



BIOLOGY

BOOKS - CENGAGE BIOLOGY

BIOLOGICAL CLASSIFICATION

Question

1. Name two advantages of using scientific names



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2. Which term includes the other three ?

(Circle the best answer)

a. Genus

b. Family

c. Subfamily

d. Order



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3. What are the advantages of the Linnaean system of naming organisms ?



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4. When are two organisms placed in the same species ?



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Mandatory Exercise Exercise Set I

1. Which is the next classification group after order?



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2. Which is the smallest classification group?



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3. The first letter of every genus name will be in _____ letter.





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4. The first letter of every species name will be in ____ letter



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5. What is binomial nomenclature?



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6. What is the necessity of classification of organisms?



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7. Who was Linnaeus and what relevance does he have to current-day biological classification?



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8. List the five kingdoms and give many examples for each one, that you can find in and around your home.



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9. Correct the way these scientific names are written: domestic cat _____



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10. Correct the way these scientific names are written: mouse _____



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11. Correct the way these scientific names are written: Brown rat _____



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12. Correct the way these scientific names are written: Domestic dog _____



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13. Correct the way these scientific names are written: Chicken _____



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14. Place these organisms in one of the five kingdoms (i.e., Monera, Protista, Mycota, Plantae, and Animalia):

Mushroom _____

Mosquito _____

Octopus _____

Seaweed _____

Mycobacterium _____

Elephant _____

Pine tree _____

Snail _____

Plasmodium vivax _____

Pitcher plant _____



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15. Place the following categories used in the classification of animals in the correct order (i.e., from the largest taxon to the smallest):
Genus, order, family, kingdom, class, species, phylum



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Consolidated Exercise Exercise Set II

1. Who prepared the binomial nomenclature?



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2. What is the scientific name of humans?



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3. What is a taxonomy?





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4. What are autotrophic organisms?



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5. Name five kingdom classification.



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6. What is the basic unit of classification?





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7. How many categories are there in hierarchy classification?



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8. Who proposed the five kingdom of classification?



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9. What is a key?



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10. What is biodiversity?



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11. Prokaryotes are grouped in the kingdom



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12. Smallest unit of classification is :-



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13. Five kingdom classification of living organism is given by



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14. Flora represent _____



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15. Fauna represent _____



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16. has smallest number of organisms with maximum number of similar characters.



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17. Virus is a connecting link between _____
and _____



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18. Local names used for recognising objects
are called



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19. _____ is the study of evolution of species.



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20. Fungi shows.....mode of nutrition.



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21. Prokaryotes lack true nucleus but possess all other types of organelles.



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22. During classification, species are distinguished, named and grouped into genera based on correlated characteristics.



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23. Order is an assemblage of related classes.



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24. The taxonomic term taxon can substitute for any rank in the classification.



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25. Lichen is a symbiotic association between algae and fungi.



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26. Monera develops from a hypothetical graph called progenote.



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27. *Bos indicus* is the scientific name of cow.



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28. Mule is a hybrid between male donkey and female horse.



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29. Bryophytes are amphibians of plant kingdom.



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30. Taxonomy term was coined by A.P. de Condole.



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31. Match the columns I and II.

Column I	Column II
(A) Father of taxonomy	(1) Water transport
(B) Binomial system	(2) Food transport
(C) Phloem	(3) Mango
(D) Xylem	(4) Pea
(E) Holozoic	(5) Carolus Linnaeus
(F) Autotrophic	(6) Two names
(G) Saprophytic	(7) Plantae
(H) Protista	(8) Fungi
(I) <i>Pisum sativum</i>	(9) Animalia
(J) <i>Mangifera indica</i>	(10) Unicellular, eukaryotes



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32. Complete the crossword puzzle using the clues given below:

Across

1. Mushrooms come under
3. Increase in the cell number and mass.
5. Kingdom containing humans.
7. Used for identification.
9. Groups of organisms that are least similar.
10. Warmth of an organism is its body
13. Making of offsprings.
14. The other name for phylum used in plant classification.
15. Groups of organisms that are most alike.

Down

1. Kingdom, phylum, class, order

2. Homo is the name for humans.

4. The system of classification using structural characteristics.

6. Another name for a leg in lower arthropods.

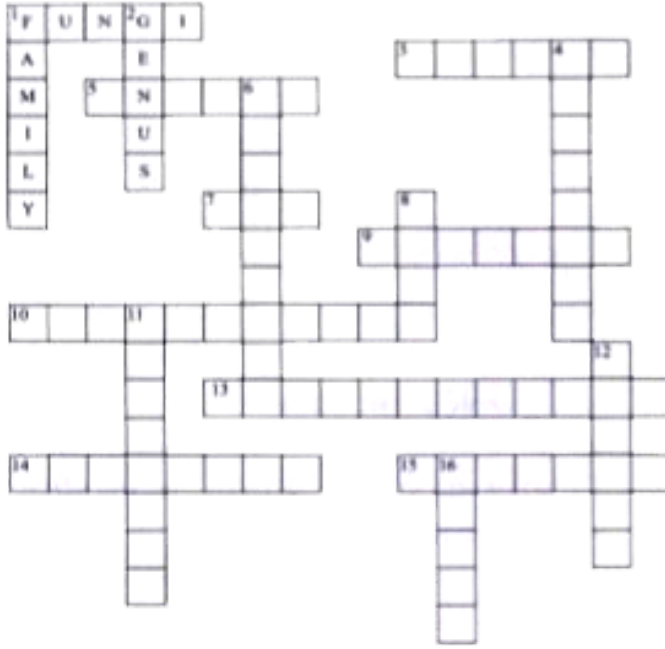
8. Numbers of kingdoms according to Whittaker.

11. Kingdom containing more complex micro organisms.

12. Kingdom containing simplest micro organisms.

16. Kingdom containing organisms that

photosynthesis.



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33. Match the descriptions of organisms (column I) with their kingdoms (column II)

Column I	Column II
(p) Eukaryotic heterotrophs whose cell walls contain chitin	(i) Protista
(q) Prokaryotes whose cell walls contain peptidoglycan	(ii) Mycota
(r) Multicellular autotrophs with chloroplasts whose cell walls contain cellulose	(iii) Animalia
(s) Heterotrophic multicellular eukaryotes without cell walls	(iv) Monera
(t) Eukaryotic, unicellular or multicellular, organisms with or without cell walls	(v) Plantae



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Consolidated Exercise Mcqs

1. Class is a category between

- A. phylum and order
- B. kingdom and phylum
- C. order and family
- D. family and genes

Answer: A



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2. Taxa differs from "taxon" due to

- A. This being a higher taxonomic category than taxon
- B. This being the lower taxonomic category than taxon
- C. This being the singular of taxon
- D. This being the plural of taxon

Answer: C



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3. The basic unit of classification is

A. Variety

B. Species

C. Genus

D. Family

Answer: B



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4. A group of related genera, with still less number of similarities as compared to the genus and species constitutes

A. Order

B. Class

C. Family

D. Division

Answer: C



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5. Genetic material of prokaryotes is called

- A. Nucleoid
- B. Nucleolus
- C. Plasmid
- D. Mesosome

Answer: A



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6. Animal viruses mostly contain

A. RNA

B. RNA or DNA

C. DNA

D. None of the above

Answer: C



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7. Who has divided Prokaryota (Monera) into Archaea and Eubacteria ?

A. Haeckel

B. Copeland

C. Copeland

D. Whittaker

Answer: C



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8. In binominal name, which is written in capital ?

A. 1st alphabet of generic name

B. All alphabets of generic word

C. 1st alphabet of specific word

D. All alphabets of specific word

Answer: A



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9. The science of naming organism is called

A. Identification

B. Nomenclature

C. Classification

D. Taxonomy

Answer: B



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10. The science of naming organism is called

A. Identification

B. Nomenclature

C. Classification

D. Taxonomy

Answer: B



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11. The system of nomenclature evolved by Linnaeus is

A. monomial

B. vernacular

C. binomial

D. polynomial

Answer: C



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12. Process absent in viruses is

A. Replication

B. Mutation

C. Protein Synthesis

D. Energy liberation

Answer: D



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13. In binominal name, which is written in capital ?

- A. First alphabet of generic name
- B. First alphabet of generic word
- C. First alphabet of specific word
- D. All alphabets of specific word

Answer: A



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14. Homo : genetic name :: Sapiens _____

- A. species name
- B. human name
- C. division name
- D. organism name

Answer: A



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15. The eukaryotic kingdom Protocista was created by

A. Whittaker

B. Woese

C. Margulis and Schwartz

D. Haeckel

Answer: D



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16. Common genetic material of bacteriophage is

A. RNA

B. DNA

C. RNA and DNA

D. None of these

Answer: B



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17. Phylogeny is the study of

A. development of an individual

B. evolution of species

C. embryonic development of an organ

D. ecological adaptation of an organism

Answer: B



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18. The science of classification is called

A. demography

B. taxonomy

C. biology

D. none of the above

Answer: B



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19. Organisms without nucleus and cell organelles belong to

(i) fungi (ii) protista

(iii) cyanobacteria (iv) archaebacteria

A. (i) and (ii)

B. (iii) and (iv)

C. (i) and (iv)

D. (ii) and (iii)

Answer: B



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20. Carl von Linna was involved with which branch of science?

A. Morphology

B. Physiology

C. Taxonomy

D. Medicine

Answer: C



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21. Virus was discovered by whom

A. Stanley

B. Ivanowski

C. Lamarck

D. Beijerinck

Answer: B



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22. The book Origin of species is written by

A. Darwin

B. Haeckel

C. Linnaeus

D. Whittaker

Answer: A



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23. Five kingdom of classification was given by

A. Morgan

B. R. Whittaker

C. Linnaeus

D. Haeckel

Answer: B



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24. In taxonomic hierarchy family comes between

- A. division and class
- B. class and order
- C. genus and species
- D. order and genus

Answer: D



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25. Well defined nucleus is absent in

A. blue green algae

B. diatoms

C. algae

D. yeast

Answer: A



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26. Who introduced the system of scientific nomenclature of organisms

A. Robert Whittaker

B. Carolus Linnaeus

C. Robert Hooker

D. Ernst Haeckel

Answer: B



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27. Which of the following group of plants is called vascular cryptogams ?

- A. Thallophyta
- B. Bryophyta
- C. Pteridophyta
- D. Angiospermae

Answer: C



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28. What is true about a scientific name ?

A. Specific name is written first.

B. Generic name starts with a small letter.

C. Generic name starts with capital letter

while specific name starts with small letter.

D. It is written in English

Answer: C



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29. Sex organs are unicellular and non-jacketed
in

A. Algae

B. Bryophytes

C. Pteridophytes

D. Gymnosperms

Answer: A



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30. Which taxonomic term may be substituted for any rank in the classification ?

A. Class

B. Genus

C. Species

D. Taxon

Answer: D



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31. Algae belong to

A. Thallophytes

B. Bryophytes

C. Pteridophytes

D. All of the above

Answer: A



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32. Algae are characterized by

A. Pyrenoids

B. Aquatic habitat

C. Unicellular sex organ

D. All of the above

Answer: D



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33. In Whittaker's classification, unicellular organisms are grouped under

A. Protista

B. Porifera

C. Fungi

D. Protozoa

Answer: A



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34. Which of the following plant group bears naked seeds ?

A. Pteridophyta

B. Bryophyta

C. Gymnospermae

D. Angiospermae

Answer: C



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35. Genetic material of prokaryotes is called

A. nucleiod

B. nucleolus

C. plasmid

D. mesosome

Answer: A



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36. The ability of nitron of nitrogen fixation is found in

A. Monerans only

B. Both monerans and protistans

C. Protistans only

D. Fungi only

Answer: A



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37. The compound plants composed of algae and fungi are called

A. algae

B. bryophytes

C. pteridophytes

D. lichens

Answer: D



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38. Amoeba belongs to kingdom

A. Monera

B. Protista

C. Fungi

D. Animalia

Answer: B



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39. A plant body not different into root, stem and leaves is termed as

A. Thallus

B. mycelium

C. Hyphae

D. Herb

Answer: A



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40. Chlorophyll containing, autotrophic thallophytes are called

A. algae

B. lichens

C. fungi

D. bryophytes

Answer: A



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41. All living organisms are linked to one another because

A. They have common genetic material of the same type.

B. They share common genetic material but to varying degrees.

C. All have common cellular organisation

D. All have the similar morphological features.

Answer: C



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42. The taxonomic unit 'Phylum' in the classification of animals is equivalent to which hierarchial level in classification of plants ?

A. Class

B. Order

C. Division

D. Family

Answer: C



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43. The correct way(s) to write the name of a bacterium in the binomial system is/are

A. Coli

B. coli Escherichia

C. Escherichia coli

D. E. coli

Answer: A::C::D



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1. The scientific name for wood chuck is *Marmota monax* and the scientific name for the long tailed marmot is *Marmota caudata*. Which of the following statement describes the taxonomic relationship between the woodchuck and the long tailed marmot?

- A. They belong to different phyla
- B. They belong to the same genus
- C. They belong to the same species

D. They belong to different families

Answer: B



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2. If a newly discovered species was named *Orrorin philensis*, it would be most closely related to which of the following?

A. *Ardipithecus philensis*

B. *Orrorin rebecensis*

C. *Philepithecus orrorinesis*

D. *Orropithecus carolensis*

Answer: B



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3. Which is the correct sequence of taxonomic categories?

A. Division, class, family, tribe, order, genus, species

B. Division, class, order, family, tribe, genus,
species

C. Phylum, order, class, tribe, family, genus,
species

D. Class, phylum, tribe, order, family, genus,
species

Answer: B



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4. In the given word 'Kingdom Plantae including plants, identify the category and taxon.

A. Kingdom Plantae refers to taxon.

B. Kingdom Plantae refers to taxon and plants refer to category.

C. Kingdom Plantae refers to category and plants refer to taxon.

D. Plants refer to category.

Answer: C



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5. Scientific name of tamarind is *Tamarindus indica* (L) and the scientific name of mango is *Mangifera indica* (L). Which of the following is correct concerning the way it is written?

A. The letter 'L' means that the Swedish botanist Linnaeus gave this scientific name.

B. The name is not proper as the first letter of indica is ought to be capitalised.

C. The letter 'l has nothing to do with assigning of this name to the tree.

D. The letter 'L means this particular name is from Latin language.

Answer: B



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6. Match the columns I and II, and choose the correct combination from the options given.

Column I (Kingdom)	Column II (Mode of Nutrition)
a. Monera	i. Autotrophic
b. Protista	ii. Heterotrophic
c. Fungi	iii. Both autotrophic and heterotrophic
d. Plantae	
e. Animalia	

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

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

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

D. a-ii,b-iii,c-ii,d-iii,e-ii

Answer: A



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7. Which institute is correctly matched with its location?

A. National Institute of Communicable Diseases-Lucknow

B. National Institute of Virology-Pune

C. National, Institute of Nutrition-Mumbai

Answer: B



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8. Match the columns I and II, and choose the correct combination from the options given.

Column I

- a. Two kingdom system
- b. Three kingdom system
- c. Four kingdom system
- d. Six kingdom system

Column II

- i. Copeland
- ii. Linnaeus
- iii. Carl Woese
- iv. Ernst Haeckel

(A) a—i, b—ii, c—iv, d—iii

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

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

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

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

Answer: D



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9. Assertion: Two kingdom classification did not distinguish between the unicellular and multicellular organisms.

Reason: Chlamydomonas and Spirogyra were placed together under algae.

A. If both assertion and reason are true and the reason is the correct explanation of the assertion.

B. If both assertion and reason are true but reason is not the correct explanation of the assertion.

C. If assertion is true but reason is false

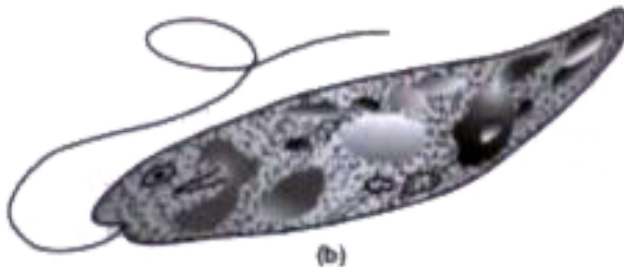
D. If both assertion and reason are false.

Answer: A



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10. Recognise the figure and find suitable matching.



A. Both 'a' and 'b' are included in kingdom protista.

B. 'a' is heterotrophic while 'b' is both autotrophic and heterotrophic.

C. Both 'a' and 'b' are motile.

D. All of the above.

Answer: D



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Challenging Exercise

1. Create a hierarchical taxonomy to classify writing implements, such as pens and pencils.

Use a diagram to show your taxonomy.



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