final stage
- B. B) Climax stage
- C. C) Seral stage
- D. D) Pioneer stage

Answer: B



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38. If the pioneer stage is dominated by autotrophs, then the succession is called.

- A. Allogenic
- B. Autogenic

C. Autotrophic

D. Heterotrophic

Answer: C

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39. Which is not a characteristic of sera stages?

A. A) Simplified food chain

B. B) Few and generalized niches

C. C) Low NPP

D. D) Low energy use efficiency

Answer: C

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40. Succession stage that occurs on a bare rock is called

- A. Psammosere
- B. Xerosere
- C. Lithosere
- D. Halosere

Answer: C



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41. Serial changes in the previously sterile or total barren area are called

- A. Climatic climax
- B. Secondary succession

C. Primary succession

D. Sere

Answer: C

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42. Pond is an example of ____ ecosystem.

A. Artificial

B. Natural

C. Forest

D. Grassland

Answer: B

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43. Which of the following is the most productive ecosystem?

- A. Estuary
- B. Open sea
- C. Desert
- D. Mountain

Answer: A



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44. The pyramid of energy in a forest ecosystem is:

- A. Always upright
- B. Always inverted
- C. Both upright and inverted

D. None of the above

Answer: A



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45. The importance of ecosystem lies in

A. Flow of energy

B. Cycling of materials

C. Both (1) and (2)

D. None of the above

Answer: C



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46. Which is the correct path of energy flow in an ecosystem?

- A. Producers → Carnivores → Herbivores → Decomposers
- B. Producers → Herbivores → Carnivores → Decomposers
- C. Herbivores → Carnivores → Producers → Decomposer
- D. Herbivores → Producers → Carnivores → Decomposers

Answer: B

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47. The number of primary producers within a specified area would be maximum in:

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

D. Deserts

Answer: C

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48. A food chain starts with

- A. Nitrogen fixation organisms
- B. Photosynthesizing organisms
- C. Respiration
- D. Decomposers

Answer: B

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49. Nepenthes is a

- A. Primary producer
- B. Consumer
- C. Both primary producer and consumer
- D. None of the above

Answer: C



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50. Biological equilibrium is an equilibrium among the:

- A. Producers and consumers
- B. Producers and decomposers
- C. Producers, consumers, and decomposers

D. Producers and light

Answer: A

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51. The number of individuals of a species in a particular ecosystem at a given time remains constant due to:

A. Man

B. Parasites

C. Predators

D. Available food

Answer: D

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52. Name two components of an ecosystem.

- A. Biotic and abiotic
- B. Plants and animals
- C. Weeds and microorganisms
- D. Plants and light

Answer: A



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53. The pyramid of numbers in grassland ecosystem will be-

- A. A) Linear
- B. B) Upright
- C. C) Irregular

D. D) Inverted

Answer: B

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54. Cycling of elements in an ecosystem is called Or Which of the following cycle would be affected if decomposers of an ecosystem vanish

- A. A) Chemical cycle
- B. B) Biogeochemical cycle
- C. C) Geological cycle
- D. D) Geochemical cycle

Answer: B

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55. Which one of the following bacteria has potential for nitrogen fixation

- A. Nitrosomonas
- B. Nitrobacter
- C. Nitrosococcus
- D. Rhizobium

Answer: D

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56. Ecosystem has

- A. A) Plant and animal

B. B) Air and H_2O

C. C) Soil and light

D. D) Biotic and abiotic components

Answer: D



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57. Sal and teak are found in

A. A) Tropical rain forest

B. B) Tropical deciduous forest

C. C) Temperate broad leaf forest

D. D) Temperate needle leaf forest

Answer: B



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58. Decomposers are

- A. Autotrophs
- B. Heterotrophs
- C. Organotrophs
- D. Autoheterotrophs

Answer: B



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59. During food chain, the maximum energy is stored in:

- A. A) Producers

B. B) Decomposers

C. C) Herbivores

D. D) Carnivores

Answer: A



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60. In the phosphorus cycle, weathering makes phosphate available first to:

A. Decomposers

B. Consumers

C. Producers

D. All the above

Answer: C



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61. In a food chain, the total amount of living material is depicted by:

- A. Pyramid of biomass
- B. Pyramid of energy
- C. Pyramid of number
- D. Trophic levels

Answer: A



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62. Nitrates are converted to nitrogen by

- A. Nitrogen fixing bacteria
- B. Ammonification bacteria
- C. Denitrifying bacteria
- D. Nitrifying bacteria

Answer: C



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63. In pond ecosystem, diatoms represent

- A. Producers
- B. Primary consumers
- C. Secondary consumers

D. Tertiary consumers

Answer: A

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64. Pyramids of biomass in pond ecosystem are

A. Inverted

B. Upright

C. Linear

D. Irregular

Answer: A

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65. Lion is kept under in Eltonian pyramid as

- A. Producer
- B. Primary consumers
- C. Secondary consumers
- D. Tertiary consumers

Answer: D



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66. Bacteria and fungi developing on dead decaying organisms are

- A. Parasites
- B. Commensals
- C. Saprophytes

D. Symbionts

Answer: C

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67. Phytoplanktons are important biotic components of

A. A) Grassland

B. B) Pond ecosystem

C. C) Forest ecosystem

D. D) None of these

Answer: B

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68. Which type of the following pyramids are never inverted ?

- A. Pyramid of number
- B. Pyramid of biomass
- C. Pyramid of energy
- D. Pyramid of species richness

Answer: C



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69. 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 producer
- B. Secondary succession
- C. Decomposer

D. Top at the apex of food pyramid

Answer: D

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70. Source of energy in ecosystem is

A. Sun

B. ATP

C. Sugar made by plant

D. Green plant

Answer: A

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71. Legume plants are important for atmosphere because that

- A. Help in NO_2 fixation
- B. Do not help in NO_2 fixation
- C. Increase soil fertility
- D. All of these

Answer: C



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72. Tropical forests are dense due to

- A. Low rainfall and low temperature
- B. High rainfall and low temperature
- C. Low rainfall and high temperature

D. High rainfall and high temperature

Answer: D



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73. Energy enters in a food chain through:

A. Producer

B. Primary consumers

C. Secondary consumers

D. Tertiary consumers

Answer: A



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74. In an ecosystem,

- A. Primary producers are more than primary consumers
- B. Primary consumers are larger than primary producers
- C. Secondary consumers are larger than primary producers
- D. Primary consumers least depend on primary producers

Answer: A



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75. In which type of forest is humus formed by dry and dead leaves?

- A. Coniferous forest
- B. Deciduous forest
- C. Tundra forest

D. Alpine

Answer: B

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76. A pond is a

A. Biome

B. Natural ecosystem

C. Artificial ecosystem

D. Community of plants and animals

Answer: B

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77. The importance of ecosystem lies in

- A. Energy flow
- B. Cycling of materials
- C. Both
- D. None

Answer: C



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78. The concept of ecological pyramids was given by

- A. Odum
- B. Elton
- C. Darwin

D. Reiter

Answer: B

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79. Stratification is seen in

A. Tundra

B. Tropical forest

C. Deciduous forest

D. Desert

Answer: B

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80. The driving force for an ecosystem is

- A. Producers
- B. Plants with carbohydrates
- C. Biomass
- D. Solar energy

Answer: D



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81. Ecosystem contains

- A. Food chain
- B. Food web
- C. both

D. None

Answer: C



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82. The term ecosystem was coined by:

A. P.Maheshwari

B. Tansley

C. R. Mishra

D. E.P. Odum

Answer: B



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83. Which biotic components mainly help in recycling of minerals:-

- A. Producers
- B. Consumers
- C. Decomposers
- D. All the above

Answer: C



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84. Hydrological cycle is controlled by

- A. Grasslands
- B. Forests
- C. Planktons

D. Epiphytes

Answer: B



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85. Savannahs are

A. Tropical rain forest

B. Desert

C. Grassland with scattered trees

D. Dense forest with close canopy

Answer: C



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86. Biosphere refers to

- A. Plants of the world
- B. Special plants
- C. Area occupied by living beings
- D. Plants of a particular area

Answer: C



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87. What is true about any ecosystem:-

- A. It is self regulatory.
- B. It is self sustained
- C. Top carnivores have climax trophic level position.

D. All

Answer: D



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88. The pyramid of number in a grassland ecosystem is

A. Upright

B. Inverted

C. Irregular

D. Linear

Answer: A



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89. Pyramid of number is inverted in case of

- A. Pond ecosystem
- B. Desert ecosystem
- C. Grass land ecosystem
- D. Forest ecosystem

Answer: B



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90. The storage of energy at consumer level is known as-

- A. Gross primary production
- B. Secondary productivity
- C. Net primary productivity

D. Net productivity

Answer: B



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91. Which ecosystem has maximum number of producers in an unit area:-

A. Pond

B. Grassland

C. Forest

D. Tundra

Answer: A



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92. The source of energy in an ecosystem is-

A. Sunlight

B. DNA

C. ATP

D. RNA

Answer: A



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93. Ecosystem may be defined as:-

A. A localized association of several plants and animals

B. Different communities of plants, animals and microbes together with their physico-chemical environment.

C. Different communities of plants microbes plus their physico-chemical environment

D. None of the above

Answer: B

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94. In a forest ecosystem green plants are-

A. Primary producers

B. Consumers

C. Primary consumers

D. Decomposers

Answer: A





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95. In an ecosystem the function of the producers is to

- A. Convert organic compounds into inorganic compounds
- B. Trap solar energy and convert it into chemical energy
- C. Utilize chemical energy
- D. Release energy

Answer: B



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96. With regard to ecological food chain, man is a-

- A. Consumer

B. Producers

C. Both consumer and producer

D. Decomposer

Answer: A



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97. A plant being eaten by a herbivore which in turn is eaten by a carnivore makes-

A. Food chain

B. Web of Food

C. Omnivores

D. Interdependence

Answer: A



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98. Who proposed that ecosystem is symbol of structure & function of nature

A. Gardner

B. Odum

C. Tansley

D. Reiter

Answer: C



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99. Largest ecosystems in the world are:

- A. Forests
- B. Grasslands
- C. Great lakes
- D. Oceans

Answer: D



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100. Which of the following is a man made artificial ecosystem?

- A. Grassland ecosystem
- B. Forest ecosystem
- C. Ecosystem of artificial lakes and dams

D. None of these

Answer: C

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101. Green plants in a forest ecosystem are

- A. Suppliers of food and O^2
- B. Consumers of nutritive materials
- C. Consumers of animal proteins
- D. Suppliers of timber

Answer: A

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102. In India, temperate evergreen vegetation occurs mostly in

- A. Western Himalayas above 3500 m
- B. Eastern and Western Himalayas less than 3500 m
- C. Rajasthan and South Punjab
- D. Western Ghats and Assam

Answer: B



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103. Carbon cycle includes (the following is a logical sequence)

- A. Producer → Consumer → Decomposer
- B. Decomposer → Consumer → Producer
- C. Producer → Decomposer → Consumer

D. Consumer → Producer → Decomposer

Answer: A

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104. The importance of ecosystem lies in-

- A. Flow of energy
- B. Cycling of materials
- C. Both (1) and (2)
- D. None of the above

Answer: C

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105. Which biotic components mainly help in the recycling of minerals?

- A. Producers
- B. Consumers
- C. Decomposers
- D. All the above

Answer: C



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106. The bulk of nitrogen in nature is fixed by-

- A. Lightening
- B. Chemical industries
- C. Denitrifying bacteria

D. Symbiotic bacteria

Answer: D

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107. The number of primary producers within a specified area would be maximum in

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

Answer: A

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108. Acacia, Prosopis and Capparis belongs to:-

- A. Deciduous forest
- B. Tropical forest
- C. Thorn forest
- D. Evergreen forest

Answer: C



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109. Total amount of energy trapped by green plants in food is called:-

- A. Gross primary production
- B. Net primary production

C. Standing crop

D. Standing state

Answer: A

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110. In which biome a new plant may adapt soon:-

A. Tropical rain forest

B. Desert

C. Mangrove

D. Sea island

Answer: A

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111. Percentage energy transferred to higher trophic level in food chain is

- A. 1 %
- B. 10 %
- C. 90 %
- D. 100 %

Answer: B

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112. Which is the reason for highest biomass in aquatic ecosystem-

- A. Nanoplankton, blue green algae, green algae

B. Sea grass and slime molds

C. Benthic and brown algae

D. Diatoms

Answer: A



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113. Which of the following is a correct pair?

A. Cuscuta - Parasite

B. Dischidia - Insectivorous

C. Opuntia - Predator

D. Capsella - Hydrophyte

Answer: B





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114. A bamboo plant is growing in a forest. What will be its trophic level?

- A. First trophic level (T_1)
- B. Second trophic level (T_2)
- C. Third trophic level (T_3)
- D. Fourth trophic level (T_4)

Answer: A



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115. The slow rate of decomposition of fallen logs in nature is due to their

- A. Anaerobic environment around them
- B. Low cellulose content
- C. Low moisture content
- D. Poor nitrogen content

Answer: A

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

- A. Tertiary production
- B. Gross production (GP)
- C. Net production (NP)
- D. Secondary production

Answer: B

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

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

Answer: C

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118. Which one of the following pairs is mismatched.?

A. Savanna-Acacia trees

B. Coniferous forest - Evergreen trees

C. Tundra- Permafrost

D. Prairies - Epiphytes

Answer: D



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119. Which one of the following is not used for construction of ecological pyramids ?

A. Rate of energy flow

B. Fresh weight

C. Dry weight

D. Number of individuals

Answer: B

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120. Assertion: Agriculture and aquacultures are man-maintained ecosystems.

Reason: All biotic and abiotic factors are managed by humans in these ecosystems.

A. If both Assertion and Reason are true and the reason is the correct explanation of the assertion, then mark (1).

B. If both Assertion and Reason are true but the reason is not the correct explanation of the assertion, then mark (2)

C. If Assertion is true but Reason is false, then mark (3).

D. If both Assertion and Reason are false, then mark (4)

Answer: A

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121. Assertion: Warm and moist environment can enhance the rate of decomposition

Reason: Warm and moist climate leads to create anaerobic condition which promotes decomposition.

A. If both Assertion and Reason are true and the reason is the correct explanation of the assertion, then mark (1).

B. If both Assertion and Reason are true but the reason is not the correct explanation of the assertion, then mark (2)

C. If Assertion is true but Reason is false, then mark (3).

D. If both Assertion and Reason are false, then mark (4)

Answer: C

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122. Primary consumers in detritus food chain are

A. If both Assertion and Reason are true and the reason is the correct explanation of the assertion, then mark (1).

B. If both Assertion and Reason are true but the reason is not the correct explanation of the assertion, then mark (2)

C. If Assertion is true but Reason is false, then mark (3).

D. If both Assertion and Reason are false, then mark (4)

Answer: D



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123. Assertion: Ecological pyramids cannot explain all vital functions of any ecosystem.

Reason: Pyramids actually do not explain the role of organisms working at more than one trophic level.

- A. If both Assertion and Reason are true and the reason is the correct explanation of the assertion, then mark (1).
- B. If both Assertion and Reason are true but the reason is not the correct explanation of the assertion, then mark (2)
- C. If Assertion is true but Reason is false, then mark (3).
- D. If both Assertion and Reason are false, then mark (4)

Answer: B



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124. Assertion: Successional process starts only in those areas where no living organisms ever existed.

Reason: These areas are not supported by physical environmental conditions.

- A. If both Assertion and Reason are true and the reason is the correct explanation of the assertion, then mark (1).
- B. If both Assertion and Reason are true but the reason is not the correct explanation of the assertion, then mark (2)
- C. If Assertion is true but Reason is false, then mark (3).
- D. If both Assertion and Reason are false, then mark (4)

Answer: D

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Archives Choose The Correct Option

1. Which one of the following ecosystem types has the highest annual net primary productivity

- A. Temperate deciduous forest
- B. Tropical rain forest
- C. Tropical deciduous forest
- D. Temperate evergreen forest

Answer: B

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2. Quercus species are the dominant component in

- A. Scrub forests
- B. Tropical rain forests
- C. Temperate deciduous forests
- D. Alpine forests

Answer: C

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3. Study the following statements regarding food chains and select the correct ones.

(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.

A) i and ii B) ii and iii C) i and iii D) iii and iv

A. a, c

B. a, b

C. b, c

D. c, d

Answer: C



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4. The slow rate of decomposition of fallen logs in nature is due to their

- A. (a) Anaerobic environment around them
- B. (b) Low cellulose content
- C. (c) Low moisture content
- D. (d) Poor nitrogen content

Answer: A

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

- A. Oceans
- B. Forests

C. Grasslands

D. Agroecosystems

Answer: A

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

A. Frog

B. Phytoplankton

C. Fish

D. Zooplankton

Answer: A

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7. The correct sequence of plants in a hydrosere is

A.

oak → Lantana → Volvox → Hydrilla → Pistia → Scirpus

B.

Oak → Lantana → Scirpus → Pistia → Hydrilla → Volvox

C.

Vokox → Hydrilla → Pistia → Scirpus → Lantana → Oak

D.

Pistia → Volvox → Scirpus → Hydrila → Oak → Lantana

Answer: C



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8. Study the four statements given below and select the two correct ones out of them.

(i) A lion eating a deer and a sparrow feeding on grain are ecologically similar in being consumers.

(ii) Predator star fish *Pisaster* helps in maintaining species diversity of some invertebrates .

(iii) Predators ultimately lead to the extinction of prey species.

(iv) Production of chemicals such as nicotine, strychnine by the plants are metabolic disorders.

A. A and D

B. A and B

C. B and C

D. C and D

Answer: B





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

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

Answer: A



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

A. Stratification

B. Natality

C. Mortality

D. Sex-ratio

Answer: A

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





Answer: B

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

A. It is upright in shape.

B. Its base is broad.

C. It shows energy content of different trophic level organisms

D. It is inverted in shape.

Answer: D



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13. Mass of Living matter at a trophic level in an area at any time is called

- A. Standing state
- B. Standing crop
- C. Detritus
- D. Humus

Answer: B



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14. 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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15. In an area where DDT had been used extensively the population of birds declined significantly because

- A. Earthworms in the area got eradicated

B. Crobes were feeding exclusively on birds

C. Many eggs laid by birds did not hatch

D. Birds stopped laying eggs

Answer: C



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16. The upright pyramid of number is absent in

A. Forest

B. Lake

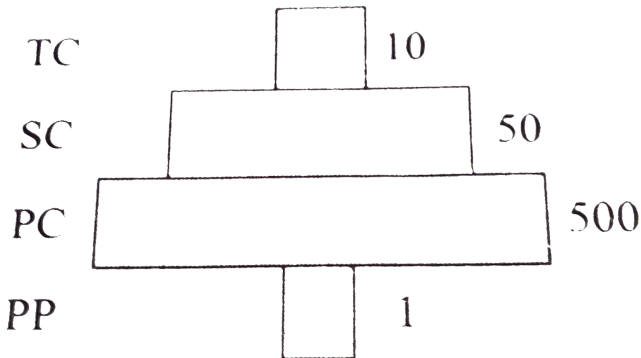
C. Grassland

D. Pond

Answer: D



17. In the pyramid of numbers find out the correct possibilities



- A. Level PP is phytoplanktons in sea and top level TC is whale.
- B. Level one PP is pipal trees and level 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: A

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

- A. Phosphorus cycle

B. Nitrogen cycle

C. Carbon cycle

D. Sulfur cycle

Answer: A



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20. Pheretima and its close relatives derive nourishment from

A. Soil insects

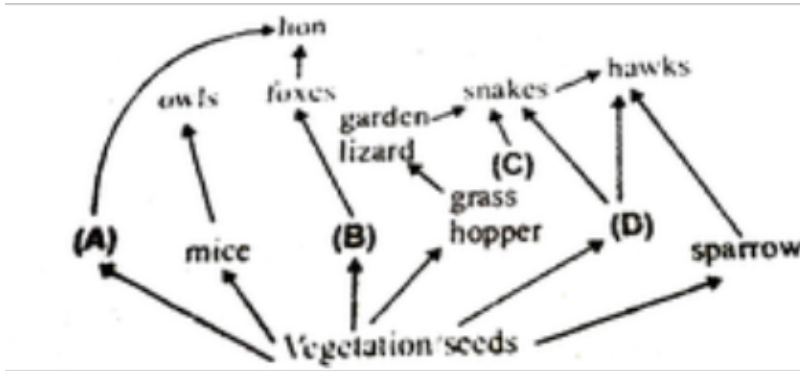
B. Small pieces of fresh fallen leaves of maize, etc

C. Sugarcane roots

D. Decaying fallen leaves and soil organic matter

Answer: D

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



- A. (a) Deer (b) Rabbit (c) Front (d) Rat
- B. (a) Dog (b) Squirrel (c) Bat (d) Deer
- C. (a) Rat (b) Dog (c) Tortoise (d) Crow
- D. (a) Squirrel (b) Cat (c) Rat (d) Pigeon

Answer: A

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

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

Answer: B

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23. Secondary productivity is rate of formation of new organic matter by

- A. Producer
- B. Parasite
- C. Consumer
- D. Decomposer

Answer: C

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24. Which one of the following processes during decomposition is correctly de- scribed

- A. Fragmention - Carried out by organisms such as earthworm
- B. Humification- Leads to the accumulation of a dark coloured substance humus which undergoes microbial action at a very fast rate

C. Catabolism - Last step in the decomposition underfully anaerobic condition

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

Answer: A

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25. Natural reservoir of phosphorus is

A. Sea water

B. Animal bones

C. Rock

D. Fossils

Answer: C



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26. Match the following and select the correct option.

(a) Earthworm

(b) Succession

(c) Ecosystem service

(d) Population growth

(i) Pioneer species

(ii) Detrivore

(iii) Natality

(iv) Pollination

A. (a) (b) (c) (d)
(i) (ii) (iii) (iv)

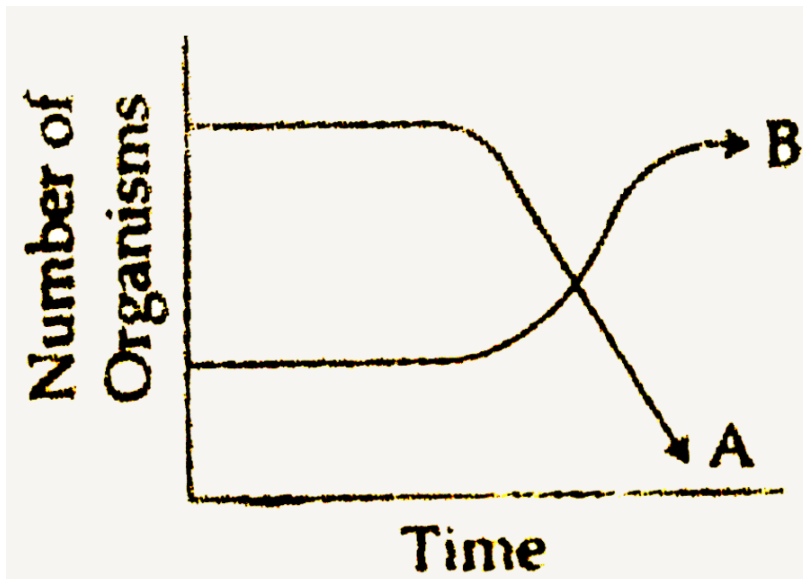
B. (a) (b) (c) (d)
(iv) (i) (iii) (ii)

- C. (a) (b) (c) (d)
(iii) (ii) (iv) (i)
- D. (a) (b) (c) (d)
(ii) (i) (iv) (iii)

Answer: D

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27. The following graph depicts changes in two populations (A and B) of herbivores in a grassy field. A possible reason for these changes is that



- A. Population A consumed the members of population B
- B. Both plant populations in this habitat decreased
- C. Population B competed more successfully for food than population A
- D. Population A produced more offspring than population B

Answer: C

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28. Secondary Succession takes place on/ in

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

Answer: C



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

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

Answer: C



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

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

Answer: A

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

- A. Pyramid

B. Divergence

C. Stratification

D. Zonation

Answer: A



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32. Rachel Carson's famous book "Silent Spring" is related to

A. Ecosystem management

B. Pesticide pollution

C. Noise pollution

D. Population explosion

Answer: C





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33. Most animals that live in deep oceanic waters are

- A. Detritivores
- B. Primary consumers
- C. Secondary consumers
- D. Tertiary consumers

Answer: C



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34. An association of individuals of different species living in the same habitat and having functional interactions is : (

- A. Population

B. Ecological niche

C. Biotic community

D. Ecosystem

Answer: C



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

- A. Gaseous nutrient cycle Sulphur and Phosphorus
Sedimentary nutrient cycle Carbon and Nitrogen
- B. Gaseous nutrient cycle Sedimentary nutrient cycle
Carbon and Nitrogen Sulphur and Phosphorus
- C. Gaseous nutrient cycle Carbon and Sulphur
Sedimentary nutrient cycle Nitrogen and Phosphorus
- D. Gaseous nutrient cycle Nitrogen and Sulphur
Sedimentary nutrient cycle Carbon and Phosphorus

Answer: B

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36. Which of the following is a characteristic feature of cropland ecosystem

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

Answer: B

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37. The term ecosystem was coined by

- A. E.P. Odum
- B. A.G. Tansley
- C. E. Haeckel
- D. E. Warming

Answer: B



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

- A. Lichens
- B. Liverworts

C. Mosses

D. Green algae

Answer: A

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39. The primary producers of the deep-sea hydrothermal vent ecosystem are:

A. Blue-green algae

B. Coral reefs

C. Green algae

D. Chemosynthetic bacteria

Answer: A

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40. Which of the following is correctly matched?

- A. Parthenium hysterophorus -Threat to biodiversity
- B. Stratification - Population
- C. Aerenchyma - Opuntia
- D. Age pyramid - Biome

Answer: A



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41. Which of the following National Parks is home to the famous musk deer or hangul

- A. Eaglenest Wildlife Sanctuary Arunachal Pradesh

B. Dachigam National Park, Jammu & Kashmir

C. Keibul Lamjao National Park, Manipur

D. Bandhagarh National Park, Madhya Pradesh

Answer: B



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