#### NEET REVISION SERIES

ORGANISM AND POPULATION

Revise Most Important Questions to Crack NEET 2020



Q-1 - 14932982



termed as

(A) stenosaline

(B) stenohaline

(C) euryhaline

(D) eurysaline



#### CORRECT ANSWER: C

## SOLUTION:

## Euryhaline organisms are able to tolerate a wide range

of salt concentration (or salinities). E.g., Poecilia

sphenops is a fishthat can live in fresh water, brackish

water or salt water.

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Q-2 - 14933002

Organisms that can maintain a constant internal temperature are

called as

(A) homoiothermic

(B) poikilothermic

(C) oilgothermic

## (D) heterothermic

## **CORRECT ANSWER: A**

#### SOLUTION:

Animals with constant body temperature are called homoiotherms. They have insulating coat to check the loss of body heat. This coat consists of hair in most mammals, blubber (subcutaneous fat) in whales and seals and feathers in birds. Shivering warms up the body and perspiration cools down the body of these animals when required. These are also termed endotherms as they regulate their body temperature by physiological means and maintain more or less constant internal temperature. Poikilotherms are cold-blooded animals which are unable to regulare their body temperature which are unable to regulate their body temperature which changes with change in temperature of

## environment e.g., fish, frog, lizards. They are also called

as ectotherms.



Total number of individuals of a species per unti area and per unit time is called

- (A) population size
- (B) population density
- (C) demography
- (D) population dynamics

CORRECT ANSWER: B

SOLUTION:

Population density is the number of individuals present

## per unti area or volume at a given time. If the total

### number of individuals is represented by letter N and the

number of units of space (area for land organisms and

volume for water organisms) by letter S, then the

population density D can be represented as D = N / S.

For instance, number of animals per square kilometre,

number of trees per acre in a forest, etc.

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Q-4 - 14933065

Which of the followinf is not an example of using relative density to

measure population density in a certain area?

(A) Counting pugmarks of tigers to find population density to tigers in a forest.

## (B) Counting the number of fishes caught in a trap to find

## population density of fishes in a lake

## (C) Measuring biomass of bacterial culture to find out

### population density of bacteria in a petri dish.

(D) Measuring biomass of phytoplanktons in 1 c c water

to find out population density of phytoplanktons in a lake.

## CORRECT ANSWER: C

# SOLUTION:

Sometimes, for certain ecological investigations, there is no need to know the absolute population densities. Relative densities serve the purpose equally well. In this case, population size is indirectly estimated without actually counting them. For example, the number of fishes caught per trap is good enough measure of its total population density in the lake. The tiger census in our National parks adn tiger reserves is often bases on

## pug marks (animal's foot print) and faecal pellets.



Many freshwater organisms cannot live for long in seawater

because the surrounding water will be \_\_\_\_\_\_to body cells and

may occur.

(A) hypertonic, exosmosis

(B) hypertonic, endosmosis

(C) hypotonic, exosmosis

(D) hypotonic, ednosmosis

**CORRECT ANSWER: A** 

SOLUTION:

### In sea water, the surrounding water is salty and hence

## hypertonic to the body cells. Thus, water will move from

## its higher concentration (in body) to its lower

concentration (sea water) leading to exosmosis.

Therefore, manu fresh-water animals cannot live for long

in sea water and vice versa.

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Q-6 - 34341838

Which of the following is correct for r-selected species ?

(A) Large number of progeny with small size

(B) Large number of progeny with large size

(C) Small number of progeny with small size

(D) Small number of progeny with large size

#### **CORRECT ANSWER: A**

### SOLUTION:

I-selected are the species having the ability to produce

large number of progenies (offsprings) with small size.

The population growth of these species is a function of

biotic potential. Hence, option (a) is correct.

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Q-7 - 14933001

The given graph represents how three different living organisms

(X,Y and Z) cope with the external environmental conditions. Study

the graph and select the correct option regarding X,Y and Z.



- (A) X could be a mammal
- (B) Y could be a bird
- (C) Z could be a mammal
- (D) X could be a bird

## **CORRECT ANSWER: B**



It is much easier for a small animal to run uphill than for a large animal, because:

(A) smaller animals have a higher metabolic rate

(B) small animals have a lower  $O_2$  requirement the efficiency of muscles in large animals is less than in the

small animals

(C) it is easier to carry a small body weight

CORRECT ANSWER: A

SOLUTION:

### Basal metabolic rate is inversely proportional to body

## size. So, smaller animals have a higher metabolic rate,

## thus have quick and more energy required to go up the

hills.



Q-9 - 34341910

Organisms that can tolerate a wide range of salt concentration are

termed as

(A) stenohaline

(B) euryhaline

(C) anadromous

(D) catadromous

**CORRECT ANSWER: A** 

## SOLUTION:

## Animals that can tolerate only a small range of salinity

are stenohaline.



Q-10 - 14933006

Which of the following statements is incorrect?

(A) Osmoconformers are able to maintain osmotic concentration of their cells by either physiological or behavioural means.

(B) Most vertebrates, except the birds and mammals are unable to thermoregulate.

(C) Success of mammals is mainly due to their ability to

### thermoregulate and live comfortably whether they are in

### Antarctica or in Sahara desert.

## (D) None of these

SOLUTION:

Osmoconformers are the organisms that change the osmotic concentration of their body with the change in ambient conditions. Their body fluids are in osmotic balance with the environment. For many marine invertebrates the osmolarity and ionic concentrations of their body fluids are similar to those of the sea water in which they live.



#### Most animals are tree dwellers in a :

## (A) Temperate deciduous forest

(B) Tropical rain forest

(C) Coniferous forest

(D) Thorn woodland

CORRECT ANSWER: B

SOLUTION:

Most animals are tree dwellers in a tropical rain forest.

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Q-12 - 34341841

A biologist studied the population of rats in a barn. He found that

the average natality was 250, average mortality 240, immigration 20

## and emigration 30. The net increase in populations is :

(A) 10

(B) 15

(C) 5

(D) zero

CORRECT ANSWER: D

SOLUTION:

A population has birth rates and death rates. The rates are expressed as change in numbers (increase or decrease) with respect to members of the population.



In this case, the net increases in population will be zero. Because Birth rate (B)+Immigration (I)-Death rate(D)+Emmigration(I)=Density of population. Therefore, Density=[250+20]-[240+30]=0



#### Q-13 - 34341857

A high density of elephant population in an area can result in

(A) mutualism

(B) intraspecific competition

(C) interspecific competition

(D) predation on one another

CORRECT ANSWER: B

SOLUTION:

Intraspecific competition is an imprtant density

dependent factor regulating populations. Intraspecific

competition occurs between the members of same

## population.

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#### Q-14 - 34341897

A species restricted to a given area is

(A) sibling

(B) endemic

(C) sympatric

(D) allopatric

CORRECT ANSWER: B

SOLUTION:

Species restricted to small areas are called endemic,

approximately 29% of dicots in the Himalayas are

endemic.



#### Q-15 - 14933078

Which of the following equations corretly represents the

exponential population growth curve ?

(A) dN/dt = rN(B) dN/dt  $= rN\left(\frac{K-N}{C}\right)$ (C)  $N_t = N_0 e^{rt}$ 

(D) Both (a) and (c)

## CORRECT ANSWER: D

SOLUTION:

## If any species is flourishing under unlimited resources, it

## would reach exponential growth which can be depiected



Where, N = population density at time t = r =

intrinsic rate of natural increase. If we derive the integral form of the exponential growth equation, it can be written

as

 $N_t = N_0 e^{rt}$ 

Where  $N_t =$  population density after time  $t, N_0 =$ 

population density at time zero, r = intrinsic rate of

natural increase, e is the base of natural logarithm.



Q-16 - 53753465

Tight one-to-one relationship between plant and pollinator is found

in

## (A) Fig and wasp

## (B) Yucca and moth

(C) Amorphophallus and pollinator

(D) All of the above

CORRECT ANSWER: D

SOLUTION:

Tight one -to-one relationship between plant and

pollinator is found in fig-wasp, yucca-moth and

Amorphophallus-pollinator.



Q-17 - 34341872

Praying mantis is a good example of

## (A) Mullerian mimicry

## (B) warning colouration

(C) social insects

(D) camouflage

CORRECT ANSWER: C

SOLUTION:

Praying mantis (Mantis religiosa) is a large social insect. It has small triangular head, a long prothorax and an abdomen consisting of ten segments. The wings are well developed and the pincer-like forelegs are modified for grasping prey. It usually inhabits plantation areas. It destroys certain harmful insects so, it is useful.



#### Q-18 - 53753416

## Abundance of a species population within its habitat is

(A) Absolute density

(B) Regional density

(C) Relative density

(D) Niche density

CORRECT ANSWER: D

SOLUTION:

Abundance of a species population withint its habitat is

niche density.

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Q-19 - 14933094

## Which of the following is an advantage of predation?

## (A) It serves as conduits for energy transfer across

trophic levels.

(B) It keeps population of organisms of lower trophic level under control.

(C) Predators help in maitaining species diversity in a community, by reducing the intensity of competition among competing prey species.

(D) All of these

CORRECT ANSWER: D

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Q-20 - 53753456

To complete its life-cycle human liver fluke depends on

## (A) One intermediate host – snail

## (B) One intermediate host — snail

(C) Two intermediate hosts – snail and sheep

(D) Two intermediate hosts – snail and fish

CORRECT ANSWER: D

SOLUTION:

To complete its life-cycle human liver fluke depends on

two intermediate hosts-a snail and a fish.

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Q-21 - 34341895

Temperature changes in the environment affect most of the animals

which are

## (A) homeothermic

## (B) aquatic

(C) poikilothermic

(D) desert living

CORRECT ANSWER: C

SOLUTION:

Poikilothermy (cold bloodedness) is a condition of any animal whose body temperature fluctuates considerably with that of its environment. Homeothermy, on the other hand, is the quality of maintaining a constant body temperature.

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#### Q-22 - 34341833

## Gause's principle of competitive exclusion states that:

## (A) Competition for the same resources excludes

species having different food preferences

(B) No two species can occupy the same niche indefinitely for the same limiting resources

(C) Larger organisms exclude samller ones through competition

(D) More abundant species will exclude the less abundant species through competition

CORRECT ANSWER: B

SOLUTION:

Gause's principle of competitive exclusion states that no

two species can occupy the same niche indefinitely for

## the same limiting resources

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Q-23 - 34341854

Reduction in vascular tissue mechanical tissue and cuticle is

characteristic of

(A) xerophytes

(B) mesophytes

(C) epiphytes

(D) hydrophytes

CORRECT ANSWER: D

SOLUTION:

In hydrophytes, vascular tissue and mechanical tissue

are reduced. Cuticle is either completely absent or if

## present, it is thin and poorly developed. In xerophytes,

## cuticle is heavy and well developed. Vascular tissue and

### mechanical tissue are well developed and differentiated.

## In mesophytes, cuticle in aerial part is moderately

developed. Vascular and mechanical tissues are fairly

develpoed and well differentiated.



Q-24 - 53753417

Two opposite forces operating in growth and development of every

population. One of them has ability to reproduce at a given rate. The

opposing force is

(A) Morbidity

(B) Fecundity

(C) Biotic potential

## (D) Environmental resistance

## CORRECT ANSWER: D

#### SOLUTION:

Two opposite forces operating in growth and

development of every populations. One of them has

ability to reproduce at a given rate. The opposing force is

environmental resistance.



Q-25 - 14933050

The age structures of a population influences population growth

because

(A) younger females have more offsprings than do older females

### (B) different ae groups have different reproductive

capabilities

## (C) more is the number of immature individuals, slower

## is the growth of population

(D) a shorter generation time results is slower population

growth.

CORRECT ANSWER: B

SOLUTION:

Different age groups have different reproductive capabilities. Pre-reproductive individuals are the young individuals which will enter the reproductive age after some time. They are the potential source of increas in population. Reproductive individuals are the ones which are actually adding neq members to the population. Post-reproductive individuals are older individuals which

no longer take part in reproduction.



#### Q-26 - 53753592

Roots play insignificant role in absorption of water in

(A) Pistia

(B) Pea

(C) Wheat

(D) Sunflower

**CORRECT ANSWER: A** 

SOLUTION:

Roots play insignificant role in absorption of water in

Pistia (a hydrophyte).

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#### Q-27 - 34341842

## Which one of the following processes during decomposition is

(A) Fragmentation-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 under

fully anaerobic condition

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

CORRECT ANSWER: A

### SOLUTION:

## Framentation is one of the steps during decoposition, in

#### which detritus is converted into small framents.

Humification leads to dark coloured amorphous substance called humus that is highly resistent to microbial action and undergoes decomposition at an extremely slow rate. Catabolism is the set of metabolic pathways that breaks down molecules into smaller units to release energy. Leaching refers to the loss of water soluble plant nutrients from the soil due to the rain and irrigation.



Q-28 - 53753408

Permanent decrease in population would occur due to

## (A) Migration

## (B) Natality

## (C) Emigration

# **CORRECT ANSWER: D**

SOLUTION:

Permanent decrease in population would occur due to

mortalit.

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Q-29 - 14933048

What does the shape of the given age pyramids (A to C) reflect

about the growth status of populations?

Post-reproductive







(A)
```
(A, B, C, D),
(Declining, Stable,
Expanding)
(B)
(A, B, C, D),
(Stable, Expanding,
Declining)
(C)
(A, B, C, D),
(Expading, Stable,
Declining)
(D)
(A, B, C, D),
(Declining,
Expanding, Stable)
```

CORRECT ANSWER: C



Q-30 - 53753442

Which one provide the evidence for the occurrence of competition

in nature?

- (A) Resource partioning
- (B) Competitive release
- (C) MacArthur experiment
- (D) All of the above

CORRECT ANSWER: B

SOLUTION:

Competitive release provide the evidence for the

occurrences of competition in nature.



### Q-31 - 14933028

Ice fish and Antartic fish remain active in extremely cold water due to

(A) development of thick layer of sub-cutaneous fat

(B) development of extra solute in body fluids

(C) development of ice nucleatinf protein in extra cellular spaces

(D) both (b) and (c)

CORRECT ANSWER: D

SOLUTION:

Ice fish or Antarctic fish remains active even in extermely

## cold sea water due to cold hardiness. Cold hardiness is

## achieved by developing extra solutes in the body fluids

## and special ice nucleating proteins in the extracellular

## spaces. The extra solutes which prevent freezing are

glycerol and antifreeze proteins. They lower the freezing

point of body fluids.



Q-32 - 53753609

Amongst hydrophytes finely dissected leaves occur in

(A) Rooted floating leaved plants

(B) Submerged plants

(C) Emeged plants

(D) Free floating plants.

CORRECT ANSWER: B

## SOLUTION:

## Amongst hydrophytes finely dissected leaves occur in

submerged plants.



Q-33 - 14933007

- It can be said that some animals in their evoluationary development preferred to be conformers than regulators. Which of the following can be best suited reason for it?
  - (A) The metaboilc reactions of these organisms can occur at a very wide range of temperature
  - (B) Maintaining homeostasis is an energetically expensive process

## (C) The enzymes of these organisms are functional at

high temperatures

(D) Both (b) and (c)

SOLUTION:

Maintaining homeostasis, especially thermoregulation is energectically expensive for many organisms. During the course of evolution, the costs and benefits of maintaining a constant internal environment were taken into consideration and thus some species preferred to be conformers.

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Q-34 - 53753618

Which ecosystem has the maximum biomass?

## (A) Grassland ecosystem

## (B) Pond ecosystem

(C) Lake ecosystem

(D) Forest ecosystem

CORRECT ANSWER: D

SOLUTION:

Forest ecosystem has the maximum biomass.

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Q-35 - 34341831

Asymptote in a logistic growth curve is obtained, when

(A) The value of 'r' approaches zero



# (C) K > N

## (D) K < N

SOLUTION:

When K=N in a logististics growth curve, it is asymptote. In means a population growing in a habitat with limited resources show initially a lag phase, followed by phase of acceleration and deceleration and finally an asymptote, i.e. when the population density (N) reaches the carrying capacity (K)



Population growth curve is losistic, when responses are limiting the growth, here K is carrying capacity and N is population density.



### Q-36 - 14933009

## Very small animals are rerely found in polar regions because

(A) small animals have a larger surface area relative to their volume, so they lose body heat very fast when it is cold outside

(B) small animals have a smaller surface area relative to their volume, so they lose body heat very fast when it is cold outside.

(C) small body volume makes internal heat production very difficult

(D) none of these

CORRECT ANSWER: A

SOLUTION:

## Temperature affects the absolute size of an animal and

## th relative proportions of various boyd parts. Birds and

## mammals attain greater body size in cold regions than in

warm areas. But poikilotherms are smaller in cold region. This is Bergmann's rule. This is true because small animals have larger surface area relative to their volumne, so if they are in cold, they lose their body heat very fast. In cold climate, reduced surface area to volume ratio is ideal.

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Q-37 - 34341904

Which of the following pairs is correctly matched

(A) Uricotelism-Aquatic habitat

## (B) Parasitism-Intra -specific relationship

## (C) Excessive perspiration-Xeric adaptation

## (D) Stream lined body-Aquatic adaptation

SOLUTION:

The correct pair is stream lined body to aquatic

adaptation which helps these animals in swimming.

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Q-38 - 14933031

Which of the following statements 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 winds

## (D) Animals of colder areas posses thick fur

# SOLUTION:

Animals of cold areas posses thick coat of hair, scales, feathers and subcutaneous fat (Gloger's rule). Warm blooded animals (birds, mammals) of colder arease are of larger size as compared to those of warmer areas (Bergmann's rule). Extremities of mammals (ears, snout, tail, legs) of colder areas are shorter than those of warmer regions (Allen's rule). Birds have narrow wings in cold areas as compared to those of warmer regions (Ransch's rule). Fish of colder waters tend to have more vertebrae (Jordan's rule).



### Q-39 - 14933024

\_\_\_\_rule states that mammals from colder climates generally

have shorter ears and limbs to minimise heat loss.

(A) Allen's

(B) Berger's

(C) Borger's

(D) Powell's

CORRECT ANSWER: A

SOLUTION:

According to Allen's rule, in endothermal animals of

colder areas, the extermities like feet, tail, ears, etc, tend

## to be smaller as compared to their relatives in warmer

## regions. This minimises heat loss.



Which one of the following is categorised as a parasite in true sense

(A) The female Anopheles bites and sucks blood from humans

(B) Human foetus developing inside the uterus draws nourishment from the mother

(C) Head louse living on the human scalp as well as

laying eggs on human hair

(D) The cuckoo (koel) lays its eggs in crow's nest

CORRECT ANSWER: C

## SOLUTION:

## Human head louse (Pediculus) lives among hair and

surface of human body feeding on blood. It spreads

diseases like typhus. It is a true parasite.



Q-41 - 34341906

sunken stomata occur in

(A) hydrophyte

(B) mesophyte

(C) xerophyte

(D) halophyte

CORRECT ANSWER: C

## SOLUTION:

## Sunken stomata is the characteristic feature of

## xerophytes, these stomata are found generally on the

# lower surface of leaves.

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Q-42 - 14933115

Read the given examples of animal interactions.

- (i) An orchid growing as an epiphyte on a mango branch.
- (ii) Barnacles growing on the back of a whale.
- (iii) Clown fish living among the stinging tehtacles of sea anemone.
- (iv) Cattle egrets foraging close to the grazing catte. Which kind of

interaction is being cited by these ?

# (A) Competition

## (B) Amensalism

## (C) Mutualism

## (D) Commensalism

# SOLUTION:

When two or more animals live together and is there is no physiological dependence between them, they are referred to as commensals and the relationship between such organisms is called commensalism. In commensalsim, one animal might get the benefit from the association while the other is neither benefitted nor harmed. The advantages derived by the commensal involve the provision of substratum, shelter, transport and food.



### Q-43 - 14933096

## THe pricky pear cactus became ususually abundant after its

introduction in Australia, because it

(A) had no coevolved hebivores

(B) formed new mycorrhizal association

(C) lost its thorns

(D) all of these

CORRECT ANSWER: A

SOLUTION:

Coevolution is caused by the selection pressures that

each of the two species exerts on the other. Since there

has been no coevolved herbivore with prickly pear

## cactus, it became abundant in Australia.





The reproductive fitness of any population is also called

(A) Mendelian fitness, having high 'r' value

(B) Mendelian fitness, having low 'r' value

(C) Darwian fitness, having low 'r' value

(D) Darwinian fitness, having high 'r' value

# CORRECT ANSWER: D

SOLUTION:

1) Population evolve to maximize their reproductive

fitness, also called Darwinian fitness (high r value), in the

habitat in which they live.

## 2) According to Darwin fitnes ultimately and only is

## reproductive fitness or Darwinian fitness.

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Annual migration does not occur in the case of

(A) salmon

(B) siberian crane

(C) salamander

(D) arctic fern

CORRECT ANSWER: C

SOLUTION:

Salamander is semiterrestrial lizard-like tailed amphibian

that lives under stones, logs and inside cervices. They

## show hibernation not annual migration.

## Salmon are anadromous, i.e. they spend their adult lives

## at sea but return to freshwater to spawn. The pacific

species is legandry : after migrating down stream as a smolt a sockeye salmon ranges many hundreds of mile over the pacific for nearly four year and then returns to spawn in the head waters of its parent stream. Migration is characteristic feature of birds. Arctic tern travels about 1100 miles during winter and returns back during summer.

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Q-46 - 14933075

Exponential growth is obserbed 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)

# CORRECT ANSWER: C

SOLUTION:

When food and space for a population are unlimited, each species has the ability to realise fully its inherited potential to grow. The the population grows in an exponential or geometric ratio.

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Q-47 - 34341877

What is a keystone species?

## (A) 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 organisation and survival

(B) A common species that has plenty of biomass, yet
has a fairly low impact on the community's organisation
(C) A rare species that has minimal impact on the
biomass and on other species in the community
(D) A dominant species that constitutes a large
proportion of the biomass and which affects many other
species

CORRECT ANSWER: A

SOLUTION:

Species having much greater influence on community

characteristics, relative to their low abundance or

## biomass are keystone species, removal of these cause

## serious disruption in functioning of community, e.g. in

## tropical forests, figs are keystone species.



The plant-animal interactions often involve co-evolution of the mutualists so that

(A) the mutually beneficial system could be safeguarded against 'cheaters'

(B) a given plant species can be pollinated only by its partner animal species and no other species

(C) the animal utilises plant not only for ovipositions but also to pollinate the plant

(D) all of these

## CORRECT ANSWER: D

## SOLUTION:

## Plant-animal interactions involve co-evolution of

mutualists. This means, the evolution of the plant (e.g.,

flower) and the animal (e.g. pollinator species) are

closely linked with one another.

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Q-49 - 34341921

Deep black soil is productive due to high proportion of

(A) sand and zinc

(B) gravel and calcium

(C) clay and humus

(D) silt and earthworm

## CORRECT ANSWER: C

## SOLUTION:

Black soil is productive due to the high proportion of clay

and humus, because most of the minerals are present in

it.

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Q-50 - 14933013

When organisms change their location to escape from harsh

environment, it is called as

(A) hibernation

(B) vernalisation

(C) migration



## CORRECT ANSWER: C

## SOLUTION:

The seasonal movement of complete populations of animals to a more favourable environment is called migration. It is usually in response to uneven precipitation and lower temperatures resulting in a reduced food supply and is often triggered by a change in day length. Migration is common in mammals (e.g porpoises), fish (e.g., eels and salmon) and some insects but is most marked in birds.

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Q-51 - 53753581

Which of the following is epiphytic plant species?

## (A) Viscum

## (B) Cuscuta

## (C) Vanda

# CORRECT ANSWER: C

# SOLUTION:

Vanda is epiphytic plant species.

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Q-52 - 14933015

Organisms may avoid stressful conditions by suspending their activities for sometime. If they do it to avoid high temperature it is called \_\_\_\_\_\_ and if they do it to avoid low temperature then it is called

## (A) aestivation, migration

## (B) migration, hibernation

## (C) aestivation, hibernation

# CORRECT ANSWER: C

# SOLUTION:

Various orgnaisms, if unable to migrate, might avoid the unfavourable environment by escaping in time. Polar bears go into hibernation during winter season to escape exterme cold. Some snails and fis undergo aestivation to aviod summer- related problems like heat and desication , etc.

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## is an attribute of the organism (morphological,

## physiological, behavioural) to survive and reported in its habitat.

(A) Migration

- (B) Hibernation
- (C) Adaptation
- (D) Homeostasis

# CORRECT ANSWER: C

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Q-54 - 34341916

Soil particles determine its

(A) texture

## (B) field capacity

## (C) water holding capacity

(D) soil flora

SOLUTION:

Soil particles determine its texture. The behaviour of water in the ground is influenced by the type of soil present. Soils are classified according to their particle size as follows :

- (i) Gravel -2mm-75 mm
- (ii) Sand- 0.05 mm- 2mm
- (iii) Silt 0.002mm-0.05 mm
- (iv) Clay less than 0.002 mm

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## Archaebacteria that flourish in temperature above 100C have

## special \_\_\_\_\_ molecules that do not coagulate at high

temperature and remain functional.

(A) carbohydrate

(B) ester

(C) protein

(D) fat

CORRECT ANSWER: C

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Q-56 - 34341885

Choose the correct sequence of stages of growth curve for bacteria

## (A) lag, log, stationary, decline phase

## (B) lag, log, stationary phase

## (C) stationary, lag, log, decline phase

# CORRECT ANSWER: A

SOLUTION:

When microbes are grown in a closed system or batch

culture, the resulting growth curve has usually four

phases :

(a) lag phase

- (b) exponential (log phase)
- (c) stationary phase
- (d) death phase



?

Phenomenon when organisms resembling others for escaping from

# (A) adaptation

enemies is

(B) mimicry

(C) homology

(D) analogy

CORRECT ANSWER: B

SOLUTION:

Mimicry is the phenomenon of resemblance of one species with another. It is a means of adaptation and protection against predation. The species which is cpied is called a model, while the animal which copies other is known as mimic, e.g. viceroy butterfly mimics toxic monarch butterfly.



Q-58 - 34341866
If the mean and the median pertaining to a certain character of a population are of the same value, the following is most likely to occur

(A) normal distribution

(B) bi-modal distribution

(C) T-shaped curve

(D) skewed curve

CORRECT ANSWER: A

SOLUTION:

For a normal distribution the mean, median and mode

#### are actually equivalent.

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#### Q-59 - 53753400

What parameters are used for tiger census in our country's national

parks and santuaries?

(A) Pug marks only

(B) Pug marks and faecal pellets

(C) Faecal pellets only

(D) Acutal head counts

CORRECT ANSWER: B

SOLUTION:

Sometimes population size is indirectly estimated

without actually counting them or seein them. E.g., The

### tiger census in our National Parks and tiger reserve is

#### often based on pug makrs and fecal pellets.



The age structures of a population represents

(A) relative number of individulas at each age

(B) number of new borns each year

(C) number of individuals reaching puberty each year

(D) relative number of deaths at each age

CORRECT ANSWER: A

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