



# **BIOLOGY**

## **BOOKS - FULL MARKS BIOLOGY (TAMIL ENGLISH)**

### **THE LIVING WORLD**

**Textbook Evaluation Questions Solved Multiple  
Choice Questions**

1. A living organism is differentiated from non-living structure based on .....

A. Reproduction

B. Growth

C. Metabolism

D. All the above

**Answer: C**



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2. A group of organisms having similar traits of a rank is

A. Species

B. Taxon

C. Genus

D. Family

**Answer: A**



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3. Every unit of classification regardless of its rank is .....

A. Taxon

B. Variety

C. Species

D. Strain

**Answer: A**



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4. Which of the following is not present in same rank?

A. Primata

B. Orthoptera

C. Diptera

D. Insecta

**Answer: A**



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5. What taxonomic aid gives comprehensive information about a taxon?

A. Taxonomic Key

B. Herbarium

C. Flora

D. Monograph

**Answer: A**



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6. Who coined the term Bio-diversity?

A. Walter Rosen

B. AG Tansley

C. Aristotle

D. AP de candole

**Answer: A**



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7. Cladogram considers the following characters

A. Physiological and Biochemical

B. Evolutionary and Phylogenetic

C. Taxonomic and systematic

D. None of the above

**Answer: B**



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8. Molecular taxonomic tool consists of

A. DNA and RNA

B. Mitochondria and Endoplasmic  
reticulum

C. Cell wall and Membrane proteins

D. All the above

**Answer: A**



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## Textbook Evaluation Questions Solved

1. Differentiate between probiotic and pathogenic bacteria.



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2. Why mule is sterile in nature?



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3. List any five salient features of the family Felidae.



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4. What is the role of Charles Darwin in relation to concept of species?



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5. Why elephants and other wild animals are entering into human living area?



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6. What is the difference between a Zoa and wild life sanctuary?



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7. Can we use recent molecular tools to identify and classify organisms?



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8. Explain the role of Latin and Greek names in Biology.



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**In Text Questions Solved**

1. If you find an animal with four legs, with two eyes, paired ear pinna, covered with fur, possessing mammary gland, which class will you position it? How will you give a binomial name, if you are the first person to discover and report that animal.



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2. Why are sparrows listed as endangered species?



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## Entrance Examination Questions Solved Choose The Correct Answer

1. The smallest taxon among the following is

..... .

A. class

B. order

C. species

D. genus

**Answer: C**



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2. Taxonomically a species is ..... .

A. A group of evolutionary related population

B. A fundamental unit in the phylogeny of organisms

C. Classical evolutionary taxonomy



D. A community taken into consideration.

An evolutionary base.

**Answer: B**



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**3. Species is ..... .**

A. not related to evolution

B. specific class of evolution

C. specific unit of evolution

D. fertile specific unit in the evolutionary history of a race

**Answer: D**



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4. Two words comprising the binomial nomenclature are

A. Family & genus

B. order & family

C. genus & species

D. species & variety

**Answer: C**



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5. A group of organisms having similar traits of a rank is ..... .

A. species

B. genus

C. order

D. taxon

**Answer: D**



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6. Which of the following is the correct sequence in the increasing order of complexity?

A. molecules, tissues, community,  
population

B. cell, tissues, community, population

C. tissues, organisms, population,  
community

D. molecules, tissues, community, cells

**Answer: C**



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7. New systematic and the concept of life was given by

A. Huxley

B. Odom

C. Elton

D. Linnaeus

**Answer: C**



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8. Two organisms of same class but different families will be kept under the same .....

A. genera

B. species

C. order

D. family

**Answer: C**



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9. Which of the following will form a new species?

A. inter breeding

B. variations

C. differential reproduction

D. None of the above

**Answer: B**



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10. A community includes \_\_\_\_\_.

A. a group of same genera

B. a group of same population

C. a group of individuals from same species

D. different populations interacting with each other

**Answer: D**



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**11.** Binomial nomenclature was proposed by:

A. Huxley

B. Ray

C. Darwin

D. Linnaeus

**Answer: D**



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12. In classification the category below the level of family is

A. class

B. species

C. phylum

D. genus

**Answer: D**



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**13.** Taxon is .....

A. species

B. unit of classification

C. highest rank in classification

D. group of closely related

**Answer: B**



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**14.** One of the following includes most closely linked organisms

A. species

B. genus

C. family

D. class

**Answer: A**



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15. Which of the following taxons cover a greater number of organisms?

A. order

B. family

C. genus

D. phylum

**Answer: D**



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**16.** Inbreeding is possible between two members of ..... .

A. order

B. family

C. genus

D. species

**Answer: D**



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17. Which of these is correct order of hierarchy?

A. kingdom, division, phylum, genus & species

B. phylum, division, genus & class

C. kingdom, genus, class, phylum & division

D. phylum kingdom, genus, species & class

**Answer: A**



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**18.** Which is not a unit of taxonomic category?

A. series

B. glumaceae

C. class

D. phylum

**Answer: B**



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**19.** Which is the first step of taxonomy?

A. nomenclature

B. classification

C. identification

D. hierarchical arrangement

**Answer: C**



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20. The five kingdom classification was given by ..... .

A. Whittaker

B. Linnaeus

C. Copeland

D. Haeckel

**Answer: A**



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21. Taxon includes .....

- A. Genus and species
- B. kingdom and division
- C. all ranks of hierarchy
- D. None of the above

**Answer: C**



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22. Binomial nomenclature refers to .....

A. Two names of a species

B. one specific and one local name of a species

C. two words for the name of a species

D. two life cycles of a organism

**Answer: C**



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**23.** Carl Linnaeus is famous for .....

- A. coining the term 'systematics'
- B. introducing binomial nomenclature
- C. giving all natural system of classification
- D. all of these

**Answer: B**



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**24. True species are .....**

- A. interbreeding

B. sharing the same niche

C. feeding on the same food

D. reproductively isolated

**Answer: D**



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**25.** The smallest unit of classification is

..... .

A. species

B. sub-species

C. class

D. genus

**Answer: A**



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**26. Who coined the term 'taxonomy'?**

A. Candolle

B. Waksman



C. Leuwenhoek

D. Louis Pasteur

**Answer: A**



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**27. Basic unit of classification of organisms is**

..... .

A. species

B. population

C. class

D. family

**Answer: A**



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**28.** The unit of classification containing concrete biological entities is .....

A. taxon

B. species

C. category

D. order

**Answer: A**



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**29.** Species are considered as ..... .

A. real basic units of classification

B. the lowest units of classification

C. artificial concept of human mind which cannot be defined in absolute terms

D. real units of classification devised by taxonomists

**Answer: A**



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**30.** The living organisms can be unexceptionally distinguished from the non-

living things on the basis of their ability for

..... .

A. interaction with the environment and  
progressive evolution

B. reproduction

C. growth and movement

D. responsiveness to touch

**Answer: B**



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**31.** Taxonomic category arrange in descending order .....

A. key

B. hierarchy

C. taxon

D. taxonomic category

**Answer: D**



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**32.** In which of the animal dimorphic nucleus is found?

- A. *Amoeba proteus*
- B. *Trypanosoma gambiense*
- C. *Plasmodium vivax*
- D. *Paramecium caudatum*

**Answer: D**



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**33.** When a fresh-water protozoan possessing a contractile vacuole, is placed in a glass containing marine water, the vacuole will

A. increase in number

B. disappear

C. increase in size

D. decrease in size

**Answer: D**



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**34.** When form of reproduction is correctly matched?

- A. Euglena transvers binary fission
- B. Paramecium longitudinal binary fission
- C. Amoeba multiple fission
- D. Plasmodium binary fission

**Answer: C**



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**35.** The presence of two types of nuclei, a macronucleus and a micronucleus, is characteristic of protozoans are grouped under the class .....

A. sporozoa

B. flagellate

C. sarcodina

D. ciliata

**Answer: D**



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**36.** Which class of protozoos is totally parasitic ?

- A. Sporozoa
- B. Mastigophora
- C. Ciliate
- D. Sarcodina

**Answer: A**



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**37.** Reproduction in Paramecium is controlled by ..... .

A. flagella

B. cell wall

C. micronucleus

D. macronucleus

**Answer: C**



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**38.** In the life cycle of Plasmodium exflagellation occurs in ..... .

- A. sporozoties
- B. microgametes
- C. macrogametes
- D. signet ring

**Answer: B**



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**39.** Excretion in Amoeba occurs through  
..... .

- A. lobopodia
- B. plasma membrane
- C. uroid portion
- D. contractile vacuole

**Answer: D**



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**40.** Method of dispersal in Amoeba is .....

A. locomotion

B. encystment

C. sporulation

D. binary fission

**Answer: B**



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**41.** Mode of feeding in free living protozoans is

..... .

A. holozoic

B. saprozoic

C. both (a) and (b)

D. none of these

**Answer: C**



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**42.** Infection of Entamoeba is caused .....

A. by kissing

B. by wearing clothes of patient

C. by contaminated food

D. none of these

**Answer: C**



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**43.** Choose the correct statement.

A. All reptiles have a three chambered heart.

B. All pisces have gills covered by a operculum

C. All mammals are viviparous

D. All cyclostomes do not posses jaws and paired fin

**Answer: D**



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**44.** Which of the following characteristics is mainly responsible for diversification of insects on land?

- A. Segmentation
- B. Bilateral symmetry
- C. Exoskeleton
- D. Eyes

**Answer: C**



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**45.** The primitive prokaryotes responsible for the production of biogas from the ruminant animals. Include the ..... .

A. Thermoacidophiles

B. methanogens

C. Eubacteria

D. Halophiles

**Answer: B**



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**46.** Methanogens belong to .....

A. Dinoflagellates

B. Slime moulds

C. Eubacteria

D. Archaeobacteria

**Answer: D**



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## Additional Questions Solved Multiple Choice Questions

1. Which of the following statement is incorrect with regard to ecosystem?

- A. It includes living and non-living things.
- B. It shows interrelationship among living things.
- C. It shows interrelationship among and non-living things.
- D. It has a large number of species.

**Answer: B**



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**2. Who is known as the "Father of Botany" ?**

A. Aristotle

B. Carolus Linnaeus

C. John Ray

D. Theophrastus

**Answer: D**



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3. Who developed the scientific system of Taxonomy and Binomial nomenclature?

A. R.H. Whittaker

B. Carolus Linnaeus

C. John Ray

D. Charles Darwin

**Answer: B**





4. The system of classification of organisms based on evolutionary and genetic relationship among organisms is called as .....

- A. Natural system of classification
- B. Phylogenetic system of classification
- C. Binomial classification
- D. Trinomial classification

**Answer: B**



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5. The bacteria which live in salty environment are called .....

A. Theromoacidophiles

B. Methanogens

C. Halophiles

D. Pathogens

**Answer: C**



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**6. Which of the following is the characteristics of the domain Bacteria?**

A. They are eukaryotic organisms

B. They have true nucleus and membrane bound organelles

C. The ribosomes are of 80s type in the cytoplasm

D. They have membrane bound 70s type ribosomes.

**Answer: D**



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7. Which of the following statement is incorrect regard to species \_\_\_\_\_.

A. They have similar morphological features

B. They are reproductively isolated

C. They produce viable young ones

D. They have similar anatomical features

**Answer: B**



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8. The cross between male lion and female tiger results in the production of

A. Mule

B. Tigon

C. Liger

D. Hinny

**Answer: C**



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9. The related families constitute ..... .

A. Clans

B. Phylum

C. Genus

D. Order

**Answer: D**



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10. Which of the following is not related to scientific names of organisms?

A. There is only one name for a species.

B. They are universally accepted.

C. They are named based on the guidelines of the ICZN.

D. They are not unique to an organism.

**Answer: D**



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11. Naja naja is the zoological name of .....

A. Indian house crow

B. Indian cobra

C. Emerald dove

D. Indian pea fowl

**Answer: B**



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12. Origin of species is the book written by

..... .

A. John Ray

B. Charles Darwin

C. Linnaeus

D. Aristotle

**Answer: B**



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13. Taxonomical keys are useful to study

..... .

- A. Similarities and dissimilarities of animals
- B. Preserved plants and animals
- C. Animals kept in protected environments
- D. Plant taxonomy

**Answer: A**



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**14.** DNA hybridization is helpful to .....

A. Identify an individual from a sample of

DNA

B. Detect difference in homologous DNA

sequences

C. Measure the degree of genetic similarity

between pools of DNA sequences

D. Amplify a specific gene

**Answer: C**



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**15. DAISY, the cyber tool is ..... .**

- A. Digital automated identification system
- B. Digital automated information system
- C. Direct automated identification system
- D. Digital automated identification science

**Answer: A**



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**16.** JNOTAXA is an e-Taxonomic resource useful for

A. Studying electron microscopic images to study molecular structures of cell organelles.

B. Digital images and description about the species.

C. Studying behaviour of organisms

D. Identifying digital resources of animals.

**Answer: B**



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**Additional Questions Solved Give Reasons**

**1. Classification of organisms is necessary.**



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2. Extremophiles inhabiting volcanic vents prepare food.



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3. The mating between difference species produces sterile offsprings.



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4. Nomenclature of organisms is necessary.





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5. Why are molecular tools used now to study taxonomy ?



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Additional Questions Solved Match The Following

- |                          |                      |
|--------------------------|----------------------|
| 1. Ecosystem             | (a) Walter Rosen     |
| 2. Taxonomy              | (b) Carolus Linnaeus |
| 3. Biodiversity          | (c) AP de Candolle   |
| 4. Species               | (d) A.G. Tansley     |
| 5. Binomial nomenclature | (e) John Ray         |

1.



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2.

- |                       |                               |
|-----------------------|-------------------------------|
| 1. Extremophiles      | (a) Beneficial                |
| 2. Probiotic bacteria | (b) 70s type of ribosomes     |
| 3 Pathogenic bacteria | (c) membrane bound organelles |
| 4 Eukarya             | (d) Extreme conditions        |
| 5 Bacteria            | (e) disease causing           |
|                       | (f) 80s type of ribosomes     |



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3.

- |                              |                  |
|------------------------------|------------------|
| 1. <i>Felis margarita</i>    | (a) Pea fowl     |
| 2. <i>Chalcophaps indica</i> | (b) Red Panda    |
| 3 <i>Pavo cristatus</i>      | (c) Tiger        |
| 4 <i>Ailurus fulgens</i>     | (d) Jungle cat   |
| 5 <i>Panthera Tigris</i>     | (e) Emerald dove |



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4.

- |                                |                    |
|--------------------------------|--------------------|
| 1. Historia Animalium          | (a) Charles Darwin |
| 2. Methodus plantarum          | (b) R.H. Whittaker |
| 3. Origin of species           | (c) John Ray       |
| 4. Three Domain classification | (d) Aristotle      |
| 5. Five kingdom classification | (e) Carl Woese     |



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5.

- |                       |  |
|-----------------------|--|
| 1. Museum             | (a) Analysis of DNA                                |
| 2. Taxonomical keys   | (b) Similarities and dissimilarities of organisms. |
| 3. Herbarium          | (c) Difference in homologous DNA sequence.         |
| 4. RFLP Analysis      | (d) Preserved plants and animals.                  |
| 5. DNA fingerprinting | (e) Plant Taxonomy                                 |



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**1. Define ecosystem.**



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**2. What is Biodiversity?**



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3. Distinguish between living and non-living things.



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4. What is the need for classification?



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5. Define Taxonomy.



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6. What are the features of systematics?



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7. How did Aristotle classify organisms ?



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8. What are the limitations of Aristotle's classification?



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**9. What is natural system of classification?**



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**10. What is numerical taxonomy?**



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**11.** What is meant by phylogenetic classification?



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**12.** What is cladogram? Draw a model cladogram.



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**13.** Write short notes on cladistic analysis.





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**14.** What is the significance of cladistic classification?



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**15.** Briefly discuss on five kingdom classification. Add a note on merits and demerits.



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**16.** Give a Schematic representation of Three domain classification.



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**17.** Distinguish Archaea, Bacteria and Eukarya.



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**18.** Classify organisms on the basis of seven kingdom system.



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**19.** Define species



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**20.** Mating of closely related animals.



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21. Distinguish between species and genus.



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22. Distinguish between Family and Order.



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23. Distinguish between Class and Phylum.



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**24.** What are the advantages of assigning nomenclature to organisms?



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**25.** What is Binomial Nomenclature?



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**26.** What is trinomial system of nomenclature?



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**27. What are the rules of Nomenclature?**



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**28. Name the classical taxonomical tools.**



**Watch Video Solution**

**29. Name the classical taxonomical tools.**



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**30.** Name some Automated Species identification tools or Cyber tools.



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**31.** What are neo-taxonomical tools?



**Watch Video Solution**

**32.** What is INOTAXA?



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**33.** Scientists and their contribution for taxonomy.



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**34.** How does monotypic genus differ from polytypic genus?





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