



# BIOLOGY

## BOOKS - FULL MARKS BIOLOGY (TAMIL ENGLISH)

### ORGANISMS AND POPULATION

**Textbook Evaluation Solved**

1. All populations in a given physical area are defined as

A. Biome

B. Ecosystem

C. Territory

D. Biotic factors

**Answer: A**



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2. Organisms which can survive a wide range of temperature are called

A. Ectotherms

B. Eurytherm

C. Endotherms

D. Stenotherms

**Answer: B**



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3. The interaction in nature, where one gets benefit on the expense of other is..... .

A. Predation

B. Mutualism

C. Amensalism

D. Commensalism

**Answer: D**



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**4. Predation and parasitism are which type of interaction ?**

A. (+,+)

B. (+,0)

C. (-,-)

D. (+,-)

**Answer: D**



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**5. Competition between species leads to**

A. Extinction

B. Mutation

C. Amensalism

D. Symbiosis

**Answer: A**



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**6. Which of the following is an r-species ?**

A. Human

B. Insects

C. Rhinoceros

D. Whale

**Answer: B**



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7. Match of the following and choose the correct combination from the options given below.



A. A-4,B-5,C-2,D-3,E-1

B. A-3,B-1,C-4,D-2,E-5

C. A-5,B-4,C-1,D-5,E-4

D. A-5,B-4,C-2,D-3,E-1

**Answer: A**



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8. The figure given below is diagrammatic representation of response of organisms to abiotic factors. What do A, B and C represent



respectively.



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9. The relation ship between sucker fish and shark is ..... .

A. Competition

B. Commensalism

C. Predation

D. Parasitism

**Answer: B**



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**10.** What type of human population is represented by the following age pyramid ?



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

**Answer: B**



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**11.** 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

**Answer: A**



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**12.** Animals that can move from fresh water to sea called as .....

- A. Stenothermal
- B. Eurythermal
- C. Catadromous
- D. Anadromous

**Answer: C**



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**13.** Some organisms are able to maintain homeostasis by physical means.....

A. Conform

B. Regulate

C. Migrate

D. Suspend

**Answer: B**



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**14. What is a Habitat ?**



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**15. Define ecological niche.**



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**16. What is Acclimatisation ?**



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**17. What is pedogenesis ?**



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**18. What is zero Stress ?**



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**19.** What is soil permeability ?



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**20.** Differentiate between Eurytherms and Stenotherms.



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**21.** Explain hibernation and aestivation with examples.





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**22.** Give the diagnostic characters features of a Biome ?



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**23.** Classify the aquatic biomes of Earth.



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**24.** What are the ways by which organisms respond to abiotic factors ?



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**25.** Classify the adaptive traits found in organisms.



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**26.** Differentiate Netality and Mortally.



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**27. Differentiate J and S shaped curve.**



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**28. Give an account of population regulation.**



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**29.** What is ecological density, crude density and population density ?



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**30.** Give an account of the properties of soil.



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**31.** Differentiate between Tundra and Taiga Biomes



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**32.** List the adaptations seen in terrestrial animals.



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**33.** Describe Population Age Distribution.



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**34.** Describe Growth Models/Curves.



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## **Additional Questions 1 Mark Questions**

**1.** The study dealing with animal behaviour is called as

A. Euthenics

B. Ethology

C. Ecology

D. Pedogenesis

**Answer: B**



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2. Identify the proper sequence.

A. Species → Population → Community

-biome

B. Population → Community → Species

biome

C. Biome → Species → Community →

Population

D. Community → Population → Biome

→ Species

**Answer: B**



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3. Functional status of an organism in its community is .....

A. Biome

B. Niche

C. Species

D. Population

**Answer: B**



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4. Pick out the eurythermal organism

A. Fish

B. Frog

C. Tiger

D. Lizards

**Answer: C**



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5. Locomotary speed of an organism changes due to light. This phenomenon is referred as.....

A. Photonasty

B. Photokinesis

C. Phototropism

D. Phototaxis

**Answer: B**



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6. Identify the incorrect statement

A. Water is a universal solvent

B. Water has less surface tension

C. Water is heavier than air

D. When freezes water contracts

**Answer: B**



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7. The soil zone is known as.....

- A. Pedosphere
- B. Atmosphere
- C. Hydrosphere
- D. Stratosphere

**Answer: A**



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**8. Assertion (A):** Snake is a stenotherm. Reason (R): Organism can tolerate narrow temperature fluctuations.

A. Both A and R are correct R explain A

B. A is correct R is incorrect

C. R doesnot explain A

D. Both A and R are incorrect

**Answer: A**



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9. Assertion (A): Diapause is carried out to overcome abiotic stress.

Reason (R): Animals become inactive during winter.

A. Both A and R are correct R explain A

B. A is correct R is incorrect

C. R doesnot explain A

D. Both A and R are incorrect

**Answer: B**



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**10. Assertion (A):** Movement of organism from one place to another and back is called migration.

**Reason (R):** Eel is an example for aradromous migration

- A. Both A and R are correct R explain A
- B. A is correct R is incorrect
- C. R doesnot explain A
- D. Both A and R are incorrect



**Answer: A**



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**11. Which is not a feature of Tundra?**

A. Large population oscillation

B. Short season of growth and reproduction

C. Low biotic diversity

D. Extremely hot climate

**Answer: D**



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**12.** Pick out the correct statement regarding K-selected species

- A. Produce many offsprings
- B. Only few reach adulthood
- C. Unstable environment
- D. Long life expectancy

**Answer: D**



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**13.** Maximum reproductive capacity of an organism under favourable condition is referred as.....

A. Carrying capacity

B. Biotic potential

C. Natality

D. Fecundity

**Answer: B**



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**14.** During breeding season, Salmon migrates from sea to fresh water. This is an example for.....



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**15.** Exponential growth shows..... growth patterns.



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**16.** Interaction between *Ascaris* in human gut is an example .....



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**17.** If both the species of an interaction is benefitted then it is said to be.....



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18. Match of the following



A. a-ii,b-i,c-iv,d-iii

B. a-iii,b-ii,c-i,d-iv

C. a-iv,b-iii,c-ii,d-i

D. a-i,b-iv,c-iii,d-ii

**Answer: A**



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19. As altitude increases .....



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## Additional Questions 2 Mark Questions

1. What is an Ecosphere?



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2. List out the adaptation of fish to survive in aquatic environment.



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3. Define 'niche'.



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4. Name few abiotic factors that influence organisms in an environment





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5. State Allen's rule.



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6. State Jordon's rule.



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7. Define Van't Hoff factor.



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8. What is  $Q_{10}$  value? How it is calculated?



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9. Differentiate between Eurytherms and Stenotherms.



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**10. Snakes are stenotherm. Why ?**



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**11. What is phototaxis ?**



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**12. What is photokinesis ?**



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**13.** What is pedosphere ?



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**14.** Point out the major functions of soil.



**Watch Video Solution**

**15.** Define humidity and mention its types



**Watch Video Solution**

**16.** Define biome.



**Watch Video Solution**

**17.** Enumerate the characters of a Biome.



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**18.** Which is the largest biome on Earth?

Classify it.



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**19.** Define alpine zone.



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**20.** What is a forest? Name the major forest biomes.



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**21.** What are the types of tropical forest?



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**22.** How the cold deserts are characterized?

Give an example.



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**23.** Fishes are said to be conformers-Justify.



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**24.** When and why do snails go into aestivation?



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**25.** How do animals like fishes and bears avoid unfavourable climatic conditions?



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**26.** What are cryptic animals ?





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27. Mention the important behavioural adaptations seen in animals.



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28. Define population.



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**29.** List the attributes that populations but not individuals possess.



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**30.** Camels are well adapted to xeric conditions, how?



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**31.** How natality and mortality can be calculated?



**Watch Video Solution**

**32.** Define biotic potential.



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**33.** Which type of species interaction is noticed between

a) Cat and Rat

(b) Crocodile and birds



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**34.** Explain Commensalism with an example.



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**Additional Questions 3 Mark Questions**

1. What are ecological equivalents ? Give one example.



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2. Define temperature. How it impacts the life of an organism?



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3. Light is essential for life. Why?



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4. What is acclimatization?



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5. Write the characteristics of tundra.



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6. Name the major biomes of the Earth.



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7. Why do organisms migrate? Give example.



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8. What is Ethology ?



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9. Comment on the J-shaped growth form.



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## Additional Questions 5 Mark Questions

1. Explain sigmoid growth.



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2. Write the properties of water.



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3. Give an account of grassland biome



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4. Write in detail about Temperate forest and its types.



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5. Point out the adaptive traits of aquatic animals .





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6. List the differences between R selected and K selected species.



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7. Describe in detail on population interaction



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8. Mention the important behavioural adaptations seen in animals.



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## Higher Order Thinking Skills Hots Questions

1. Name the kind of interaction in the following pairs.

(a) Shark and Sucker fish

(b) Cat and Rat

(c) Lion and Deer



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2. What are the ways by which organisms respond to abiotic factors ?



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3. List the attributes that populations but not individuals possess.



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4. Census refers to the official count or survey of population. Every 10 years our government undertake census. In India the next census will be carried out in 2021. Mention any four characters that are employed in human population census



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5. Fruit flies (*Drosophila melanogaster*) are the most widely used genetic tool by molecular geneticists. The life cycle of a fruit fly completes within a time span of 15 days. Calculate the death rate if 12 individuals in a laboratory population of 148 fruit flies died during a particular week.



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6. People living in high altitudes have an increased RBC count. Give reason.



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