

Episode No – 36  
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## Ecology

### MULTIPLE CHOICE QUESTIONS:

1. Which living organism is seen in the hot water spring having temperature more than 100°C.

- (a) Methanogens (b) Thermoacidophils (c) Halophyles (d) Neutrophiles

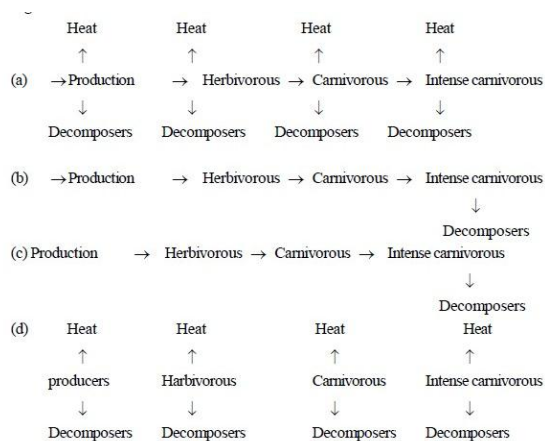
**Ans: (b) Thermoacidophils**

2. A few organisms can tolerate and thrive a wide range of temperature such animals are called

- (a) Stenothermal (b) Eurythermal  
 (b) Thermophilic (d) Exothermal

**Ans: (b) Eurythermal**

3. What is true with the respect to energy flow



**Ans: (a)**

4. Which path is followed by plants as a part of adaptation in an ecosystem where Kangaroo rat is living ?

- (a) C3 Path (b) C4 Path (c) CAM Path (d) TCA Path

**Ans: (c) CAM Path**

5. Biological control as pest control in agriculture is an example of .....

- (a) Predation (b) Competition
- (c) Emigration (d) diseases

**Ans: (a) Predation**

6. Abingdon Tortoise of Galapagos island and the goats living there both were eating tender grass, state the relationship.

- (a) Interfering competition (b) Emigration
- (c) predation (d) competitive release

**Ans: (a) Interfering competition**

7. Carrying capacity of a population is determined by

- (a) Birth rate (b) Death rate
- (c) Limiting resources (d) Reproductive ability

**Ans: (c) Limiting resources**

9. Match Column I with Column II and choose correct option

Column I	Column II
a. Aestivation	(i) Over wintering
b. Hibernation	(ii) Over summer
c. Diapause	(iii) Suspended development in zooplanktons
(a) a(i), b(ii), c(iii)	(b) a(i), b(iii), c(ii)
(c) a(ii), b(i), c(iii)	(d) a(iii), b (i), c(ii)

**Ans: (c) a(ii), b(i), c(iii)**

8. Warm blooded animals like mammals from colder climates generally have shorter ear and limbs. This is an explanation of

- (a) Jordan's rule (b) Allen's rule (c) Rensch's rule (d) Bergman's rule

**Ans: (b) Allen's rule**

9. Which of the following contributes an increase in population density?

- (a) Mortality (b) Emigration (c) Natality (d) Predation

**Ans: (c) Natality**

10. The age pyramid with narrow base indicates

- (a) High number of young individuals
- (b) Low number of young individuals
- (c) High number of old individuals
- (d) Low number of old individuals

**Ans: (b) Low number of young individuals**

11. Which of the following is considered as more realistic growth model?

- (a) Exponential growth (b) Arithmetic growth
- (c) Geometric growth (d) Logistic growth

**Ans: (d) Logistic growth**

12. Predators play important role in

- (a) Conduction of energy across trophic levels
- (b) Maintenance of species diversity
- (c) Control of prey population
- (d) More than one option is correct

**Ans: (d) More than one option is correct**

13. 'Resource partitioning' is an important mechanism which promotes

- (a) Competitive release (b) Co-existence
- (c) Competitive exclusion (d) Antibiosis

**Ans: (b) Co-existence**

14. a. Loss of unnecessary sense organs  
b. Presence of adhesive organs  
c. Presence of suckers  
d. High reproductive capacity  
e. Well developed digestive system

Choose correct option w.r.t. parasites

- (a) All a-e are correct
- (b) Only a, b, d & e are correct

(c) Only a, b, c, d are correct

(d) Only d & e are incorrect

**Ans: (c) Only a, b, c, d are correct**

15. Camouflage is an important mechanism where

(a) Predators are never cryptically coloured for easy capturing of their prey

(b) Prey species are cryptically coloured to avoid being detected easily by the predator

(c) Prey produces some poisonous chemicals in their surroundings to protect themselves from predators

(d) Predators evolved some physiological adaptations to reach to the prey present in some harsh habitats

**Ans: (b) Prey species are cryptically coloured to avoid being detected easily by the predator**

16. A J-shaped growth curve depicts

(a) Exponential growth when conditions are limited

(b) Exponential growth when conditions are unlimited

(c) Logistic growth when conditions are limited

(d) Logistic growth when conditions are unlimited

**Ans: Logistic growth when conditions are limited**

17. Keolado national park is situated at \_\_\_\_\_ and is famous for \_\_\_\_\_.

(a) Gir (Gujarat), Lion

(b) Ranthambhore (Rajasthan), Tiger

(c) Bharatpur (Rajasthan), Siberian cranes

(d) Hazaribag (Jharkhand), Tiger

**Ans (c) Bharatpur (Rajasthan), Siberian cranes**

18. Altitude sickness which includes nausea, fatigue and heart palpitations occurs due to

(a) High atmospheric pressure at high altitudes

(b) Low atmospheric pressure at high altitude

(c) High mountain height and high temperature

(d) Heavy snowfall at high altitude and low temperature

**Ans: Low atmospheric pressure at high altitude**

19. Which of the following is not an example of Commensalism

- (a) Sea anemone and clown fish
- (b) Epiphyte /Orchid on mango branch
- (c) Liver fluke and fleas
- (d) Cattle egret and grazing cattle

**Ans: Epiphyte /Orchid on mango branch**

20. Mac Arthur observed that five closely related species of Warblers living on the same tree where able to avoid competition and coexist due to

- (a) Cooperation in their foraging efforts
- (b) Behavioural differences in their foraging activities
- (c) Difference types of insets they eat
- (d) All of the above

**Ans: All of the above**

21. Identify incorrect statement

- (i) Thermoregulation energetically least expensive process for many organsims like shrews and humming birds
  - (ii) 99% animals and nearly all plants cannot maintain their constant internal environment
  - (iii) During the course of evolution the costs and heights of maintaining a constant internal environment are discarded
  - (iv) In aquatic animals the osmotic concentration of the body fluids change with that of the ambient water osmotic concentration
- (a) I and ii (b) iii and iv (c) I and iii (d) ii and iii

**Ans: (c) I and iii**

22. Select the correct statement w.r.t adaptations

- (a) Desert lizards bask in the sun and absorb heat when their body temperature drops below comfort zone
- (b) To stop experiencing altitude sickness, the body compensates low oxygen availability by increasing binding affinity of haemoglobin
- (c) Mammals of colder climate generally have larger ears and limbs to minimize heat loss
- (d) Many desert plants have thin cuticle on their leaf surface and have their stomata arranged on upper surface to minimize water loss

**Ans: (b) To stop experiencing altitude sickness, the body compensates low oxygen availability by increasing binding affinity of haemoglobin**

23. Altitude sickness is managed by the body by

- (a) Decreasing RBC production
- (b) Increasing fat oxidation
- (c) Decreasing binding capacity of O<sub>2</sub> for hemoglobin
- (d) Decreasing breathing rate

**Ans: (c) Decreasing binding capacity of O<sub>2</sub> for hemoglobin**

24. Which of the following type of age pyramid reflects a stable population growth?

- (a) Triangular
- (b) Bell-shaped
- (c) Urn-shaped
- (d) Both bell-shaped and urn-shaped

**Ans: (b) Bell-shaped**

25. Connell's field experiments related to barnacles in which superior barnacle *Balanus* dominates the inter tidal area, and excludes the smaller barnacles *Chathamalus* from that zone, this phenomenon is called

- (a) Competitive exclusion principle
- (b) Competitive release
- (c) Interspecific competition
- (d) Competition between unrelated species

**Ans: (a) Competitive exclusion principle**

26. Cattle or goats are never browsing on *Calotropis* growing in abandoned fields because of the presence of

- (a) Poisonous glycosides
- (b) Alkaloids like quinine

(c) Opium (d) Long chain fatty acids

**Ans: (a) Poisonous glycosides**

27. Pollination in Ophrys a mediterranean orchid occurs by

- (a) Insect through clip mechanism
- (b) Insect through trap door mechanism
- (c) Insect through pseudocopulation mechanism (d) Insect through lever mechanism

**Ans: (c) Insect through pseudocopulation mechanism**

28. Read the following statements and select the correct option w.r.t. population attributes

- a. Population density is necessarily measured in numbers
  - b. Tiger census is often based on pug marks and fecal pellets
  - c. Biomass is not a meaningful measure to know population size.
  - d. Size of a population for any species is not a static parameter
- (a) a & b (b) a & d (c) c & d (d) b & d

**Ans: (d) b & d**

29. A population growing in a habitat with limited resources shows four phases of growth in the following sequence

- (a) Acceleration – deceleration – lag phase – asymptote
- (b) Asymptote – acceleration – deceleration – lag phase
- (c) Lag phase – acceleration – deceleration – asymptote
- (d) Acceleration – lag phase – deceleration – asymptote

**Ans: (c) Lag phase – acceleration – deceleration – asymptote**

30. Nearly all plants and an overwhelming majority (99 percent) of animals are categorized as

- (a) Conformers – They can maintain a constant internal environment
- (b) Conformers – They cannot maintain a constant internal environments
- (c) Regulators – They can maintain a constant internal environment
- (d) Regulators – They cannot maintain a constant internal environment

**Ans: (b) Conformers – They cannot maintain a constant internal environments**