

Chapter 6 Principles of Ecology

Arrange the correct sequence of ecological hierarchy starting from lower to higher level.

- a) Individual organism → Population Landscape → Ecosystem
b) Landscape → Ecosystem → Biome → Biosphere
c) community → Ecosystem → Landscape → Biome
d) Population → organism → Biome → Landscape

Ecology is the study of an individual species is called

- i) Community ecology ii) Autecology
iii) Species ecology iv) Synecology
a) i only b) ii only
c) i and iv only d) ii and iii only

A specific place in an ecosystem, where an organism lives and performs its functions is

- a) habitat b) niche
c) landscape d) biome

Read the given statements and select the correct option.

- i) Hydrophytes possess aerenchyma to support themselves in water.
ii) Seeds of *Viscum* are positively photoblastic as they germinate only in presence of light.
iii) Hygroscopic water is the only soil water available to roots of plant growing in soil as it is present inside the micropores.
iv) High temperature reduces use of water and solute absorption by roots.
a) i, ii, and iii only b) ii, iii and iv

- c) ii and iii only d) i and ii only



Which of the given plant produces cardiac glycosides?

- a) *Calotropis* b) *Acacia*
c) *Nepenthes* d) *Utricularia*

Read the given statements and select the correct option.

- i) Loamy soil is best suited for plant growth as it contains a mixture of silt, sand and clay.
ii) The process of humification is slow in case of organic remains containing a large amount of lignin and cellulose.
iii) Capillary water is the only water available to plant roots as it is present inside the micropores.
iv) Leaves of shade plant have more total chlorophyll per reaction centre, low ratio of chl *a* and chl *b* are usually thinner leaves.
a) i, ii and iii only b) ii, iii and iv only
c) i, ii and iv only d) ii and iii only

Read the given statements and select the correct option.

Statement A : Cattle do not graze on weeds of *Calotropis*.

Statement B : *Calotropis* have thorns and spines, as defense against herbivores.

- a) Both statements A and B are incorrect.
b) Statement A is correct but statement B is incorrect.
c) Both statements A and B are correct but statement B is not the correct explanation of statement A.
d) Both statements A and B are correct and statement B is the correct explanation of statement A.

In soil water available for plants is

- a) gravitational water
b) chemically bound water
c) capillary water
d) hygroscopic water

9. Read the following statements and fill up the blanks with correct option.

i) Total soil water content in soil is called _____

ii) Soil water not available to plants is called _____

iii) Soil water available to plants is called _____

	(i)	(ii)	(iii)
(a)	Holard	Echard	Chresard
(b)	Echard	Holard	Chresard
(c)	Chresard	Echard	Holard
(d)	Holard	Chresard	Echard

10. Column I represent the size of the soil particles and Column II represents type of soil components. Which of the following is correct match for the Column I and Column II.

Column - I	Column - II
I). 0.2 to 2.00 mm	i) Slit soil
II) Less than 0.002 mm	ii) Clayey soil
III) 0.002 to 0.02 mm	iii) Sandy soil
IV) 0.002 to 0.2 mm	iv) Loamy soil

	I	II	III	IV
a)	ii	iii	iv	i
b)	iv	i	iii	ii
c)	iii	ii	i	iv
d)	None of the above			

11. The plant of this group are adapted to live partly in water and partly above substratum and free from water

a) Xerophytes b) Mesophytes
c) Hydrophytes d) Halophytes

12. Identify the A, B, C and D in the given table

Interaction	Effects on species X	Effects on species Y
Mutualism	A	(+)
B	(+)	(-)
Competition	(-)	C
D	(-)	0

	A	B	C	D
a)	(+)	Parasitism	(-)	Amensalism
b)	(-)	Mutualism	(+)	Competition
c)	(+)	Competition	(0)	Mutualism
d)	(0)	Amensalism	(+)	Parasitism

13. *Ophrys* an orchid resembling the female of an insect so as to able to get pollinated is due to phenomenon of

a) Myrmecophily b) Ecological equivalents
c) Mimicry d) None of these

14. A free living nitrogen fixing cyanobacterium which can also form symbiotic association with the water fern *Azolla*

a) *Nostoc* b) *Anabaena*
c) *Chlorella* d) *Rhizobium*

15. Pedogenesis refers to

a) Fossils b) Water c) Population d) Soil

16. Mycorrhiza promotes plant growth by

a) Serving as a plant growth regulators
b) Absorbing inorganic ions from soil
c) Helping the plant in utilizing atmospheric nitrogen
d) Protecting the plant from infection

17. Which of the following plant has a non-succulent xerophytic and thick leathery leaves with waxy coating

a) *Bryophyllum* b) *Ruscus*
c) *Nerium* d) *Calotropis*

18. In a fresh water environment like pond, rooted autotrophs are

a) *Nymphaea* and *typha*
b) *Ceratophyllum* and *Utricularia*
c) *Wolffia* and *pistia*
d) *Azolla* and *lemna*

19. Match the following and choose the correct combination from the options given below:

Column I (Interaction)	Column II (Examples)
I. Mutualism	i). <i>Trichoderma</i> and <i>Penicillium</i>
II. Commensalism	ii). <i>Balanophora</i> , <i>Orobancha</i>

III. Parasitism	iii). <i>Orchids</i> and <i>Ferns</i>
IV. Predation	iv). <i>Lichen</i> and <i>Mycorrhiza</i>
V. Amensalism	v). <i>Nepenthes</i> and <i>Diaonaea</i>

	I	II	III	IV	V
a)	i	ii	iii	iv	v
b)	ii	iii	iv	v	i
c)	iii	iv	v	i	ii
d)	iv	iii	ii	v	i

20. Strong, sharp spines that get attached to animal's feet are found in the fruits of

- a) *Argemone* b) *Ecballium*
c) *Heritier* d) *Crossandra*

21. Sticky glands of *Boerhaavia* and *Cleome* support

- a) Anemochory b) Zoochory
c) Autochory d) Hydrochory