Organisms and Populations

Question 1.

The prickly pear cactus became unusually abundant after its introduction in Australia, because it

- (a) had no coevolved herbivores
- (b) formed new mycorrhizal association
- (c) lost its thorns
- (d) all of these.

Answer:

(a) had no coevolved herbivores

Question 2.

Why you never see cattle or goats browsing on weed Calotropis?

- (a) The plant produces highly poisonous tannins.
- (b) The plant produces quinine which is bitter in taste.
- (c) The plant produces poisonous cardiac glycosides.
- (d) The plant bears prickles.

Answer:

(c) The plant produces poisonous cardiac glycosides.

Question 3.

Which of the following is not an example of preypredator relationship?

- (a) Tiger eating a deer
- (b) Plant Nepenthes trapping an insect
- (c) Bacteria decomposing organic matter
- (d) Crocodile killing a man

Answer:

(c) Bacteria decomposing organic matter

Ouestion 4

Competitive exclusion principle stating that inferior species is eliminated eventually after prolonged competition was given by

- (a) Allen
- (b) Pearl-Verhulst
- (c) Gause
- (d) Darwin.

Answer:

(d) Darwin.

Ouestion 5.

Two different species cannot live for long duration in the same niche or habitat. This law is called

- (a) Allen's law
- (b) Glogerrule
- (c) Competitive exclusion principle
- (d) Weisman's theory.

Answer:

(b) Glogerrule





Question 6.

When two similar species live in the same area, they may evolve to become more different in order to

- (a) drive the other species to extinction
- (b) reduce competition
- (c) use up the other species resources
- (d) reduce genetic variation.

Answer:

(c) use up the other species resources

Question 7.

An interaction between two individuals where one is benefitted while the other is neither benefitted nor harmed is called as

- (a) predation
- (b) symbiosis
- (c) amensalism
- (d) commensalism.

Answer:

(d) commensalism.

Question 8.

Which of the following exhibits mutualism?

- (a) Mycorrhizae living on the roots of higher plants.
- (b) Wasps pollinating fig inflorescence.
- (c) Sea anemone often found on the shell of hermit crab.
- (d) All of these

Answer:

(d) All of these

Question 9.

The interdependent evolution of flowering plants and pollinating insects together is known as

- (a) mutualism
- (b) co-evolution
- (c) commensalism
- (d) co-operation.

Answer:

(b) co-evolution

Question 10.

Autocology is the

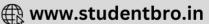
- (a) relation of heterogenous population to its environment
- (b) relation of an individual to its environment
- (c) relation of a community to its environment
- (d) relation of a biome to its environment.

Answer:

(a) relation of heterogenous population to its environment, (b) relation of an individual to its environment







Question 11.

Ecotone is

- (a) a polluted area
- (b) the bottom of a lake
- (c) a zone of transition between two communities
- (d) a zone of developing community.

Answer:

(c) a zone of transition between two communities

Question 12.

Basic unit of ecological hierarchy is

- (a) population
- (b) community
- (c) ecosystem
- (d) individual.

Answer:

(d) individual.

Question 13.

Several plant and animal species present together at a place constitute a

- (a) genus
- (b) population
- (c) biome
- (d) community.

Answer:

(d) community.

Question 14.

The branch of science which studies the interactions among organisms and between organisms and physical environment is called as

- (a) epidemiology
- (b) ecology
- (c) ethology
- (d) etiology

Answer:

(b) ecology

Question 15.

Niche overlap indicates

- (a) mutualism between two species
- (b) active cooperation between two species
- (c) two different parasites on the same host
- (d) sharing of one or more resources between the two species.

Answer:

(d) sharing of one or more resources between the two species.

Question 16.

Seasonal variations on Earth occur due to its

- (a) tilted axis
- (b) rotation around its own axis





(c) revolution around s

(d) both (a) and (c).

Answer:

(d) both (a) and (c).

Question 17.

Different biomes are formed due to annual variations in _____ over the earth's surface.

- (a) temperature
- (b) precipitation
- (c) incident solar radiation
- (d) all of these

Answer:

(d) all of these

Question 18.

Deserts, rainforest, tundra, etc, are examples of

- (a) community
- (b) biome
- (c) ecosystem
- (d) population.

Answer:

(d) population.

Question 19.

Characteristics of a terrestrical biome are strongly influenced by its

- (a) flora
- (b) climate
- (c) fauna
- (d) all of these.

Answer:

(b) climate

Question 20.

The key elements that determine differences in environmental conditions of different habitats include

- (a) temperature
- (b) light
- (c) soil
- (d) all of these.

Answer:

(d) all of these.

Question 21.

Biosphere is

- (a) a component in the ecosystem
- (b) composed of the plants present in the soil
- (c) life in the outer space
- (d) composed of all living organisms present on earth which interact with the physical environment.

Answer:







(d) composed of all living organisms present on earth which interact with the physical environment.

Question 22.

Ecological niche is

- (a) the surface area of the ocean
- (b) an ecologically adapted zone
- (c) the physical position and functional role of a species within the community
- (d) formed of all plants and animals living at the bottom of a lake.

Answer:

(c) the physical position and functional role of a species within the community

Ouestion 23.

Salt concentration (salinity) of the sea measured in parts per thousand is

- (a) 10 5
- (b) 30 70
- (c) 0 5
- (d) 30 37.

Answer:

(d) 30 - 37.

Ouestion 24.

Formation of tropical forests needs mean annual temperature and mean annual precipitation as

- (a) 18 25°C and 150 400 cm
- (b) 5 15°C and 50 100 cm
- (c) 30 50°C and 100 150 cm
- (d) 5 15°C and 100 200 cm.

Answer:

(a) 18 - 25°C and 150 - 400 cm

Question 25.

Which of the following forest plants controls the light conditions at the ground?

- (a) Lianas and climbers
- (b) Shrubs
- (c) Tall trees
- (d) Herbs

Answer:

(c) Tall trees

Ouestion 26.

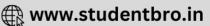
What parameters are used for tiger census in our country's national parks and sanctuaries ?

- (a) Pug marks only
- (b) Pug marks and faecal pellets
- (c) Faecal pellets only
- (d) Actual head counts

Answer:

(b) Pug marks and faecal pellets





Question 27.

Which of the following would necessarily decrease the density of a population in a given habitat?

- (a) Natality > mortality
- (b) Immigration > emigration
- (c) Mortality and emigration
- (d) Natality and immigration

Answer:

(c) Mortality and emigration

Question 28.

A protozoan reproduces by binary fission. What will be the number of protozoans in its population after six generations ?

- (a) 128
- (b) 24
- (c) 64
- (d) 32

Answer:

(c) 64

Question 29.

Lichens are the associations of

- (a) bacteria and fungus
- (b) algae and bacterium
- (c) fungus and algae
- (d) fungus and virus.

Answer:

(c) fungus and algae

Question 30.

Which of the following is a partial root parasite?

- (a) Sandal wood
- (b) Mistletoe
- (c) Orobanche
- (d) Ganoderma

Answer:

(a) Sandal wood

Question 31.

Which one of the following organisms reproduces sexually only once in its life time?

- (a) Banana plant
- (b) Mango
- (c) Tomato
- (d) Eucalyptus

Answer:

(c) Tomato

Question 31.

Which of the following is not a part of an organism's physical environment?

(a) Temperature







(b) Light (c) Other organisms (d) Humidity Answer: (c) Other organisms Question 32. Mango trees do not and cannot grow in temperate regions. The most important environmental factor responsible for it is (a) soil (b) temperature (c) water (d) light. Answer: (b) temperature Ouestion 33. Temperature is considered as the most ecologically relevant environmental factor because it affects of organisms. (a) physiology (b) morphology (c) geographical distribution (d) all of these Answer: (d) all of these Question 34. Organisms that can tolerate a wide range of salt concentration are termed as (a) stenosaline (b) stenohaline (c) euryhaline (d) eurysaline. Answer: (c) euryhaline Question 35. A freshwater organism cannot survive in a water body that has greater _____ than its original habitat. (a) oxygen content

- (b) depth
- (c) salt concentration
- (d) water clarity

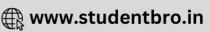
Answer:

(c) salt concentration

Question 36.

A place has very scanty rainfall, the dominant plants there may be

- (a) Opuntia
- (b) Nymphaea
- (c) Asparagus



(d) both (a) and (c).

Answer:

(d) both (a) and (c).

Ouestion 37.

Many animals use the diurnal and seasonal variations in light intensity and photoperiod to time their

- (a) migration
- (b) reproductive activities
- (c) suspension
- (d) all of these.

Answer:

(d) all of these.

Question 38.

Nature and properties of soil depends upon

- (a) climate
- (b) weathering process
- (c) development of soil
- (d) all of these.

Answer:

(d) all of these.

Question 39.

Water holding capacity of the soil depends upon

- (a) chemical composition of soil
- (b) particle size of soil
- (c) aggregation of soil particles
- (d) all of these.

Answer:

(d) all of these.

Question 40.

An animal that can survive at 10°C and 40°C both, can be placed under the category of

- (a) conformers
- (b) regulators
- (c) migratory organisms
- (d) modifiers.

Answer:

(b) regulators

Question 41.

Organisms that can maintain a constant internal temperature are called as

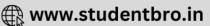
- (a) homoiothermic
- (b) poikilothermic
- (c) oligothermic
- (d) heterothermic.

Answer:

(a) homoiothermic







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When we are in a hot room, we sweat profusely. It is a _____ means of maintaining homeostasis.

- (a) morphological
- (b) physiological
- (c) behavioural
- (d) none of these

Answer:

(b) physiological

Question 43.

Which of the following is an important adaptation of animals to the cold climate?

- (a) Thin layer of body fat
- (b) Aestivation
- (c) Increased tendency to shiver
- (d) Reduced surface area to volume ratio

Answer:

(d) Reduced surface area to volume ratio

Question 44.

When organisms change their location to escape from harsh environment, it is called as

- (a) hibernation
- (b) vernalisation
- (c) migrtion
- (d) aestivation.

Answer:

(c) migrtion

Question 45.

Organisms show migration in order to avoid unfavourable conditions of

- (a) temperature
- (b) food availability
- (c) precipitation
- (d) all of these.

Answer:

(d) all of these.

Question 46.

Which of the following is an incorrect match?

- (a) Bacteria Thick walled resting spores
- (b) Bear Hibernation
- (c) Zooplanktons Diapause
- (d) Lizard Aestivation

Answer:

(d) Lizard - Aestivation

Question 47.

Adaptation may be

- (a) behavioural
- (b) morphological





- (c) physiological
- (d) all of these.

Answer:

(d) all of these.

Question 48.

_____ is an attribute of the organism (morphological, physiological, behavioural) to survive and reproduce in its habitat.

- (a) Migration
- (b) Hibernation
- (c) Adaptation
- (d) Homeostasis

Answer:

(c) Adaptation

Question 49.

Opuntia has spine like leaves which help in

- (a) reducing the rate of transpiration
- (b) increasing the rate of transpiration
- (c) increasing the rate of photosynthesis
- (d) reducing the rate of photosynthesis.

Answer:

(a) reducing the rate of transpiration

Ouestion 50.

generally have shorter ears and limbs to minimise heat loss.

- (a) Allen's
- (b) Berger's
- (c) Borge's
- (d) Powell's

Answer:

(a) Allen's

Question 51.

Which of the following statement is correct with regard to Bergmann's rule?

- (a) Animals of colder area have large size than of hot areas.
- (b) Fish of colder area have large size.
- (c) Birds of colder areas have narrow wings.
- (d) Animals of colder areas possess thick fur.

Answer:

(a) Animals of colder area have large size than of hot areas.

Question 52.

A behavioural strategy of a daptation called echolocation is found in

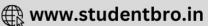
- (a) bats
- (b) butterfly
- (c) praying mantis
- (d) arctic tern.

Answer:

(a) bats







Question 53.

Parameters related to age structure include

- (a) fecundity (birth rate)
- (b) generation time
- (c) death rate
- (d) all of these.

Answer:

(d) all of these.

Question 54.

Percentage of individuals of a given age group in a given population is called as

- (a) age distribution
- (b) age density
- (c) age graph
- (d) age curve

Answer:

(a) age distribution

Question 55.

If the age distribution is plotted for a population, the resulting structure is called as

- (a) age graph
- (b) age curve
- (c) age pyramid
- (d) age diagram.

Answer:

(c) age pyramid

Question 56.

Which of the following factors has a negative effect on the population growth rate?

- (a) Emigration
- (b) Immigration
- (c) Natality
- (d) Fecundity

Answer:

(a) Emigration

Question 57.

Which of the following factors influence population density under normal conditions?

- (a) Deaths
- (b) Immigration
- (c) Emigration
- (d) Both (a) and (c)

Answer:

(a) Deaths

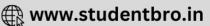
Question 58.

Exponential growth is observed in a population when

- (a) resources in the habitat are unlimited
- (b) each species has the ability to realise its full innate potential
- (c) both (a) and (b)







(d) none of these.

Answer:

(c) both (a) and (b)

Question 59.

Which of the following equations correctly represents the exponential population growth curve ?

- (a) dN/dt = rN
- (b) dN/dt = rN
- (c) $N_t = N_0 e^{\Pi}$
- (d) Both (a) and (c)

Answer:

(d) Both (a) and (c)

Question 60.

The maximum possible number of individuals that a habitat can support is called its

- (a) fecundity
- (b) surviving ability
- (c) carrying capacity
- (d) biotic potential.

Answer:

(c) carrying capacity

Question 61.

Which of the following equations correctly represents Verhulst-Pearl logistic growth?

- (a) dN/dt = rN
- (b) dN/dt =
- (c) dN/dt =
- (d) dN/dt =

Answer:

(a) dN/dt = rN

Question 62.

The population growth is generally described by the following equation:

What does V represent in the given equation ?

- (a) Population density at time't'
- (b) Intrinsic rate of natural increase
- (c) Carrying capacity
- (d) The base of natural logarithm

Answer:

(b) Intrinsic rate of natural increase

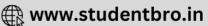
Question 63.

Species interaction with negative influence on both is referred to as

- (a) amensalism
- (b) mutalism
- (c) commensalism
- (d) competition.







Answer: (d) competition.

