



BIOLOGY

BOOKS - AAKASH SERIES

ORGANISMS AND POPULATIONS

Exercise I Ecology And Its Importance

1. Autecology is the

A. relation of heterogeneous 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: B



Watch Video Solution

2. 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



Watch Video Solution

3. Biosphere is

A. a component in the ecosystem

B. composed of the plants present on 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



4. 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



Watch Video Solution

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

A. $8 - 25^{\circ}\text{C}$ and 150-400 cm

B. $5 - 15^{\circ}\text{C}$ and 50-100 cm

C. $30 - 50^{\circ}\text{C}$ and 100-150 cm

D. $5 - 15^{\circ}\text{C}$ and 100-200 cm

Answer: A



Watch Video Solution

6. Study of adaptation of organisms to their environments in terms of survival and reproduction is called

- A. Zoogeography
- B. physiological ecology
- C. Morphology
- D. Genetics

Answer: B



Watch Video Solution

7. Unique habitat for hundreds of species of microbes in man is

A. Kidney

B. Liver

C. Intestine

D. Tongue

Answer: C



8. Ecology is basically concerned with the following levels of organization

A. 1)Organisms

B. 2)Population and communities

C. 3)Biomes

D. 4)All

Answer: D



9. Select the correct sequence regarding the levels of organization

A. Cell - Organs - Tissue - Organisms -
Communities - Ecosystem - Population -
Biosphere

B. Organs - Cell - Tissue - Communities --
Organisms - Ecosystem - Population -
Biosphere

C. Tissue - Cell - Population - Organisms -
Ecosystem - Biosphere

D. cell - Tissue - Organisms - Populations --
Communities - Ecosystems - Biosphere

Answer: D



Watch Video Solution

10. Which of the following is a chemical abiotic factor?

A. Pressure

B. Temperature

C. Salinity

D. Solar radiation

Answer: C



Watch Video Solution

11. A group of organisms of same species living in a specific area at a specific time is called

A. Community

B. Population

C. Biome

D. Ecosystem

Answer: B



Watch Video Solution

12. Name: The microbes which produce- Citric acid, Cyclosporin A, Statins, Gobar Gas.



13. Terrestrial biomes are

- A. Tropical rain forest
- B. Coniferous forest
- C. Desert, Tundra
- D. All

Answer: D



14. All the habitable zones on the Earth constitute

A. Biosphere

B. Terrestrial biome

C. Aquatic biome

D. Community

Answer: A



Watch Video Solution

15. The functional aspects of ecosystem are

- A. Energy transfer
- B. Recycling of minerals
- C. Soil and Pressure
- D. I and 2

Answer: D



Watch Video Solution

16. The structural aspects of ecosystem include

A. Abiotic and biotic factors

B. Physical and chemical factors

C. Living organisms

D. All

Answer: D



Watch Video Solution

**Exercise 1 Organism And Its Environment
Introduction**

1. Broad leaved trees are found in

A. Tropical deciduous forest

B. Mediterranean ever green forest

C. Temperate ever green forest

D. North coniferous forest

Answer: C



Watch Video Solution

2. Which of the following account for the formation of major biomes?

A. The rotation of our planet around the Sun and the tilt of its axis

B. Variations in mean annual temperature

C. Variations in annual precipitation

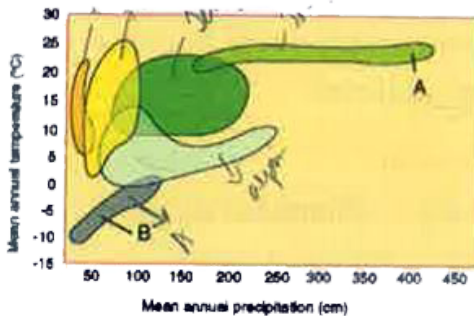
D. all of these

Answer: D



Watch Video Solution

3. Choose the option that correctly identifies 'A' and 'B' from the following figure.



A

- 1) Temperate forest
- ~~2) Tropical forest~~
- 3) Coniferous forest
- 4) Alpine tundra

B

- Desert
- Alpine tundra
- Grassland
- Desert



Watch Video Solution

4. The key abiotic factors that lead to so much variation in the physical- and chemical conditions of different habitats are

A. 1) light , temperature and water

B. 2) soil, pressure and humidity

C. 3) producers, consumers and decomposers

D. 4) light, pressure and predation

Answer: A





Watch Video Solution

5. Seasonal variations on Earth occur due to its

- A. Rotation of Earth around the Sun
- B. Tilt of earth's axis
- C. Spinning of earth on its own axis
- D. both (1) and (2)

Answer: D



Watch Video Solution

Exercise I Temperature

1. According to Allen's rule, the mammals from colder climates have

A. shorter ears and longer limbs

B. longer ears and shorter limbs

C. longer ears and longer limbs

D. shorter ears and shorter limbs

Answer: D



Watch Video Solution

2. Which of the following statements is correct?

A. The average temperature on land varies seasonally

B. The average temperature on land decreases progressively from plains to the mountain tops

C. The average temperature on land decreases progressively from the equator towards the poles

D. All of these

Answer: D



Watch Video Solution

3. Organisms that can tolerate and thrive in a wide range of temperature are called

A. Eurythermal

B. Stenothermal

C. Euryhaline

D. Stenohaline

Answer: A



Watch Video Solution

4. Organisms which can tolerate only small variations in temperature are called

A. Stenohaline

B. Euryhaline

C. Eurythermal

D. Stenothrmal

Answer: D



Watch Video Solution

5. Optimum temperature is the temperature at which organism's life activities

A. are at minimum level

B. begin

C. are at maximum level

D. stop

Answer: C



Watch Video Solution

6. Choose the correct match.

A. Corals - eurythermal

B. Man - eurythermal

C. Shark - homeothermic

D. Birds - poikilothermic

Answer: B



Watch Video Solution

7. Which of the following statements is correct?

A. Mango trees grow in Canada and Germany

B. Snow leopards are found in Kerala forests

C. Tuna fish are generally caught in the ocean beyond tropical latitudes

D. None of these

Answer: D



Watch Video Solution

8. Study the following statements and select the correct ones.

i) Organisms restricted to a narrow range of temperatures are called eurythermal.

ii) Organisms capable of tolerating a wide range of temperature are called stenothermal organisms.

iii) The levels of thermal tolerance of different species determine to a large extent their geographical distribution.

iv) Temperature affects the kinetics of enzymes.

A. (i) and (ii)

B. iii) and (iv)

C. (i), (ii) and (iii)

D. (i), (ii), (iii) and (iv)

Answer: B



Watch Video Solution

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

A. 10-5

B. 30-70

C. 0-5

D. 30-35

Answer: C



Watch Video Solution

Exercise I Water

1. Organisms tolerant to wide range of salinities are termed

A. 1)Stenohaline

B. 2)Stenothermal

C. 3)Euryhaline

D. 4)Eurythermal

Answer: C



Watch Video Solution

2. The salt concentration in inland waters and in the sea water, respectively are

A. More than 5 ppt, 30-35 ppt

B. Zero ppt, 35-45 ppt

C. 30-35 ppt, less than 5 ppt

D. Less than 5 ppt, 30-35 ppt

Answer: D



Watch Video Solution

3. The leaves are modified into spines in

A. Opuntia

B. Nymphaea

C. Asparagus

D. both (1) and (2)

Answer: A



Watch Video Solution

4. Organisms that are restricted to a narrow range of salt concentration are termed

A. 1) euryhaline

B. 2) stenothermal

C. 3) eurythermal

D. 4) stenohaline

Answer: D



Watch Video Solution

5. If 'A' is a sea, 'B' is a river and 'C' is a hyper-saline lagoon, select the option that correctly specifies the salinities of 'A', 'B' and C.

	A	B	C
1)	5 ppt	35 ppt	105 ppt
2)	30 ppt	4 ppt	105 ppt
3)	100 ppt	3 ppt	35 ppt
4)	35 ppt	105 ppt	5 ppt



[Watch Video Solution](#)

6. 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



Watch Video Solution

Exercise I Light

1. What will happen to a well growing herbaceous plant in the forest if it is

transplanted outside the forest in a park?

A. It will grow normally

B. It will grow well because it is planted in
the same locality

C. It may not survive because of change in
its microclimate

D. It grows very well because the plants get
more sunlight

Answer: C



Watch Video Solution

2. Light is a/an

A. Electromagnetic wave

B. infrared wave

C. ultrasonic wave

D. X-Ray

Answer: C



Watch Video Solution

3. Diurnal and seasonal variations in the intensity and photoperiod of light are cues for

A. Foraging for animals

B. Reproductive and migratory activities in some animals

C. Flowering in plants

D. All

Answer: D



Watch Video Solution

4. Wavelength of the visible spectrum ranges from

- A. 120 nm to 380 nm
- B. 260 nm to 450 nm
- C. 380 nm to 750 nm
- D. 480 nm to 720 nm

Answer: C



Watch Video Solution

5. The response of different organisms environmental rhythms of light and darkness is called

A. Photoperiodism

B. Phototropism

C. Phototaxis

D. Photokinesis

Answer: A



Watch Video Solution

6. Read the following statements and select the correct option:

(a) Many species of herbs and shrubs growing in forests are adapted to photosynthesise optimally under very low light conditions.

(b) Many plants are dependent on sunlight to meet their photoperiodic requirement for flowering.

A. Both (a) and (b) are true.

B. (b) is correct but (a) is false.

C. (a) is correct but (b) is false.

D. Both (a) and (b) are false.

Answer: A



Watch Video Solution

Exercise I Soil

1. Nature and properties of soil depends upon

A. Vegetation

B. Climate

C. Weathering

D. 2 and 3

Answer: D



Watch Video Solution

2. 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



Watch Video Solution

3. Which of the following statements is incorrect

A. The sediment-characteristics often determine the type of benthic animals

that can thrive in aquatic habitat.

B. Soil pH, mineral composition and topography determine the type of animals which, in turn, dictates the type of plants can be supported in an area. `

C. The nature and properties of soil in different places it is dependent on the climate, the weathering proccss, etc.

D. Soil composition, grain size and aggregation determine the percolation

and water holding capacity of the soils.

Answer: B



Watch Video Solution

Exercise I Pressure

1. Identify incorrect statement

A. In aquatic environment, the sediment - characteristics determine the type of

pelagic organisms that can live there

B. p^H and mineral composition of soil can

determine the vegetation in any area

C. Pressure changes with depth in the

ocean

D. Pressure in the water increases at the

rate of 1 atmosphere per lam depth

Answer: A



Watch Video Solution

Exercise I Response To Abiotic Factors

1. 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



Watch Video Solution

2. Polar bears go into __ during winter.

A. aestivation

B. migration

C. hibernation

D. diapause

Answer: C



Watch Video Solution

3. Osmoconformers are the animal that

A. invertebrates

B. marine animals

C. vertebrates

D. freshwater animals

Answer: B



Watch Video Solution

4. With respect to body temperature camel may be regarded as

- A. strict conformer
- B. strict regulator
- C. partial conformer
- D. none of the above

Answer: C



Watch Video Solution

5. Very small size animals are rarely found in'

A. Tropical region

B. Sub Tropical region

C. Polar region

D. Deserts

Answer: C



Watch Video Solution

6. Delay in development periods of unfavorable conditions and gets inactiveness is called

A. Menopause

B. Diapause

C. Hibernation

D. Aestivation

Answer: B



Watch Video Solution

7. Diapause is exhibited by

A. Insects

B. Embryos of some fishes

C. Zooplanktons in lake and ponds

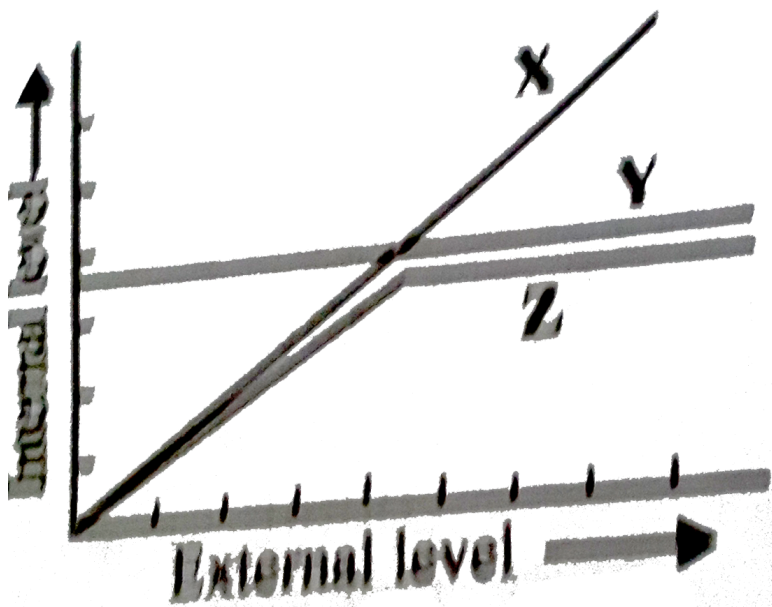
D. all of above

Answer: D



Watch Video Solution

8. 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.



Watch Video Solution

9. Which of the following statements is incorrect?

A. 1) Evolutionary biologists believe that the success of mammals is largely due to their ability to maintain a constant body temperature

B. 2) The mechanisms used by most mammals to regulate their body

temperature 'are similar to the ones that humans use

C. 3) Plants do not have such mechanisms to maintain internal temperatures

D. 4) An overwhelming majority of animals and nearly all plants can maintain a constant internal environment.

Answer: D



Watch Video Solution

10. Read the following statements and select the correct ones.

i) All vertebrates are capable of osmoregulation and thermoregulation.

ii) Some species have evolved the ability to regulate, but only over a limited range of environmental conditions, beyond which they simply conform.

iii) 99 per cent of animals and nearly all plants cannot maintain a constant internal environment. -

iv) Animals are either perfect regulators or perfect conformers.

A. (i) and (ii)

B. (i) and (iii)

C. (iii) and (iv)

D. (i) and (iv)

Answer: B



Watch Video Solution

11. Many animals have not evolved to become thermoregulators because

A. there are no perfect regulators

B. thermoregulation is energetically expensive process

C. the 'benefit' of thermoregulation is more than the 'cost' they would incur

D. thermoregulators are found only in tropical regions

Answer: B



Watch Video Solution

12. Some snails, fishes and frogs go into _
during summer.

A. aestivation

B. migration

C. hibernation

D. diapause

Answer: A



Watch Video Solution

13. Under unfavourable conditions many zooplankton species in lakes and ponds enter

A. aestivation

B. migration

C. hibernation

D. diapause

Answer: D



Watch Video Solution

14. This is an example of 'escape in space' to avoid stressful external conditions

A. Migration

B. Aestivation

C. Hibernation

D. Diapause

Answer: A



Watch Video Solution

15. Read the following statements and select the correct option:

(a) Very small animals are rarely found in polar regions.

(b) Small animals have a larger surface area relative to their volume, they tend to lose body heat very fast when it is cold outside.

A. (b) is correct but (a) is false.

B. Both (a) and (b) are true.

C. (a) is correct but (b) is false.

D. Both (a) and (b) are false.

Answer: B



Watch Video Solution

16. Adaptations in organisms to cope with extreme environmental conditions include

A. morphological adaptation

B. physiological adaptations

C. behavioural adaptations

D. all the above

Answer: D



Watch Video Solution

Exercise I Adaptations

1. Which of the following is incorrect?

A. Mammals living in hot climate are large sized

B. Amphibians living in colder regions are large sized

C. Reptiles living in hot climate are small sized

D. Mammals living in warmer places are small sized

Answer: A



Watch Video Solution

2. Blubber acts an insulator to reduce the loss of heat in

A. Fishes

B. Penguins

C. Seals

D. Camel

Answer: C



Watch Video Solution

3. Desert lizards bask in the sun when their body temperature drops below the comfort zone, but move into shade when the ambient temperature starts increasing. This is an example of

A. morphological adaptation

B. physiological adaptation

C. behavioural adaptation

D. anatomical adaptation

Answer: C



Watch Video Solution

4. Adaptations in desert plants include

A. Stomata in deep pits

B. Closure of stomata during day time

C. Reduction of leaves into spines

D. All the above

Answer: D



Watch Video Solution

5. The animal capable of meeting all water requirements through oxidation of its internal fat is

A. Camel

B. Kangaroo rat

C. Spiny Lizard

D. None

Answer: B



Watch Video Solution

6. In desert plant *Opuntia* photosynthetic function is taken over by

A. Leaves

B. Roots

C. Stems

D. Flowers

Answer: C



Watch Video Solution

7. Many desert plants overcome the water problem by

A. Thick cuticle on leaf surfaces

B. Stomata arranged in deep pits

C. Special photosynthetic pathway CAM

D. All

Answer: D



Watch Video Solution

8. In *Opuntia*, leaves are reduced to spines.

This is an adaptation to

A. minimise water loss through

transpiration

B. maximise water absorption from atmosphere

C. maximise the rate of photosynthesis

D. minimise the rate of photosynthesis

Answer: A



Watch Video Solution

9. Which of the following is not an adaptation in desert plants to conserve water?

A. Presence of stomata in deep pits

B. CAM pathway to enable the stomata to remain closed during night time

C. Reduction of leaves into spines to minimise the loss of water through transpiration

D. Thick cuticle on the leaf surfaces

Answer: B



Watch Video Solution

10. In the absence of an external source of water, the kangaroo rat in North American deserts is capable of meeting all its water requirements through

A. drinking of water

B. metabolic water produced by the oxidation of fat

C. absorption of water through its skin

D. water present in the food it ingests

Answer: B



[Watch Video Solution](#)

11. Symptoms of altitude sickness include

A. Nausea

B. Fatigue

C. Heart palpitation

D. All the above

Answer: D



[Watch Video Solution](#)

12. The body compensates low oxygen availability at high altitude by

A. Increasing RBC production

B. Increasing the rate of breathing

C. Kidneys secrete a hormone
erythropoietin

D. All

Answer: D



Watch Video Solution

Exercise I Populations

1. Population ecology is an important area because it links ecology to

- A. physiology and population genetics
- B. embryology and evolution
- C. population genetics and evolution
- D. biodiversity and its conservation

Answer: C



Watch Video Solution

2. If a population of 50 paramecium present in a pool increases to 150 after an hour, what would be the growth rate of population?

- A. 50 per hour
- B. 200 per hour
- C. 5 per hour
- D. 100 per hour

Answer: D



Watch Video Solution

3. What would be the per cent growth or birth rate per individual per hour for the same population mentioned in the previous question (Question 10)?

A. 100

B. 200

C. 50

D. 150

Answer: B



Watch Video Solution

4. A population has more young individuals compared to the older individuals. What would be the status of the population after some years ?

A. It will decline

B. It will stabilise

C. It will increase

D. It will first decline and then stabilise

Answer: C



Watch Video Solution

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

A. Pug marks only

B. ug marks and faecal pellets

C. Faecal pellets only

D. Actual head counts

Answer: B



Watch Video Solution

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

A. Natality gt mortality

B. Immigration gt emigration

C. Mortality and emigration

D. Natality and immigrat

Answer: C



Watch Video Solution

7. 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



Watch Video Solution

8. In 2005, for each of the 14 million people present in a country, 0.028 were born and 0.008 died during the year. Using exponential

equation, the number of people present in 2015 is predicted as

A. 25 millions

B. 17 millions

C. 20millions

D. 18 millions

Answer: B



Watch Video Solution

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

A. Bamboo plant

B. Mango

C. Tomato

D. Eucalyptus

Answer: A



Watch Video Solution

10. The number of new individuals produced in a unit time, per unit population is described as

A. Mortality

B. Natality

C. Immigration

D. Emigration

Answer: B



Watch Video Solution

11. In a pond there were 400 frogs last year and through reproduction 200 frogs are added taking current population to 600. The birth rate is

A. 0.4

B. 0.5

C. 0.6

D. 0.7

Answer: B



Watch Video Solution

12. The status of a population, whether it is growing, stable, or declining is indicated by

- A. Energy pyramid
- B. Biomass pyramid
- C. Age pyramid
- D. Number pyramid

Answer: C



Watch Video Solution

13. Organisms represented at the top of an age pyramid are

A. Pre-reproductive

B. Reproductive

C. t-reproductive

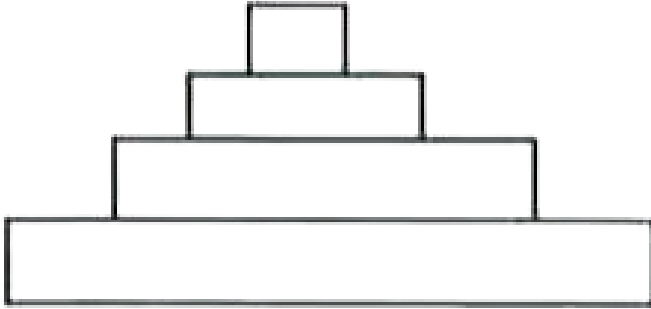
D. Producers

Answer: C



Watch Video Solution

14. In an age pyramid, which age group is represented at the bottom ?



- A. 1)Pre- reproducing age
- B. 2)Post reproducing age
- C. 3)Reproducing age
- D. 4)None of these

Answer: A



Watch Video Solution

15. In a growing population of a country. `

A. Pre - reproductive

B. Post - reproductive

C. Reproductive

D. All the three groups are in equal numbers

Answer: A



Watch Video Solution

16. Total number of individuals per unit area of unit volume is called

- A. Biotic potential
- B. Population density
- C. Life expectancy
- D. Carrying capacity

Answer: B



Watch Video Solution

17. In a population of 2,500 whose intrinsic rate of natural increase (r) is 0.2 per capita per year is exhibiting exponential growth. If the number of individuals at a given moment is 2,000 what will the population size after one year?

A. 2500

B. 2300

C. 2600

D. 2400

Answer: D



Watch Video Solution

18. Choose the incorrect statement.

A. The size of the population for any species is static parameter

B. Some of the factors that influences the size of populations are food, predation and environmental resistance

C. Age pyramid indicates whether a population is growing, stable or declining

D. Under normal condition births and deaths are most important factors influencing popula- tion density

Answer: A



Watch Video Solution

19. The size of a population increases if

A. Natality = Mortality

B. Natality < Mortality

C. Natality > Mortality

D. Mortality > Natality

Answer: C



Watch Video Solution

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

A. Emigration

B. Birth rate

C. Immigration

D. Natality

Answer: A



Watch Video Solution

21. In a population of a habitat in one year 200 births, 150 deaths, 200 emigrations and 150 immigrations have occurred. The density of population

- A. Increased
- B. Decreased
- C. Remains unchanged
- D. Cannot be predicted

Answer: C



Watch Video Solution

22. Exponential growth is observed in a population when

A. Resources in the habitat are unlimited

B. Each species has the ability to realize its full innate potentials

C. both 1 and 2

D. none of these

Answer: C



Watch Video Solution

23. In a population per capita birth rate is 0.15 and per capita death rate is 0.08 during a unit time period. What is the value of r (intrinsic rate of natural increases) for the given population ?

A. 0.25

B. 0.07

C. 0.05

D. 0.25

Answer: B



Watch Video Solution

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

A. Birth rate

B. Surviving ability

C. carrying capacity

D. biotic potential

Answer: C



Watch Video Solution

25. The phase of the population growth where natality is equal to mortality is called

A. Asymptote

B. lag phase

C. Log phase

D. none of these

Answer: A



Watch Video Solution

26. In logistic growth curve, the initial stage of the curve is called

A. Log phase

B. lag phase

C. Stability phase

D. Asymptote phase

Answer: B



Watch Video Solution

27. In the equation $N_t = N_0e^{rt}$, 'e' is

A. Population density after the time 'f'

B. Population density at the time zero

C. Intrinsic rate of natural increase

D. The base of natural logarithm

Answer: D



Watch Video Solution

28. Which of the following is an incomplete count to estimate population density?

A. Number of Parthenium plants in an area

B. Number of fish caught per trap

C. Biomass of bacteria in culture plate

D. Number of birds in a sanctuary

Answer: B



Watch Video Solution

29. A population has more young individuals compared to the older individuals. What would be the status of the population after some years ?

A. 0.9, 0.14

B. 0.09, 0.14

C. 0.14, 0.09

D. 0.54, 0.84

Answer: B



Watch Video Solution

30. Why is Nostoc used as a biofertiliser?



Watch Video Solution

31. 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



Watch Video Solution

32. Population density is the

A. Number of species in an ecosystem

B. Number of individuals of a species per
unit area

C. Number of births reported in a year

D. Number of individuals of a species in an
ecosystem

Answer: B



Watch Video Solution

33. An age pyramid illustrates

- A. Different trophic levels in a community
- B. Population density
- C. Percentage of persons in successive age categories in a given population
- D. Population natality rate

Answer: B



Watch Video Solution

34. Read the following statements and select the correct option:

(a) Age pyramids reflect the status of a population - whether it is growing, stable or declining.

(b) Different age groups have different reproductive capabilities.

A. (b) is correct but (a) is false.

B. Both (a) and (b) are true.

C. (a) is correct but (b) is false.

D. Both (a) and (b) are false.

Answer: C

 **Watch Video Solution**

35. Identify the status of the populations X, Y and Z whose age pyramids are-given below?



X



Y



Z

- | | | | |
|----|-----------|-----------|-----------|
| 1) | stable | growing | declining |
| 2) | growing | stable | declining |
| 3) | growing | declining | stable |
| 4) | declining | stable | growing |



[Watch Video Solution](#)

36. What is Rhizobium?



[Watch Video Solution](#)

37. Which of the following factors would not limit the growth of a population?

A. Emigration

B. Immigration

C. Disease

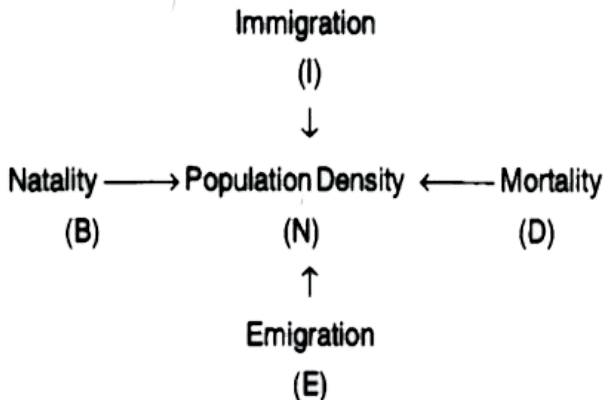
D. Mortality

Answer: C



Watch Video Solution

38. Study the following flow chart and choose the correct option.



A. 'B' and 'O' cause a positive change while

'I' and 'E' cause a negative change in 'N'

B. If a new habitat is just being colonised,

'B' may contribute more significantly to

'N' than 'I'

C. 'N' will increase only when $(B+I)$ is

greater than $(D+E)$

D. 'B' and 'I' are most influential factors

under normal conditions while 'D' and 'E'

assume importance only under special conditions

Answer: B



Watch Video Solution

39. What does 'K' represent in the equation given below?

$$\frac{dN}{dt} = rN \left(\frac{K - N}{K} \right)$$

A. 1) Population density at time 't'

B. 2) Intrinsic rate of natural increase

C. 3) Carrying capacity

D. 4) The base of natural logarithm

Answer: C



Watch Video Solution

40. Which of the following statements is correct ?

A. Geometric growth produces J-shaped population growth curve

B. Logistic growth occurs when resources are limiting

C. Equation for exponential growth is

$$N_t = N_0 e^{rt}$$

D. All of these

Answer: C



Watch Video Solution

41. What does 'e' represent in the integral form of exponential growth equation given below?

$$N_t = N_0 e^{rt}$$

- A. Population density at time 't'
- B. Population density at time 0
- C. Intrinsic rate of natural increase
- D. The base of natural logarithm

Answer: D



Watch Video Solution

42. In a population per capita birth rate is 0.15 and per capita death rate is 0.08 during a unit time period. What is the value of r (intrinsic rate of natural increases) for the given population ?

A. 0.08

B. 0.02

C. 0.05

D. 0.20

Answer: D



Watch Video Solution

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

A. $\frac{dt}{dN} = rN \left(\frac{N - K}{K} \right)$

B. $d\frac{N}{dt} = rN \left(1 - \frac{N}{K} \right)$

C. $\frac{dN}{dt} = rN \left(\frac{N - K}{K} \right)$

D. $d\frac{N}{dt} = rN$

Answer: C



Watch Video Solution

44. The integral form of exponential growth equation will be

A. $N_0 = N_t e^n$

B. $dN / dt = rN \left(\frac{K - N}{K} \right)$

C. $N_t = N_0 e^n$

D. $N_t = N_0 + e^n$

Answer: B



Watch Video Solution

45. Match the terms column-I with column-II

Column-I

Column-II

A) Capacitation

1) Discharge of blood and other material from the lining of the uterus.

B) Ovulation

2) The attachment of the fertilized egg to the endometrium of uterus.

C) Menstruation

3) The first occurrence of menstruation

D) Menarche

4) The change undergone by sperm in the female reproductive tract

E) Implantation

5) Release of the ripe egg (ovum) from the ovary



Watch Video Solution

Exercise I Life History Variation

1. Which of the following organisms breeds only once in lifetime?

A. Birds

B. Mammals

C. Pacific Salmon fish

D. 1 and 2

Answer: C



Watch Video Solution

2. Organisms that breed many times during life time and produce small number of large sized offspring are.

A. Pacific salmon fish

B. Mammals

C. Oysters

D. Pelagic fishes

Answer: B



Watch Video Solution

3. Organisms that produce large number of small sized offspring are

A. Birds

B. mammals

C. Oysters

D. 1 and 2

Answer: C



Exercise I Population Interactions

1. Amensalism is an association between two species where

A. one species is harmed and other is benefitted

B. one species is harmed and other is unaffected

C. one species is benefitted and other is unaffected

D. both the species are harmed

Answer: B



Watch Video Solution

2. Lichens are the associations of

A. bacteria and fungus

B. algae and bacterium

C. fungus and algae

D. fungus and virus

Answer: C



Watch Video Solution

3. Which of the following is a partial root parasite?

A. Sandal wood

B. Mistletoe

C. Orobanche

D. Ganoderma

Answer: A



Watch Video Solution

4. The interaction where one species is benefitted and the other is neither benefitted nor harmed is

A. Parasitism

B. Amensalism

C. Commensalism

D. Competition

Answer: C



Watch Video Solution

5. The interaction in which both species are benefitted is termed.

A. Commensalism

B. Mutualism

C. Amensalism

D. Parasitism

Answer: B



Watch Video Solution

6. The interaction in which both species are harmed is

A. Competition

B. Commensalism

C. Amensalism

D. Mutualism

Answer: A



Watch Video Solution

7. The interaction where one species is benefitted and the other is neither benefitted nor harmed is

A. Commensalism

B. Amensalism

C. Mutualism

D. Parasitism

Answer: B



Watch Video Solution

8. The interaction where only one species is benefitted and detrimental to the other species is

A. Parasitism

B. Predation

C. Mutualism

D. 1 and 2

Answer: D



Watch Video Solution

9. Interacting species live closely together in

A. 1)Commensalism

B. 2)Predation

C. 3)Parasitism

D. 4)All

Answer: D



Watch Video Solution

10. In an field experiment, all the star fishes were removed from an enclosed intertidal area, more than 10 species of invertebrates became extinct within a year, because of

- A. Increased intra-specific competition
- B. Increased inter-specific competition
- C. Decreased inter-specific competition
- D. Decreased intra-specific competition

Answer: B



Watch Video Solution

11. Which of the following insect acquires distasteful chemical to its predator birds?

- A. Biston betularia
- B. Monarch butterfly
- C. Cactus-feeding moth
- D. Dragon fly

Answer: B



Watch Video Solution

12. Which of the following insect acquires distasteful chemical to its predator birds?

A. Adult stage feeding on nonpoisonous
weed

B. Caterpillar stage feeding on poisonous
weed

C. Pupa stage

D. Imago

Answer: B



Watch Video Solution

13. Calotropis is protected from the predators by producing

- A. Opium
- B. Cardiac glycosides
- C. Strychnine
- D. Nicotine

Answer: B



Watch Video Solution

14. Substances produced by plants as defence against grazers and browsers include

A. Caffeine

B. Quinine

C. Nicotine

D. All of these

Answer: D



Watch Video Solution

15. Fitness of one species is significantly lower in the presence of another species in case of

A. Predation

B. Parasitism

C. Competition

D. Mutualism

Answer: C



Watch Video Solution

16. In South American lakes visiting Flamingos and resident fishes compete for

A. Phytoplankton

B. Zooplankton

C. Diatoms

D. Aquatic plants

Answer: B



Watch Video Solution

17. The Abingdon tortoise in Galapagos islands became extinct after the goats were introduced on the land. This is example for

- A. Competitive release
- B. Competitive exclusion
- C. Interference competition
- D. Commensalism

Answer: B



Watch Video Solution

18. Connell's field experiment illustrates

- A. Competitive release
- B. Competitive exclusion
- C. Interference of competition
- D. Commensalism

Answer: A



Watch Video Solution

19. On the rocky sea coasts of Scotland larger and competitively superior barnacle is

A. Chthamalus

B. Balanus

C. Sacculina

D. Daphnia

Answer: B



Watch Video Solution

20. An orchid resembles female of an insect so as to get pollinated. The phenomenon is

- A. Competitive release
- B. Competitive exclusion
- C. Interference competition
- D. None

Answer: A



Watch Video Solution

21. Name: The key ingredient found in Neem.



[Watch Video Solution](#)

22. Competitively inferior one will be eliminated when the resources are limited, according to the principle of

- A. Competitive release
- B. Competitive exclusion
- C. interference competition

D. Amensalism

Answer: B



Watch Video Solution

23. Closely related species of warblers avoid competition due to behavioural differences in their foraging activities. This is an example of

A. Competitive release

B. Competitive exclusion

C. Coexistence

D. Commensalism

Answer: C



Watch Video Solution

24. Which of the following is not a parasitic adaptation?

A. Presence of adhesive organs

B. Presence of high reproductive capacity

C. Presence of well-developed sense organs

D. Life cycle includes one or two

intermediate hosts or vectors

Answer: C



Watch Video Solution

25. Intermediate host of human liver fluke is

A. Fish

B. Snail

C. Goat

D. A fish and a snail

Answer: D



Watch Video Solution

26. Parasitic plant among the following is

A. a) Nepenthes

B. b) Rhizobium

C. c) Cuscuta

D. d) Lichens

Answer: D



Watch Video Solution

27. Cuckoo lays eggs in the nest of crow during breeding season. This is an example for

- A. Ectoparasitism
- B. Endoparasitism
- C. Brood parasitism

D. Mutualism

Answer: C



Watch Video Solution

28. Barnacles growing on the back of the whale exemplify

A. Parasitism

B. Mutualism

C. Commensalism

D. Amensalism

Answer: C



Watch Video Solution

29. Which of the following is an example for commensalism?

A. Cattle egret and grazing cattle

B. Sea anemone and clown fish

C. Barnacles and whales

D. All

Answer: D



Watch Video Solution

30. An example for commensalism among the following is

A. Liver fluke - Man

B. Abingdon tortoise - Goat

C. Orchid - Mango tree

D. Cuckoo - crow

Answer: C



Watch Video Solution

31. Lichens represent mutualism between

A. Fungus and higher plants

B. Fungus and cyanobacteria

C. Sea anemone and clown fish

D. Barnacle and whale

Answer: B



Watch Video Solution

32. What is axenic culture? Explain.



Watch Video Solution

33. Which of the following is associated with the interaction between Mediterranean orchid Ophrys and bees?

A. 1)Sexual deceit

B. 2)Pseudocopulation

C. 3)Co-evolution

D. 4) All the above

Answer: D



Watch Video Solution

34. Pollination in Ophrys (a mediterranean orchid) occurs by

- A. The male bee is attracted for nectar in the flower
- B. The male bee is attracted to the petal as it presumes it to be the female bee
- C. The male is attracted for shelter
- D. None

Answer: B



Watch Video Solution

35. Which of the following is an example of coevolution ?

A. If the female bee's colour patterns change during evolution, the flower of *Ophrys* evolves to maintain the resemblance of its petal to the female bee.

B. Evolution of eggs of cuckoo to resemble those of crow in size and colour

C. Evolution a mimic to resemble the
colour patterns of the model

D. all of above

Answer: D



Watch Video Solution

36. The type of interaction between hermit
crab and sea anemone is

A. Protocooperation

B. Parasitism

C. Commensalism

D. Amensalism

Answer: A



Watch Video Solution

37. The Prickly pear cactus introduced into Australia in the early 1920's caused havoc by spreading rapidly in to millions of hectares of rangeland because -

- A. Prickly pear cactus is a native of Australia
- B. An exotic species of moth was introduced into Australia
- C. There were no natural predators of the cactus in Australia.
- D. It had a mutualistic relationship with moths

Answer: C



Watch Video Solution

38. Assigning a '+' sign for beneficial interaction, '-' sign for detrimental and '0' for neutral interaction, outcomes of competition can be represented as:

A. + +

B. - -

C. - 0

D. + -

Answer: B



Watch Video Solution

39. Which one of the following is an example of mutualism ?

- A. Sucker fish on the back of a whale
- B. Cattle egret foraging close to cattle
- C. Clown fish living among the tentacles of sea anemone
- D. Mycorrhizae living on the roots of higher plants

Answer: D



Watch Video Solution

40. The evolution of the flowers of a plant and its pollinator species tightly linked with one another is termed

- A. macroevolution
- B. coevolution
- C. retrogressive evolution
- D. divergent evolution

Answer: B



Watch Video Solution

41. Which of the following statements incorrect?

A. The human liver fluke depends on two intermediate hosts (a snail and a fish) to complete its life cycle.

B. The malarial parasite needs a vector (mosquito) to spread to other host organisms

C. All the parasites cause disease in their hosts organism

D. The life cycles of endoparasites are more complex because of their extreme specialisation.

Answer: C



Watch Video Solution

42. Who studied the co-existence of five closely related species of warblers on the same tree?

A. Gause

B. Mac Arthur

C. Darwin

D. Connell

Answer: B



Watch Video Solution

43. Choose the correct combination.

<i>Interaction</i>	<i>Species A</i>	<i>Species B</i>
1) Mutualism	+	0
2) Amensalism	-	0
3) Competition	0	0
4) Commensalism	+	+



Watch Video Solution

44. Competitive exclusion principle was given by

A. Allen

B. Pearl-Verhulst

C. Gause

D. N. Borlaug

Answer: C



Watch Video Solution

45. Two species competing for the same resource can avoid competition by choosing different habits. This phenomenon is called

A. Competitive exclusion

B. Competitive fitness

C. Survival of the fittest

D. Resource partitioning

Answer: D



Watch Video Solution

46. Study the following table and choose the option that correctly identifies A, B, C and D. ,

Interaction *Species X* *Species Y*

'A' + +

Amensalism - 'B'

Competition 'C' -

'D' - -

A **B** **C** **D**

- 1) mutualism 0 - competition
- 2) mutualism 0 - parasitism
- 3) mutualism + - competition
- 4) mutualism - 0 competition



Watch Video Solution

Exercise II Ecology And Its Importance

1. The term "ecosystem" is derived from the Greek word "Oikos" meaning.

A. Unfolding

B. House

C. Society

D. Governmet

Answer: B



Watch Video Solution

2. Ecology was defined as the study of the relationship of organisms with their environment by

A. Huxley

B. Odum

C. Ernst Haeckel

D. Lamarck

Answer: C



Watch Video Solution

3. Ecology of a single species/population in relation to its environment is termed

A. Synecology

B. Autecology

C. Community ecology

D. Biosphere

Answer: B



Watch Video Solution

4. Community ecology deals with

A. The study of changes in population size

- B. The study of changes in population size
- C. The interrelationships between the organisms of different species
- D. Ecological Niche

Answer: C



Watch Video Solution

5. An association of the interacting members of populations of different species in a particular area is called

A. Community

B. Population

C. Biome

D. Ecosystem

Answer: A



Watch Video Solution

6. The functional unit of the biosphere is

A. Ecosystem

B. Community

C. Landscape

D. Biome

Answer: A



Watch Video Solution

7. A large community of plants and animals that occupies a vast region is called

A. Biosphere

B. Biome

C. Landscape

D. Ecosystem

Answer: B



Watch Video Solution

8. The functional role of an organism in an ecosystem which is comparable to the profession of a person is called

A. Habitat

B. Niche

C. Ecosystem

D. Biome

Answer: B



Watch Video Solution

9. The branch of biology that deals with the study of interactions between organisms and their environment is termed

A. evolution

B. ecology

C. ethology

D. etiology

Answer: B



Watch Video Solution

10. Identify 'X' in the flowchart given below.



A. Ecosystem

B. Population

C. Biosphere

D. Organs

Answer: B



Watch Video Solution

11. A group of interacting species living in a particular ecosystem constitute a

A. 1)biosphere

B. 2)population

C. 3)biome

D. 4)community

Answer: D



Watch Video Solution

12. Ecology of a single species/population in relation to its environment is termed

A. synecology

B. community ecology

C. autecology

D. ethology

Answer: C



Watch Video Solution

13. Read the following statements and select the correct options

(a) Study of a single individual or a population

in relation to environmental is called synecology.

(b) Study of a community in relation to environmental is known as autecology

A. (b) is correct but (a) is false.

B. Both (a) and (b) are true.

C. (a) is correct but (b) is false.

D. Both (a) and (b) are false

Answer: D



Watch Video Solution

Exercise II Organism And Environment

Introduction

1. Ecology at the level is essentially physiological ecology which tries to understand how different organisms are adapted to their environments.

A. population

B. community

C. ecosystem

D. organism

Answer: D



Watch Video Solution

2. Which of the following is an aquatic biome?

A. Tundra

B. Chaparral

C. Savannah

D. Coral reef

Answer: D



Watch Video Solution

3. Tundras, grasslands and deserts are examples of different

A. biospheres

B. biomes

C. ecosystems

D. populations

Answer: B



Watch Video Solution

4. Desert biomes are characterised by

- A. Low temperature and low precipitation
- B. Low temperature and high precipitation
- C. High temperature and low precipitation
- D. High temperature and high precipitation

Answer: C



Watch Video Solution

5. Which of the following biomes has low temperature and low precipitation?

- A. Tundra
- B. Tropical forest
- C. Temperate forest
- D. Desert

Answer: A



6. Terrestrial biomes are characterized by

- A. Specific climate
- B. Dominant vegetation
- C. Microorganisms
- D. 1 and 2

Answer: D



Exercise II Temperature

1. Difference between the maximum temperature and the minimum temperature in a day is highest in a

A. Desert

B. Grassland

C. Sea

D. Forest

Answer: A



Watch Video Solution

2. Match Column-I with Column-II and select the correct option from the codes given below.

Column-I		Column-II	
(a) Endotherms	(i) Red algae		
(b) Ectotherms	(ii) Conifers		
(c) Eurytherms	(iii) Lizards		
(d) Stenotherms	(iv) Humans		
(a)	(b)	(c)	(d)
1) (iv)	(iii)	(i)	(ii)
2) (iii)	(iv)	(i)	(ii)
3) (iv)	(iii)	(ii)	(i)
4) (ii)	(iii)	(i)	(iv)



Watch Video Solution

3. Temperature affects

- A. metabolic rate
- B. morphology
- C. geographical distribution
- D. all the above

Answer: D



Watch Video Solution

4. Which of the following options is correct?

- A. Stenothermal Eurythermal
Homo sapiens Eurthermal
- B. Stenothermal Eurythermal
Macropus Rana
- C. Stenothermal Eurythermal
Homo Pinus
- D. Stenothermal Eurythermal
Homo Pinus

Answer: D



Watch Video Solution

5. Mango trees do not and cannot grow in temperate regions. The most important environmental factor responsible for its is

A. soil

B. temperature

C. water

D. light

Answer: B



Watch Video Solution

6. Match Column-I with Column-II and select the correct option from the codes given below.

Column-I		Column-II	
(a)	Endotherms	(i)	Red algae
(b)	Ectotherms	(ii)	Conifers
(c)	Eurytherms	(iii)	Lizards
(d)	Stenotherms	(iv)	Humans

	(a)	(b)	(c)	(d)
1)	(iv)	(iii)	(i)	(ii)
2)	(iii)	(iv)	(i)	(ii)
3)	(iv)	(iii)	(ii)	(i)
4)	(ii)	(iii)	(i)	(iv)



Watch Video Solution

7. Organisms that can maintain a constant internal temperature are called

A. homeotherms

B. poikilotherms

C. eurytherms

D. stenotherms

Answer: A



Watch Video Solution

Exercise II Response To Abiotic Factors

1. What is pomato?



Watch Video Solution

2. Which of the following is an incorrect match?

A. Diapause - Suspend

B. Siberian - Migrate

C. Hibernation-Escape in space

D. Mammals - Regulate

Answer: C



Watch Video Solution

3. The body temperature of an animal at 20° DC is same as its temperature at 30° DC. It can be included under the category

- A. conformers
- B. regulators
- C. poikilotherms
- D. euryhaline

Answer: B



Watch Video Solution

4. Freshwater animals are not osmoconformers because

A. they require large quantities of water to excrete ammonia

B. they are subjected to exosmosis due to which their body fluids become more concentrated

C. their body fluids would be too dilute to carry out life's processes

D. salts move passively from the surrounding medium into their bodies

Answer: C



Watch Video Solution

5. In animals, migration serves for

A. avoiding stressful seasons like winter

B. moving to new areas with food when their number increases beyond the

feeding capacity of the homeland

C. moving from a hostile area to a more

hospitable area

D. All of these

Answer: D



Watch Video Solution

Exercise li Water

1. Which of the following statements is incorrect

A. Life on earth originated in water

B. The productivity and distribution of plants is dependent on water

C. Only limited amount of water is available in deserts

D. Aquatic organisms do not face any water- related problems

Answer: D



Watch Video Solution

2. Which of the following are found in the surface waters of the sea?

A. Red algae

B. Benthic forms

C. Green algae

D. Brown algae

Answer: C



Watch Video Solution

Exercise II Light

1. Which of the following is an example of circadian rhythm

- A. migration in birds
- B. flowering in summer
- C. hibernation

D. sleep-wake cycle

Answer: D



Watch Video Solution

2. Read the following statements and select the correct option:

(a) Not all the colour components of the visible spectrum are available for marine plants living at different depths of the ocean.

(b) Red light can reach the deepest. Blue light has poor penetrability.

A. 1)(b) is correct but (a) is false.

B. 2)Both (a) and (b) are true.

C. 3)(a) is correct but (b) is false.

D. 4)Both (a) and (b) are false.

Answer: C



Watch Video Solution

3. Echolocation is exhibited by

A. 1)Bats

B. 2)Rats

C. 3)Cats

D. 4)Owls

Answer: A



Watch Video Solution

4. Cave dwelling animals show

A. Bioluminescence and high metabolic rate

B. More pigmentation & high metabolic rate

C. No pigmentation & no metabolic rate

D. Less pigmentation & less metabolic rate

Answer: D



Watch Video Solution

5. Biological rhythms that are repeated once every 24 hours are

A. Circannual rhythms

B. Circadian rhythms

C. Lunar periodicity

D. 1 and 2

Answer: B



Watch Video Solution

6. Which abiotic factor has role in setting or resetting the biological clocks?

A. Light

B. Pressure

C. Gravity

D. Soil

Answer: A



Watch Video Solution

7. Breeding in a particular season every year is an example of

A. Circannual rhythms

B. Circadian rhythms

C. Lunar periodicity

D. 2 and 3

Answer: A



Watch Video Solution

8. Producers occurring deep in the oceans are

A. Chemoautotrophs

B. Chemoheterotrophs

C. Photoautotrophs

D. Photoheterotrophs

Answer: A



Watch Video Solution

9. Which of the following is incorrect regarding ultraviolet rays?

- A. Cause death of micro organisms
- B. Prolonged exposure cause skin cancer
- C. They are the rays of visible spectrum
- D. Help to convert sterols into vitamin D

Answer: C



Watch Video Solution

Exercise II Adaptations

1. Cell membranes of archaeobacteria can withstand higher temperatures because their membrane lipids have

- A. ester bonds
- B. hydrogen bonds
- C. ether bonds
- D. low molecular weight

Answer: C



Watch Video Solution

2. A rhino covering itself in mud to keep its body cool is an example of

A. morphological adaptation

B. physiological adaptation

C. behavioural adaptation

D. anatomical adaptation

Answer: C



Watch Video Solution

3. Mammals are characterised by

A. thin layer of body fat below their skin

B. aestivation during summer months

C. large-sized ear lobes to minimise the
heat loss

D. less body surface per unit volume of the
body

Answer: D



[Watch Video Solution](#)

Exercise II Water Related Adaptions

1. Who discovered totipotency?



[Watch Video Solution](#)

2. Freshwater organisms live in (a) medium and hence are subjected to (b).

(a)

- 1) Hypertonic
- 2) Hypertonic
- 3) Hypotonic
- 4) Hypotonic

(b)

- Exosmosis
- Endosmosis
- Exosmosis
- Endosmosis



[Watch Video Solution](#)

Exercise II Populations

1. If a new habitat is just being colonised, contribution of which of the following is more significant in the increase in population density?

A. 1)Natality

B. 2)Immigration

C. 3)Emigration

D. 4)Mortality

Answer: B



Watch Video Solution

2. Counting all the fresh piles of faecal pellets of deer in a given area is an example of

A. Direct counting

B. Incomplete counting

C. Indirect counting

D. Mark and recapture method

Answer: C



Watch Video Solution

3. Mark the incorrect statement

- A. Natality contributes to an increase in population density
- B. Mortality contributes to a decrease in population density
- C. Population density is influenced by immigration and emigration rates
- D. Mortality is high when the population size is small

Answer: D



Watch Video Solution

4. All of these have a positive influence on the growth of the population except

A. Natality

B. Fecundity

C. Emigration

D. Immigration

Answer: C



Watch Video Solution

5. Read the following statements and select the correct option:

(a) A population in which most individuals are in pre-reproductive age group is likely to grow rapidly in future.

(b) Many individuals in that population will begin to reproduce soon.

A. (b) is correct but (a) is false

B. Both (a) and (b) are true

C. (a) is correct but (b) is false

D. Both (a) and (b) are false

Answer: B



Watch Video Solution

6. A population with a larger proportion of post-reproductive individuals is likely to

A. grow at a faster rate

B. remain stable for a long time

C. decline in course of time

D. have more natality than mortality

Answer: C



Watch Video Solution

7. Age pyramid of a stable population is

A. urn-shaped

B. triangular

C. bell-shaped

D. inverted

Answer: C



Watch Video Solution

8. Ratio of the body surface to the body size is less in

A. Warm blooded animals living in colder regions

B. Warm blooded animals living in warmer regions

C. Cold blooded animals living in colder regions

D. All vertebrates living in warmer regions

Answer: A



Watch Video Solution

9. Major problems faced by freshwater animals is

A. Gain of salts and loss of water

B. Loss of salts and gain of water

C. Gain of salts and water

D. Loss of salts and water

Answer: B



Watch Video Solution

10. Catadromous migration is exhibited by

A. Protopterus

B. Anguilla

C. Hilsa

D. Moloch

Answer: B



Watch Video Solution

11. Migratory fishes are

A. Euryhaline with aglomerular kidneys

B. Stenohaline with aglomerular kidneys

C. Stenohaline with glomerular kidneys

D. Euryhaline with glomerular kidneys

Answer: D



Watch Video Solution

12. The births and deaths of four populations A, B, C and D in a year are given below. Which population has the highest growth rate?

	<i>Population</i>	<i>Number</i>	<i>Births</i>	<i>Death</i>
1)	A	60	12	6
2)	B	180	54	45
3)	C	38	6	3
4)	D	1200	60	12



13. Which of the following statements is correct?

A. The number of organisms can increase but never decreases once a population reaches its carrying capacity

B. All populations experience exponential growth once they reach carrying capacity

C. A population always grows rapidly once it reaches its carrying capacity

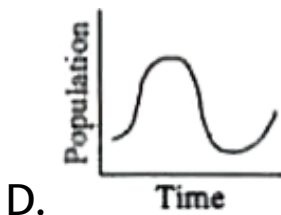
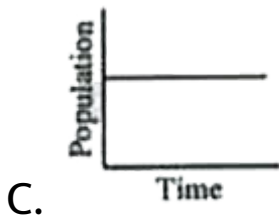
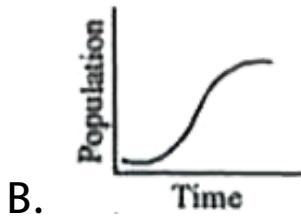
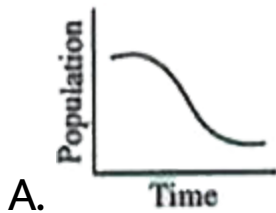
D. Limiting factors can influence the number of organisms in a population once it reaches its carrying capacity

Answer: D



Watch Video Solution

14. Which of the following represents logistic growth curve?



Answer: B



Watch Video Solution

15. The maximum population size of the species that the environment can sustain indefinitely is termed

- A. fecundity
- B. immigration
- C. carrying capacity
- D. biotic potential

Answer: C



Watch Video Solution

Exercise II Population Interactions

1. If an organism's body pattern resembles its environment making it difficult to spot, it is called as

A. camouflage

B. mimicry

C. cyclomorphosis

D. diapause

Answer: A



Watch Video Solution

Exercise Iii Previous Aipmt Neet Questions

1. Asymptote in a logistic growth curve is obtained when

A. $K=N$

B. $K > N$

C. $K < N$

D. The value of 'r' approaches zero

Answer: A



Watch Video Solution

2. Mycorrhizae are the example of

A. Amensalism

B. Antibiosis

C. Mutualism

D. Fungistasis

Answer: C



Watch Video Solution

3. In a hypothetical population of 100 individual having $r = 0.5$ / female/ year, what will be the population size in 6 years (with $e = 2.72$) showing exponential rate of growth?

A. 1218

B. 739

C. 2012

D. 448

Answer: C



Watch Video Solution

4. Which scientist proposed 'Rivet popper hypothesis' related to biodiversity and Ecosystems?

A. Alexander von Humboldt

B. Paul Ehrlich

C. David Tilman

D. Tansley

Answer: B



Watch Video Solution

5. Assigning a '+' sign for beneficial interaction, '-' sign for detrimental and '0' for neutral

interaction, outcomes of competition can be represented as:

A. Commensalism

B. Parasitism

C. Mutualism

D. Amensalism

Answer: B



Watch Video Solution

6. The principle of competitive exclusion was stated by

A. Mac Arthur

B. Verhulst and Pearl

C. C. Darwin

D. G. F. Gause

Answer: D



Watch Video Solution

7. Cause's principle of competitive exclusion states that

A. More abundant species will exclude the less abundant species through competition

B. Competition for the same resources excludes species having different food preferences

C. No two species can occupy the same niche indefinitely for the same limiting

resources

D. Larger organisms exclude smaller ones
through competition

Answer: B



Watch Video Solution

8. When does the growth rate of a population following the logistic model equal zero ?

The logistic model is given as $dN/dt = rN(1 - N/K)$

A. When N/K is exactly one

B. When N nears the carrying capacity
of the habitat

C. When N/K equals zero

D. When death rate is greater than birth
rate

Answer: A



Watch Video Solution

9. In which of the following intersections both partners are adversely affected ?

A. Mutualism

B. Competition

C. Predation

D. Parasitism

Answer: B



Watch Video Solution

10. An association of individuals of different species living in the same habitat and having functional intersections is

A. ecosystem

B. population

C. ecological niche

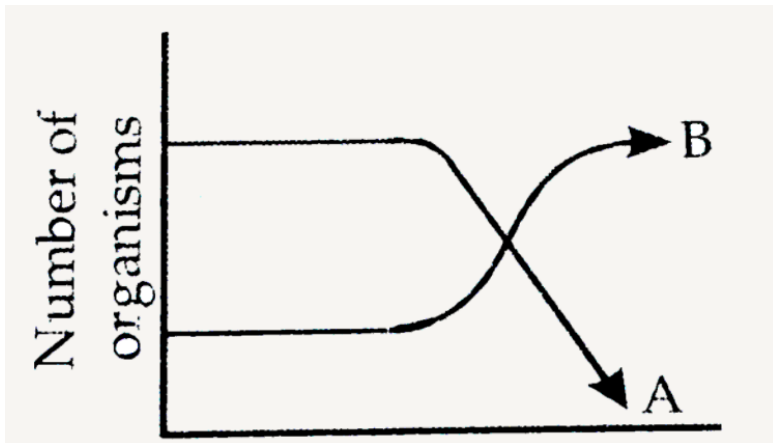
D. biotic community

Answer: D



Watch Video Solution

11. 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 produced more offspring than population B

B. Population A consumed the members of
population B

C. Both plant populations in this habitat
decreases

D. Population B competed more
successfully for food than population A

Answer: D



Watch Video Solution

12. Just as a person moving from Delhi to Shimla, escape the heat for the duration of hot summer, thousands of migratory birds form Siberia and other extremely cold northern regions move to

A. Western Ghats

B. Meghalaya

C. Corbett National Park

D. Keoladeo National Park

Answer: D



Watch Video Solution

13. Besides paddy fields, cyanobacteria are also found inside vegetative part of

A. Equisetum

B. Psilotum

C. Pinus

D. Cycas

Answer: B



14. A sedentary sea anemone gets attached to the shell lining of hermit crab. The association is

- A. Ectoparasitism
- B. Symbiosis
- C. Commensalism
- D. Amensalism

Answer: B



15. 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 increases in population is

A. 10

B. 15

C. 5

D. zero

Answer: D



Watch Video Solution

16. The age pyramid with broad base indicates

- A. high percentage of old individuals
- B. low percentage of young individuals
- C. a stable population
- D. high percentage of young individuals

Answer: D



Watch Video Solution

17. Which of the following is not a parasitic adaptation?

- A. Development of adhesive organs
- B. Loss of digestive organs
- C. Loss of reproductive capacity
- D. Loss of unnecessary sense organs

Answer: C



18. Benthic organisms are affected most by

A. light reacting the forest floor

B. surface turbulence of water

C. sediment characteristics of aquatic ecosystems

D. water-holding capacity of soil

Answer: C



19. Cuscuta is an example of a

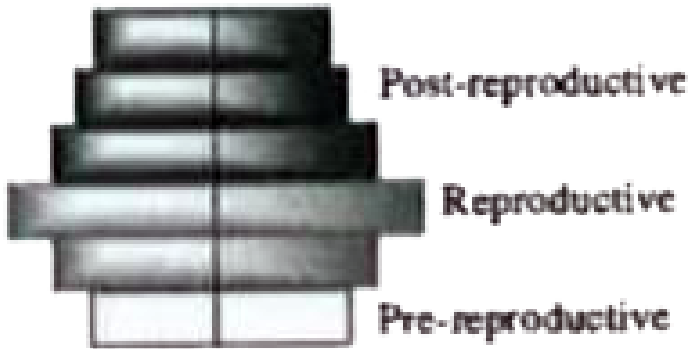
- A. ectoparasitism
- B. brood parasitism
- C. predation
- D. endoparasitism

Answer: A



Watch Video Solution

20. What type of human population is represented by the following age pyramid



- A. Expanding population
- B. Vanishing population
- C. Stable population
- D. Declining population

Answer: D



Watch Video Solution

21. Large woody Vines are more commonly found in

- A. Alpine forests
- B. Temperate forests
- C. Mangroves
- D. Tropical rainforests

Answer: D



Watch Video Solution

22. Consider the following four conditions (i-iv) and select the correct pair of them as adaptation to environment in desert lizards.

The condtions.

(i) Burrowing in soil to escape high temperature.

(ii) Losing heat rapidly form the body during high temperature.

(iii) Bask in sun when temperature is low.

(iv) Insulating body due to thick fatty dermits

A. (a),(b)

B. (c),(d)

C. (a),(c)

D. (b),(d)

Answer: C



Watch Video Solution

23. 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

Answer: C



Watch Video Solution

24. The logiostic population growth is expressed by the equation

$$\text{A. } dt / dN = Nr \left(\frac{K - N}{K} \right)$$

$$\text{B. } dN / dt = rN \left(\frac{K - N}{K} \right)$$

$$C. \frac{dN}{dt} = rN$$

$$D. \frac{dN}{dt} = rN \left(\frac{N - K}{N} \right)$$

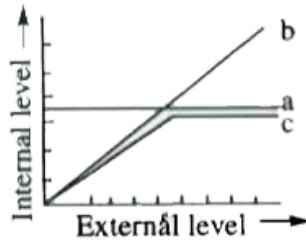
Answer: B



Watch Video Solution

25. The figure given below is a diagrammatic representation of response of organisms to abiotic factors. What do a, band c represent

respectively?



- | (a) | (b) | (c) |
|----------------------|-------------------|-------------------|
| 1) conformer | regulator | partial regulator |
| 2) regulator | partial regulator | conformer |
| 3) partial regulator | regulator | conformer |
| 4) regulator | conformer | partial regulator |



[Watch Video Solution](#)

26. 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



Watch Video Solution

27. Which one of the following is most appropriately defined ?

A. host is an organism which provides food to another organism

B. amensalism is a relationship in which one species is benefitted whereas the other is unaffected

C. predator is an organism that catches and kills

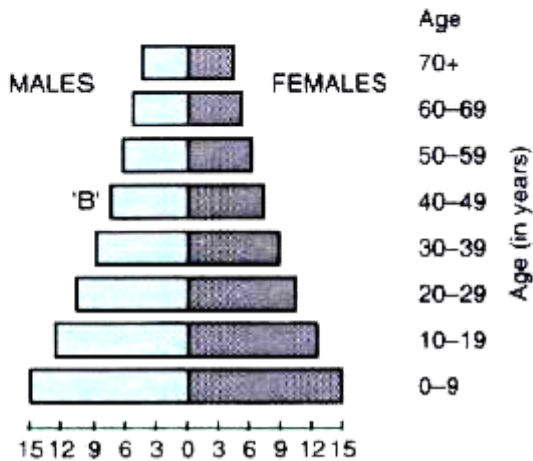
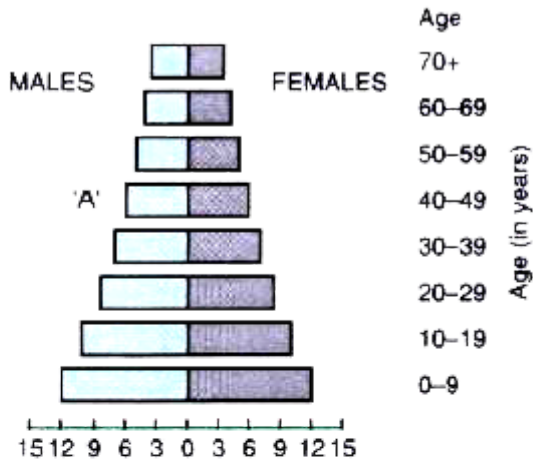
D. parasite is an organism which always lives inside the body of other organism and may kill it

Answer: C



Watch Video Solution

28. A country with a high rate of population growth took measures to reduce it. The figure below shows are sex pyramids of populations. A and B twenty years apart. Select the correct interpretation about them.



Interpretations

- A. "A" is the earlier pyramid and no change has occurred in the growth rate

B. "A" is more recent shows slight reduction
in the growth rate

C. B is earlier pyramid and shows stabilized
growth rate

D. B is more recent showing that
population is very young

Answer: B



Watch Video Solution

29. Reduction in vascular tissue, mechanical tissue and cuticle is characteristic of

A. mesophytes

B. epiphytes

C. hydrophytes

D. xerophytes

Answer: C



Watch Video Solution

30. Consider the following four statements (i)-(iv) about certain desert animals such as kangaroo rat.

i) They have dark colour and high rate of reproduction and excrete solid urine ii) They do not drink water, breathe at a slow rate to conserve water and have their body covered with thick hairs iii) They feed on dry seeds and do not required drinking water iv)They excrete very concentrated urine and do not use water to regulate body temperature. Out of these four, which two are correct :

A. c and a

B. c and a

C. c and d

D. b and c

Answer: C



Watch Video Solution

31. Quercus species are the dominant component in

A. scrub forests

B. tropical rain forests

C. temperate deciduous forests

D. alpine forests

Answer: C



Watch Video Solution

32. Geometric representation of age structure is a characteristic of

A. Ecosystem

B. Biotic community

C. Population

D. Landscape

Answer: C



Watch Video Solution

33. The population of an insect species shows an explosive increase in numbers during rainy

season followed by its disappearance at the end of the season. What does this show ?

A. The population of its predators increases enormously

B. S-shaped or sigmoid growth of this insect

C. The food plants mature and die at the end of the rainy season

D. Its population growth curve is of J-type

Answer: D



[Watch Video Solution](#)

34. If nature selects mean character value, it is

- A. a bi-modal distribution
- B. a T-shaped curve
- C. a skewed curve
- D. a normal distribution

Answer: D



[Watch Video Solution](#)

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

A. Predation on one another

B. Mutualism

C. Intraspecific competition

D. Interspecific competition

Answer: C



Watch Video Solution

