

BIOLOGY

BOOKS - MTG BIOLOGY (HINGLISH)

BIOLOGICAL CLASSIFICATION

Biological Classification

1. The classification system proposed by Linnaeus was a _____ kingdom system of classification.

- A. Two
- B. Three
- C. Four
- D. Five

Answer: A



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2. Which of the following characters served as the criteria for five kingdom system of classification as used by R.H. Whittaker?

- A. Cell structure and thallus organisation
- B. Mode of nutrition and reproduction
- C. Phylogenetic relationships
- D. All of these

Answer: D



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3. In Whittaker's five kingdom system of classification, eukaryotes are distributed among

- A. Two kingdoms

B. Three kingdoms

C. Four kingdoms

D. All the five kingdoms.

Answer: C

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4. Study the following table carefully and select the correct option for 1,2,3 and 4.

Characters	Monera	Protista	Fungi	Plantae	Animalia
Cell type	1	Eukaryotic	Eukaryotic	Eukaryotic	Eukaryotic
Cell wall	2	Present in some	Present	Present	Absent
Nuclear membrane	Absent	Present	Present	Present	3
Body organisation	Cellular	Cellular	4	Tissue/organ	Tissue/organ/organ system

A. 1 2 3 4
(a) Prokaryotic absent absent Unicellular

B. 1 2 3 4
(b) Prokaryotic Present Present Multicellular

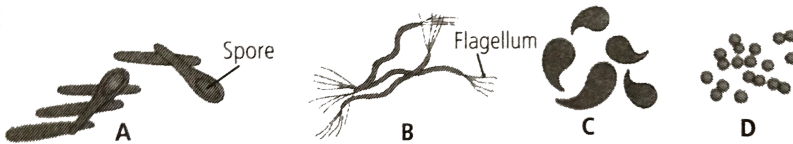
- | | | | | | |
|----|-----|------------|---------|---------|---------------|
| | 1 | 2 | 3 | 4 | |
| C. | (c) | Eukaryotic | Present | Present | Multicellular |
| | | 1 | 2 | 3 | 4 |
| D. | (d) | Eukaryotic | absent | absent | Unicellular |

Answer: B

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5. Bacteria are grouped under four categories according to their shape.

Study the given figures and select the correct option regarding this.



- | | | | | | |
|----|----------|----------|----------|----------|----------|
| | <i>A</i> | <i>B</i> | <i>C</i> | <i>D</i> | |
| A. | (a) | Cocci | Bacilli | Spirilla | Vibrio |
| | | <i>A</i> | <i>B</i> | <i>C</i> | <i>D</i> |
| B. | (b) | Sprilla | Bacilli | Vibrio | Cocci |
| | | <i>A</i> | <i>B</i> | <i>C</i> | <i>D</i> |
| C. | (c) | Bacilli | Spirilla | Vibrio | Cocci |
| | | <i>A</i> | <i>B</i> | <i>C</i> | <i>D</i> |
| D. | (d) | Bacilli | Spirilla | Cocci | Vibrio |

Answer: C



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6. Read the following statements regarding methanogens and select the correct option.

- (i) They are included in the group Archaeobacteria.
- (ii) They are responsible for the production of biogas in gobar gas plants.
- (iii) They live in hot sulphur springs.
- (iv) They are strictly anaerobic.

A. Statement(i) and (ii) are correct.

B. Statements (i),(ii) and (iv) are correct

C. Statements (ii),(iii) and (iv) are correct.

D. All statements are correct.

Answer: B



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7. Which of the following statements is incorrect regarding the structure of a typical bacterial cell?

- A. Cell possess naked circular DNA which is folded to form nucleoid.
- B. Cell are surrounded by a peptidoglycan cell wall and a mucilaginous sheath.
- C. Cells possess well developed membrane bound cell organelles.
- D. Ribosomes in these cells are 70S in nature.

Answer: C



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8. Cyanobacteria are classified under which of the following kingdoms?

- A. Monera
- B. Protista
- C. Algae

D. Plantae

Answer: A



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9. Photosynthetic pigments of cyanobacteria (blue green algae) include

A. chlorophyll a

B. carotenes

C. xanthophylls

D. all of these

Answer: D



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10. Cyanobacteria are used in agricultural fields for crop improvement because they cause

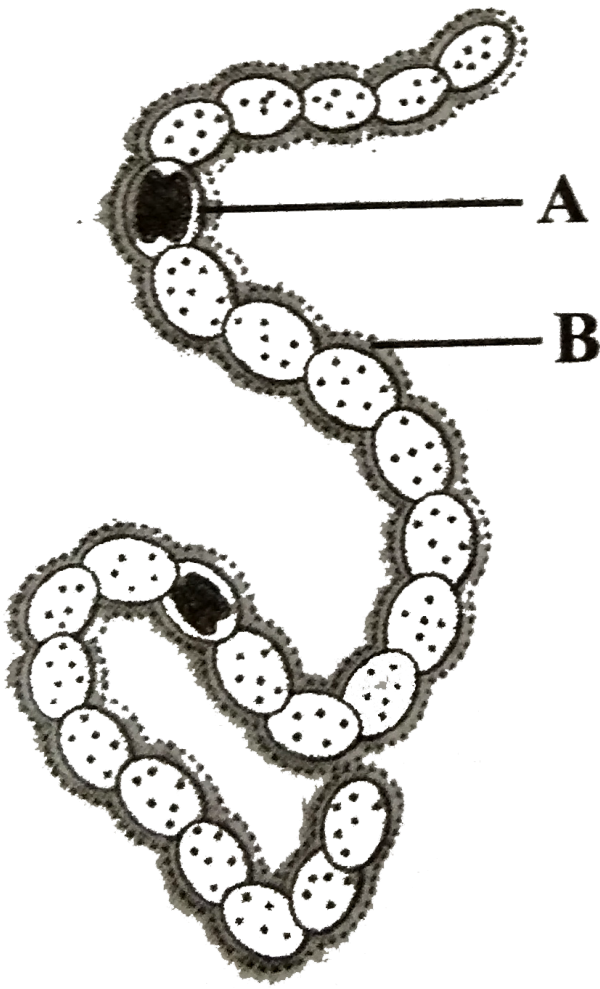
- A. N_2 fixation
- B. algal blooms
- C. photosynthesis
- D. all of these

Answer: A



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11. Given figure is of filamentous. Blue green alga Nostoc. Identify the parts marked as A and B and select the correct option.



- A. *A* *B*
 (a) Heterocyst Mucilaginous sheath
- B. *A* *B*
 (b) Vegetative cell Mucilaginous sheath
- C. *A* *B*
 (c) Trichomes Cell wall
- D. *A* *B*
 (d) Mucilaginous sheath Heterocyst

Answer: A



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12. Select the correct statement regarding heterocysts.

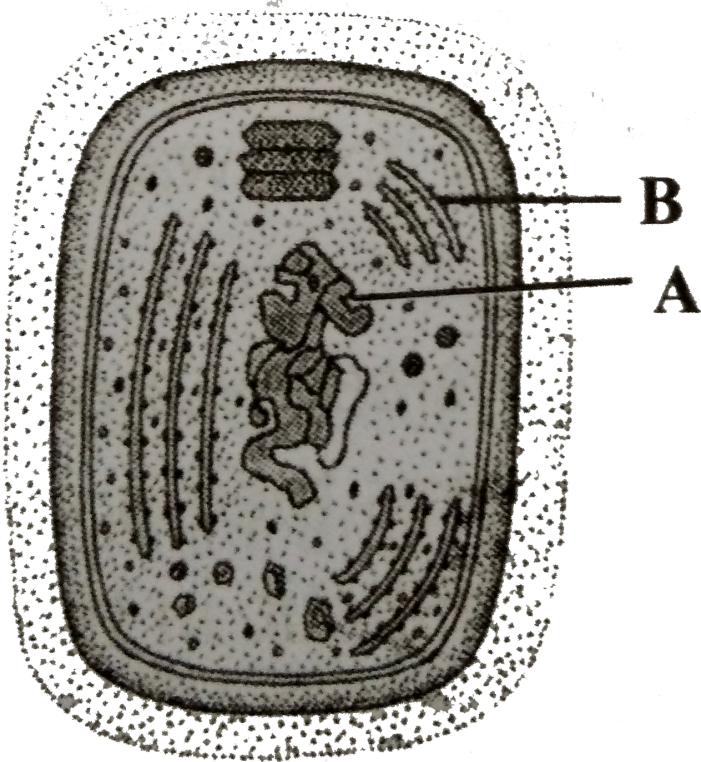
- A. These are present in some filamentous cyanobacteria such as Nostoc and Anabaena.
- B. These cells are specialised to perform N_2 – fixation.
- C. These cells contain enzyme nitrogenase.
- D. All of these

Answer: D



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13. Given figure represents the ultrastructure of a typical cyanobacterial cell. Identify the different parts and select the correct option for A and B



- A. *A* *B*
 (a) Naked DNA Thylakoid
- B. *A* *B*
 (b) Thylakoid Naked DNA
- C. *A* *B*
 (c) DNA+Histones Thylakoid
- D. *A* *B*
 (d) DNA+Histone 80S ribosomes

Answer: A

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14. _____ bacteria oxidise various inorganic substances such as nitrates, nitrites and ammonia and use the released energy for ATP production. They play an important role in recycling of nutrients (N,P,Fe,S etc).

- A. Photosynthetic autotrophic
- B. Chemosynthetic autotrophic
- C. Parasitic
- D. Saprophytic

Answer: B



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15. In five-kingdom classification system, the kingdom that includes, the blue-green algae, nitrogen-fixing bacteria and methanogenic archaeobacteria is

- A. Plantae

B. Fungi

C. Protista

D. Monera.

Answer: D



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16. ____ are important, decomposers that cause decay and decomposition of dead bodies of plants and animals.

A. Saprophytic bacteria

B. Saprotrophic fungi

C. Plants, like Sarracenia

D. Both (a) and (b)

Answer: D



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17. Select the pair consists of plant or animal bacterial diseases.

- A. Cholera and typhoid
- B. Citrus canker and crown gall
- C. Malaria and dengue
- D. Both (a) and (b)

Answer: D



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18. ____ is the most common method of reproduction in bacteria.

- A. Binary fission
- B. Endospore formation
- C. Conjugation
- D. Sexual reproduction

Answer: A



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19. Mycoplasmas are classified under which of the following kingdoms?

A. Monera

B. Protista

C. Fungi

D. Plantae

Answer: A



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20. Which one of the following is an incorrect statement regarding mycoplasma?

- A. They lack a cell wall.
- B. They are the smallest living cells.
- C. They cannot survive without oxygen.
- D. They are pathogenic in plants and animals.

Answer: C

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21. Read the following statements and select the correct option

Statement1: Almost all bacteria possess lipoproteinaceous plasma membrane.

Statement2: The plasma membrane of archaebacteria as well as eubacteria have same type of lipids.

- A. Both statements 1 and 2 are correct.
- B. Statement 1 is correct but statement 2 is incorrect.
- C. Statement 1 is incorrect but statement 2 is correct.

D. Both statements 1 and 2 are incorrect.

Answer: B

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22. Which of the following statements is incorrect?

A. Pathogenic bacteria cause 90% of human diseases.

B. A large number of antibiotics are produced by actinomycetes (e.g. Streptomyces), which are a class of fungi.

C. N_2 fixing bacteria pick up free N_2 from soil atmosphere and convert it into nitrogenous compounds.

D. Archaeobacteria differ from other bacteria in having a different cell wall structure and this feature is responsible for their survival in extreme conditions.

Answer: D



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23. Which of the following kingdoms has no well defined boundaries?

- A. Monera
- B. Protista
- C. Fungi
- D. None of these

Answer: B



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24. Which of the following organisms have been placed under kingdom Protista?

- A. Chrysophytes and dinoflagellates
- B. Euglenoids

C. Slime moulds and protozoans

D. All of these

Answer: D



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25. Members of kingdom Protista are primarily

A. parasites

B. terrestrial

C. aquatic

D. photosynthetic.

Answer: C



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26. The kingdom Protista forms a link with kingdom

- A. Plantae
- B. Fungi
- C. Animalia
- D. All of these.

Answer: A



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27. Which of the following options incorrectly distinguishes the kingdoms Monera and Protista?

A.

Monera	Protista
(a) Includes unicellular prokaryotes	Includes multicellular eukaryotes

B.

Monera	Protista
(b) Membrane bound cell organelles are absent	Membrane bound cell organelles are present

C.

	Monera	Protista
(c)	Cell wall when present, made up of peptidoglycans	Cell wall, if

D.

	Monera	Protista
(d)	Flagella, when present, comprise of protein flagellin	Flagella an

Answer: D

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28. Which of the following groups of organisms are included under chrysophytes?

- A. Diatoms and desmids (golden algae)
- B. Diatoms and dinoflagellates
- C. Euglenoids
- D. Slime moulds

Answer: D

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29. Chrysophytes are

- A. planktons
- B. nektons
- C. benthic organisms
- D. rooted submerged.

Answer: C

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30. The cell wall is composed of two thin overlapping shells which fit together like a soap case in

- A. desmids
- B. diatoms

C. dinoflagellates

D. slime moulds.

Answer: B



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31. Siliceous frustules of diatoms being indestructible, piled up at the bottom of ocean and formed a thick bed over billions of years. Such a thick bed is known as

A. red sea

B. diatomaceous earth

C. pseudorocks

D. red tides.

Answer: B



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32. Diatomaceous earth is used for all except

- A. polishing
- B. filtration of oils and syrups
- C. making sound and fire proof rooms
- D. biogas production.

Answer: D



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33. Dinoflagellates are mostly

- A. marine and saprophytic
- B. freshwater and photosynthetic
- C. marine and photosynthetic
- D. marine and photosynthetic

Answer: C



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34. A slide under microscope shows following features:

(i) Unicellular

(ii) Well defined nucleus

(iii) Biflagellate-one flagellum lying longitudinally and the other transversely

what would identify it as?

A. Protozoan

B. Bacterium

C. Euglenoids

D. Dinoflagellate

Answer: D



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35. Which group of organisms is represented by the given figure?



A. Diatoms and desmids (golden algae)

B. Dinoflagellates

C. Bacteria

D. Euglenoids

Answer: B



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36. Red tides in warm coastal water develop due to the abundance of

A. dinoflagellates

B. Euglenoids

C. diatoms and desmids

D. slime moulds.

Answer: A



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37. Read the following statements regarding euglenoids and select the incorrect ones.

- (i) These are mostly freshwater organisms found in stagnant water.
- (ii) Their body is covered by a protein rich layer called pellicle which makes their body flexible.
- (iii) They are photosynthetic in the presence of sunlight but become heterotrophs in the absence of sunlight.
- (iv) They usually possess two flagella, one long and one short.
- (v) Euglenoids are multicellular ciliate protists

A. i and v

B. iv and v

C. iii only

D. v only

Answer: D



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38. The given statements describe a group of organisms.

(i) Instead of a cell wall they have a protein rich pellicle making their body flexible.

(ii) They have 2 flagella, a short and a long one.

(iii) They show mixotrophic nutrition

(iv) They are connecting link between plants and animals.

which of the following groups is referred to here?

A. Dinoflagellates

B. Slime moulds

C. Desmids and diatoms

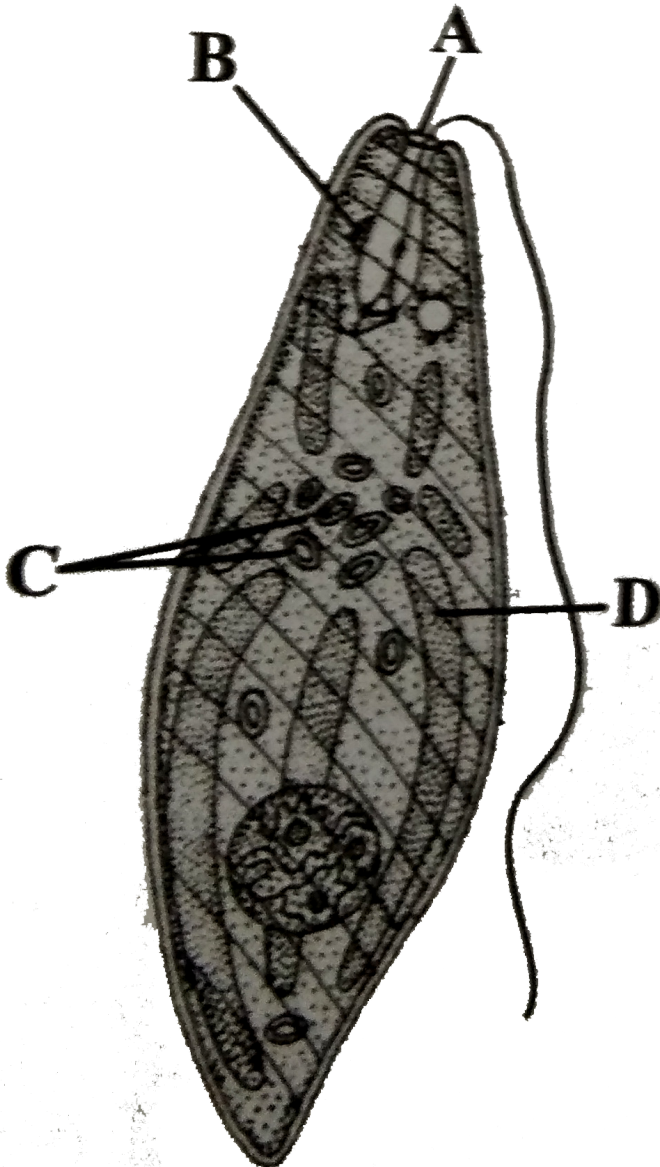
D. Euglenoids

Answer: D



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39. Study the given figure showing structure of Euglena and select the option that correctly identifies A,B,C and D.



A.

	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
(a)	Cyostome	Photoreceptor	Paramylum bodies	Myonemes

B.

	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
(b)	Contractile	Photoreceptor	Paramylum bodies	Chloroplast

C.

	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
(c)	Cytostome	Stigma	Paramylum bodies	Chloroplast

D.

	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
(d)	Cytostome	Stigma	Myonemes	Chloroplast

Answer: C



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40. Read the following statements and select the correct option

Statement 1: Euglena can be considered as a plant due to the presence of chlorophyll.

Statement 2: Euglena cannot be classified on the basis of two kingdom system of classification.

A. Both statements 1 and 2 are correct.

- B. Statement 1 is correct but statement 2 is incorrect.
- C. Statement 1 is incorrect but statement 2 is correct.
- D. Both statements 1 and 2 are incorrect.

Answer: A



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41. Which of the following statements about Euglena is correct?

- A. Euglena is a flagellate organism.
- B. Euglena when placed in continuous darkness, loses its photosynthetic activity and dies.
- C. The pigments of Euglena are quite different from those of green plants.
- D. Euglena is a marine protist.

Answer: A



42. Identify the given figure and select the correct option.



- A. It is photosynthetic protist.
- B. It is saprophytic protist.
- C. It is chemosynthetic bacteria.

D. Both (a) and (b)

Answer: B



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43. Match column I with column II and select the correct option from the given codes.

Column I

Column II

(A) Chief producers in oceans

(i) Euglenoids

(B) Red tides

(ii) Diatoms

(C) Mixotrophic nutrition

(iii) Slime moulds

(D) Plasmodium

(iv) Dinoflagellates

A. A-ii, B-iv, C-i, D-iii

B. A-ii, B-iv, C-iii, D-i

C. A-ii, B-iii, C-i, D-iv

D. A-i, B-iv, C-iii, D-ii

Answer: A



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44. The multinucleate slimy mass of protoplasm which forms the body of slime moulds is called as

- A. plasmodium
- B. myxamoeba
- C. sporocytes
- D. periplasmodium.

Answer: A

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45. Which of the following combinations of characters is true for slime moulds?

- A. Parasitic, plasmodium without walls, spores dispersed by air currents

- B. Saprophytic, plasmodium with walls, spores dispersed by water
- C. Parasitic, plasmodium without walls, spores dispersed by water
- D. Saprophytic, plasmodium without walls, spores dispersed by air currents.

Answer: D

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46. ____ is a parasite of large intestine of human beings and causes the disease ____

- A. Escherichia coli, amoebic dysentery
- B. Entamoeba histolytica, amoebic dysentery
- C. Plasmodium vivax, malaria
- D. Trypanosoma gambiense, sleeping sickness

Answer: B

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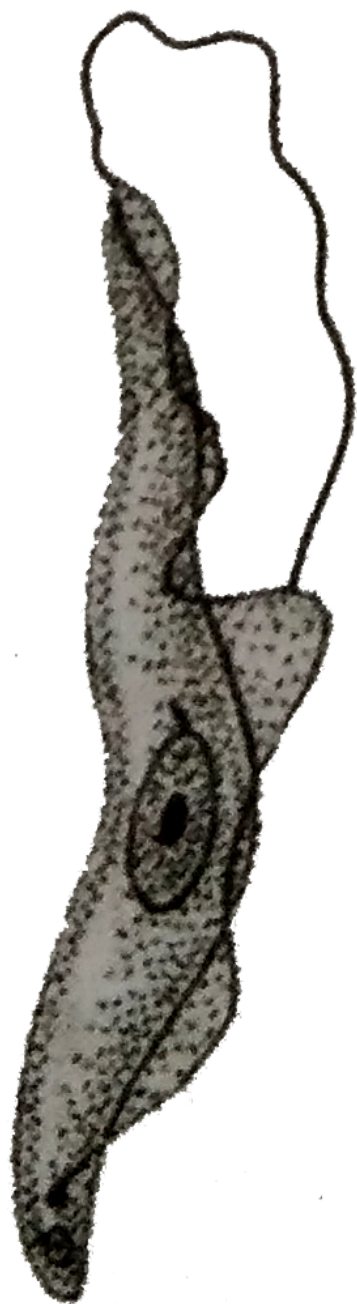
47. Causal organisms of sleeping sickness and kala-azar belong to which of the following groups of protozoan protists?

- A. Amoeboid protozoans
- B. Flagellated protozoans
- C. Ciliated protozoans
- D. Sporozoans

Answer: B

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48. Identify the given figure of a protozoan protist and select the correct option.



- A. *Entamoeba histolytica*
- B. *Plasmodium vivax*
- C. *Giardia intestinalis*
- D. *Trypanosoma gambiense*

Answer: D

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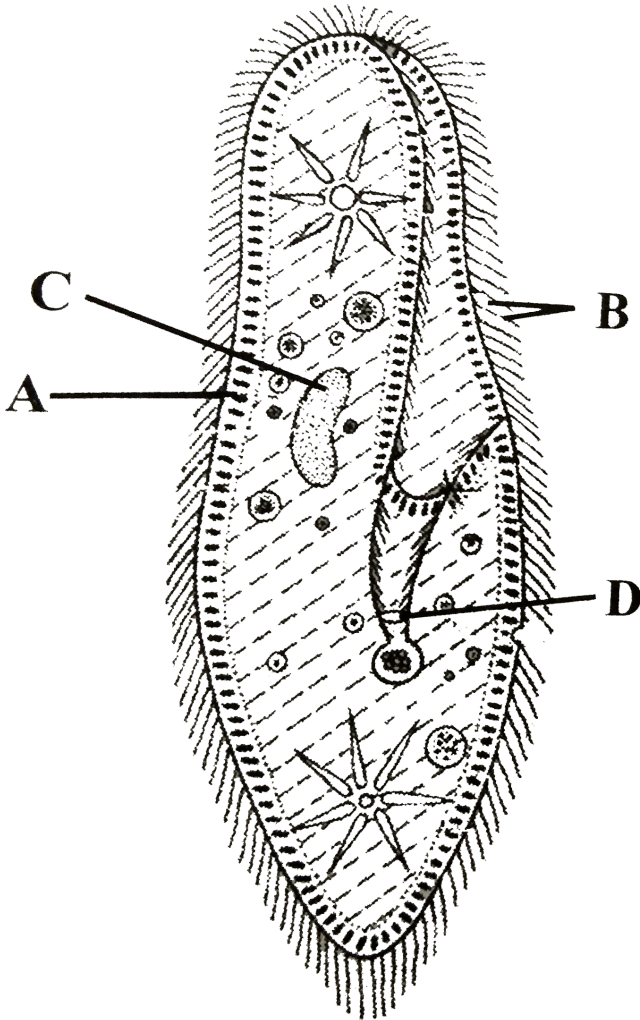
49. Which of the following is a ciliated protozoan?

- A. *Plasmodium vivax*
- B. *Amoeba proteus*
- C. *Paramecium caudatum*
- D. *Leishmania donovani*

Answer: C

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50. Refer to the given figure of *Paramecium caudatum* and select the option that correctly identifies A,B,C and D



- | | | | | |
|-----|-----------|----------|---------------------|-----------|
| A. | <i>A</i> | <i>B</i> | <i>C</i> | <i>D</i> |
| (a) | Cell wall | Cilia | Contractile vacuole | Cytostome |

- B.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
(b) Pellicle	Cilia	Contractile	Cytostome
- C.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
(c) Pellicle	Cilia	Marcronucleus	Cyostome
- D.

Answer: C



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51. The sporozoa are all internal ___ that typically have an infective cyst stage in their life cycle. An example of sporozoa is the genus ___ which causes malaria.

- A. ciliates, Plasmodium
- B. flagellates, Plasmodium
- C. parasites, Plasmodium
- D. parasites, Trypanosoma

Answer: C



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52. Which of the following is a mismatched pair of protozoan group and its example?

- A. Amoeboid protozoans - *Entamoeba histolytica*
- B. Flagellated protozoan - *Giardia intestinalis*
- C. Ciliated protozoan - *Paramecium caudatum*
- D. Sporozoan - *Leishmania donovani*

Answer: D



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53. Eukaryotic, achlorophyllous and heterotrophic organisms are grouped under which of the following kingdoms?

- A. Monera

B. Protista

C. Fungi

D. Plantae

Answer: C



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54. Coenocytic mycelium is

A. uninucleate, septate

B. Multinucleate, septate

C. multinucleate, aseptate

D. both b and c

Answer: C



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55. Main component of the cell wall of fungi is

- A. cellulose
- B. pectin
- C. chitin
- D. dextrin.

Answer: C



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56. Fungi show asexual reproduction by all of the following kinds of spores except

- A. conidia
- B. oospores
- C. zoospores
- D. basidiospores.

Answer: B



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57. Sexual reproduction in fungi occurs by all of the following except

- A. oospores
- B. ascospores
- C. zoospores
- D. basidiospores.

Answer: C



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58. Dikaryophase is a specific characteristic of

- A. all Fungi

B. phycomycetes and Ascomycetes

C. Basidiomycetes and Deuteromycetes

D. Ascomycetes and Basidiomycetes.

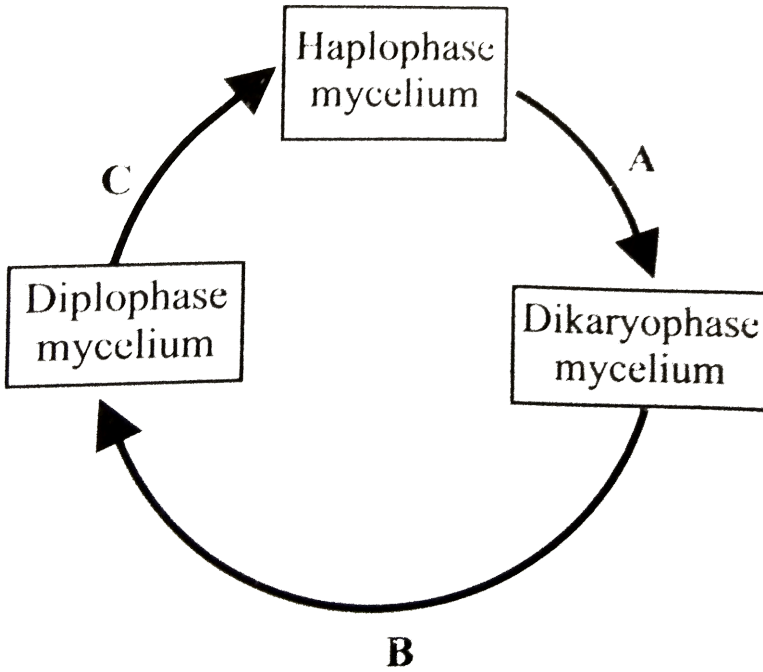
Answer: D



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59. Given below is the representation of life cycle of members of classes Ascomycetes and Basidiomycetes. Select the correct option for processes

A,B and C.



- A. *A* *B* *C*
Karyogamy Plasmogamy Meiosis
- B. *A* *B* *C*
Plasmogamy Karyogamy Meiosis
- C. *A* *B* *C*
Plasmogamy Meiosis Karogamy
- D. *A* *B* *C*
Karyogamy Meiosis Plasmogamy

Answer: B



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60. Which of the following classes of kingdom Fungi are characterised by the presence of coenocytic, multinucleate and branched mycelium?

- A. Basidiomycetes
- B. Phycomycetes
- C. Ascomycetes
- D. Deuteromycetes

Answer: B



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61. Fungi lacking crosswalls in the mycelium belong to Class

- A. Phycomycetes
- B. Ascomycetes
- C. Basidiomycetes
- D. Deuteromycetes.

Answer: A

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62. Which of the following statements regarding the class phycomycets is correct?

- A. These are found in aquatic habitats and on decaying wood in moist and damp places or as obligate parasites on plants.
- B. Mycelium in these fungi is aseptate and coenocytic.
- C. Asexual reproduction occurs by motile zoospores and by non-motile aplanospores.
- D. All of these

Answer: D

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63. Which of the following fungi is a parasite on mustard plant and causes the disease white rust of crucifers?

- A. *Albugo candida*
- B. *Puccinia*
- C. *graminis tritici*
- D. *Saccharomyces cerevisiae*

Answer: A



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64. The wonder drug, penicillin is extracted from which of the following species of penicillium?

- A. *Penicillium notatum*
- B. *P. chrysogenum*
- C. Both a and b

D. None of these

Answer: C



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65. In *Penicillium*, the asexual reproduction takes place by

A. ascospores

B. aplanospores

C. sporangiospores

D. conidiospores.

Answer: D



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66. Fungi producing 8 spheres in a sac belong to the class

A. Phycomycetes

B. Ascomycetes

C. Basidiomycetes

D. Deuteromycetes

Answer: B



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67. Term used for the closed ascocarp is

A. apothecium

B. amphithecium

C. endothecium

D. cleistothecium.

Answer: D



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68. Which of the following statements is not correct regarding the class Ascomycetes?

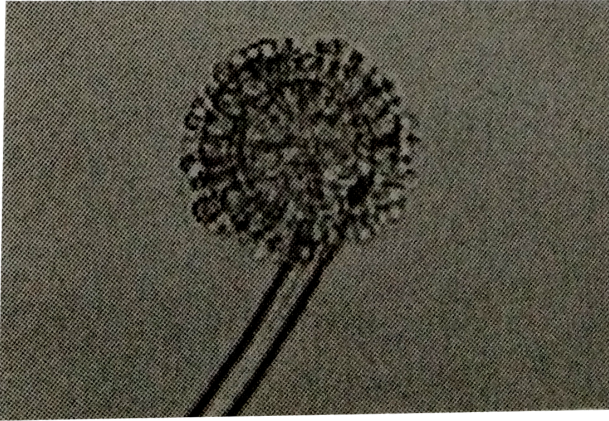
- A. Conidia are the asexual spores produced endogenously on conidiophores.
- B. Ascospores are the sexual spores produced endogenously in asci.
- C. *Aspergillus*, *Neurospora* and *Claviceps* are Ascomycetes fungi.
- D. Mycelium is generally branched and septate in Ascomycetes.

Answer: A



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69. The given organism belongs to class



- A. Phycomycetes
- B. Basidiomycetes
- C. Ascomycetes
- D. Deuteromycetes.

Answer: C

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70. Which of the following statements is correct regarding sexual reproduction in Basidiomycetes?

- A. Plasmogamy occurs by the fusion of two somatic cells of different strains.
- B. Karyogamy and meiosis occur in the basidium producing four basidiospores.
- C. Basidiospores are exogenously produced on the basidium.
- D. All of these

Answer: D



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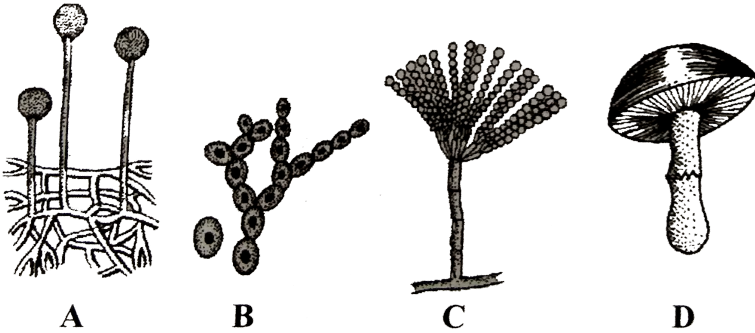
71. Refer to the given figure and select the incorrect option regarding it.



- A. It belongs to class Basidiomycetes.
- B. It is a non-edible, poisonous mushroom.
- C. It possesses an umbrella-like basidiocarp.
- D. The basidiospores in it, are exogenously produced on the basidium.

Answer: B

72. Select the option that correctly identifies the different genera (A,B,C and D) of kingdom Fungi shown in figure.



- A. *A* *B* *C* *D*
Mucor Saccharomyces Morchella Amanita
- B. *A* *B* *C* *D*
Mucor Saccharomyces Aspergillus Morchella
- C. *A* *B* *C* *D*
Rhizopus Saccharomyces Aspergillus Morchella
- D. *A* *B* *C* *D*
Aspergillus Rhizopus Penicilium Agaricus

Answer: B

73. Match column I with column II and select the correct option from the given codes.

Column I	Column II
Edible delicacies	(i) <i>Penicilium</i> , <i>Streptomyces</i>
Experimental genetics	(ii) <i>Neurospora crassa</i>
Source of antibiotics	(iii) <i>Puccinia</i> , <i>Ustilago</i>
Rust and smut diseases	(iv) Morels and truffles

A. iv,ii,iii,i

B. iii,i,ii,iv

C. iv,ii,i,iii

D. iv,iii,ii,i

Answer: C



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74. Match the column I with column II and select the correct option from the given codes.

Column I	Column II
Edible delicacies	(i) Sac fungi
Ascomycetes	(ii) Algal fungi
Basidiomycetes	(iii) Fungi imperfecti
Duteromycetes	(iv) Club fungi

A. ii,i,iv,iii

B. ii,iv,i,iii

C. iv,i,ii,iii

D. iv,iii,ii,i

Answer: A



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75. Which of the following statements is incorrect about the class Deuteromycetes?

A. They reproduce only by asexual spores (conidia).

B. Mycelium in these fungi is branched and septate.

C. They have only parasitic forms.

D. Examples of these fungi are Alternaria, Colletotrichum and Trichoderma.

Answer: C

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76. Which one is an incorrectly matched pair?

- A. Phycomycetes-Mucor, Albugo
- B. Ascomycetes-Penicillium, Aspergillus
- C. Basidiomycetes-Puccinia, Agaricus
- D. Deuteromycetes-Ustilago, Colletotrichum

Answer: D

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77. Select the incorrect match.

- A. Morels and truffles - phycomycetes
- B. puffballs and toad stools-Basidiomycetes
- C. Early blight of potato-*Alternaria solani*
- D. Late blight of potato-*Phytophthora infestans*

Answer: A



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78. Which of the following contains insectivorous plants?

- A. Bladderwort and *Cuscuta*
- B. *Cuscuta* and *Solanum*
- C. Venus fly trap and bladderwort
- D. *Solanum* and Venus fly trap

Answer: C



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79. Which of the following statement regarding kingdom plantae is correct?

- A. It includes all eukaryotic regarding kingdom organisms.
- B. Few of its members are partially heterotrophic.
- C. The cell wall is made up of cellulose.
- D. All of these

Answer: D



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80. Kingdom plantae includes

- A. Algae and bryophytes
- B. pteridophytes and gymnosperms
- C. angiosperms
- D. all of these.

Answer: D

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81. Which of these is a defining character of plant?

- A. Autotrophic nature
- B. Eukaryotic cell structure
- C. Cellulosic cell wall
- D. Aerobic respiration

Answer: C

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82. Match column I with column II and select the correct option from the given codes.

Column I	Column II
Monera	(i) Chlamydomonas, Solanum
Fungi	(iii) Euglena, Trypanosoma
Plantae	(iv) Mucor, Pencilium
Animalia	(v) Felis, Panthera

A. iii,ii,iv,i,v

B. ii,iii,iv,i,v

C. ii,iii,i,iv,v

D. ii,v,i,iv,ii

Answer: B



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83. Which of the following statements regarding kingdom Animalia is incorrect?

- A. It includes heterotrophic, unicellular eukaryotic organisms.
- B. The members of this kingdom lack cell walls.
- C. The mode of nutrition is holozoic.
- D. The sexual reproduction in its members is by copulation of male and female.

Answer: A



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84. Read the following statements and select the correct option

Statement 1: Viruses are inert crystalline structure outside a living cell.

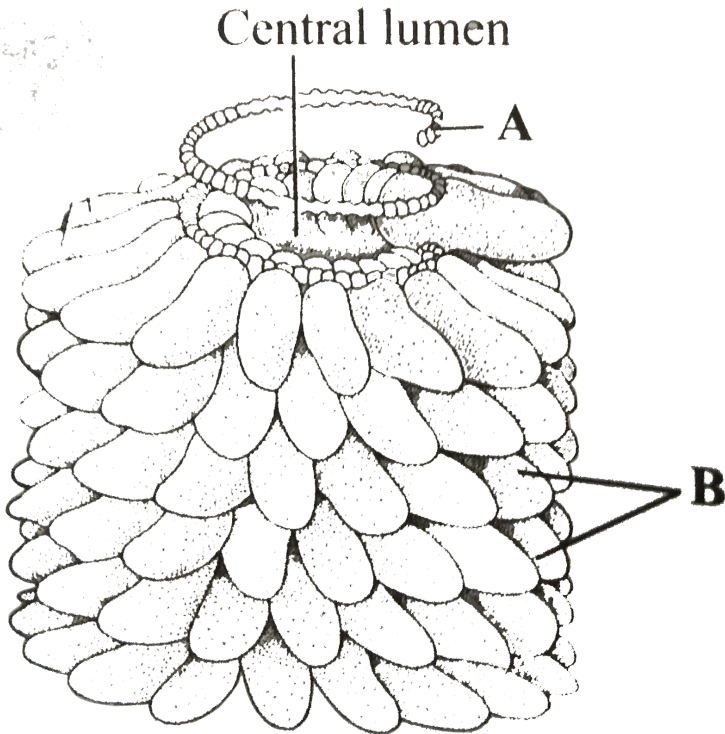
Statement 2 : Viruses are cellular organisms.

- A. Both statements 1 and 2 are correct.
- B. Statement 1 is correct but statement 2 is incorrect.
- C. Statement 1 is incorrect but statement 2 is correct.
- D. Both statements 1 and 2 are incorrect.

Answer: B

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85. Study the given figure of structure of TMV (Tobacco Mosaic virus) and select the option that correctly identifies the labellings A and B



A. ssDNA Capsomeres

B. dsDNA Capsomeres

C. ssRNA Capsomeres

D. dsRNA Tail fibres

Answer: C



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86. Who crystallised and isolated viruses for the first time?

A. W.M. Stanley

B. K.M. Smith

C. D. Ivanowski

D. F.C. Bawden

Answer: A



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87. Select the mismatched pair.

A. W.M. Stanely-Viruses could be crystallised

B. D.J. Ivanowsky-Coined term virus

C. M.W. Beijerinck - Extract of the infected plants of tobacco cause infection in healthy plants

D. None of these

Answer: B



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88. Virion is

A. nucleic acid of virus

B. antiviral agent

C. protein of virus

D. completely assembled virus outside host.

Answer: D



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89. Which of the following statements regarding viruses are correct?

- (i) These are cellular, infectious, nucleoprotein particles.
- (ii) They can be grown in culture medium.
- (iii) Genetic material is either DNA or RNA, but never both.
- (iv) They can be crystallised.

A. i and ii

B. ii and iii

C. iii and iv

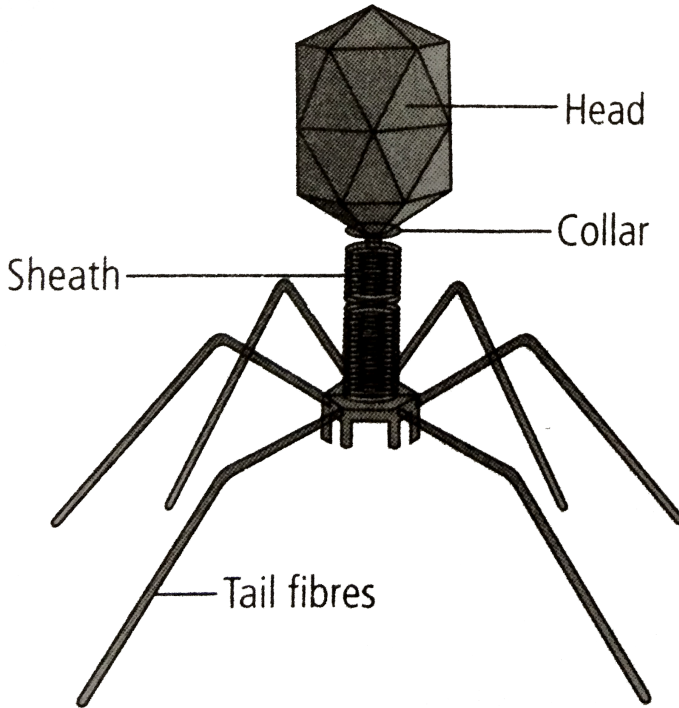
D. i,ii,iii and iv

Answer: C



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90. Refer to the given figure and select the correct option.



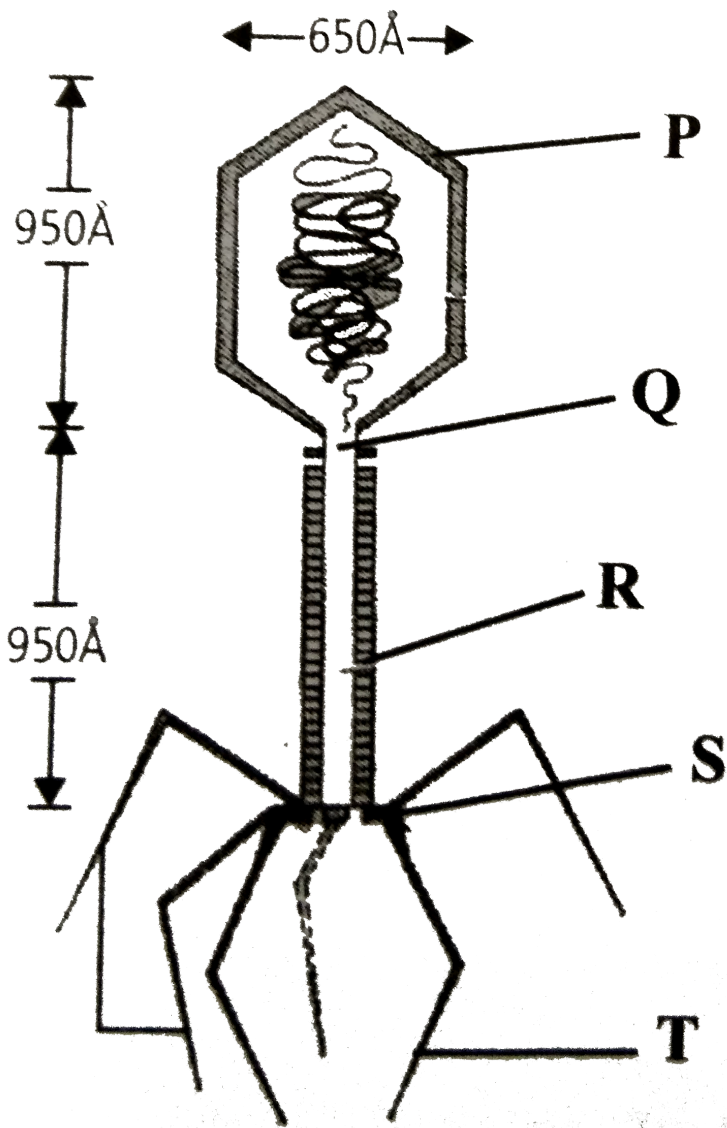
- A. It is a virus that infects plant.
- B. It is a virus that infects animals.
- C. It is a virus that infects insects.
- D. It is a virus that infects bacteria.

Answer: D



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91. Given is an electron microscopic structure of a T_2 bacteriophage, identify the labelled parts P,Q,R,S and T and select the correct option.



- A. *P* *Q* *R* *S* *T*
 Head Collar Sheath Basal plate Tail fibre
- B. *P* *Q* *R* *S* *T*
 Head Collar Capsid Tail Tail fibre
- C. *P* *Q* *R* *S* *T*
 Capsid Sheath Basal plate Capsomere Tail fibre

D. *P* *Q* *R* *S* *T*
Head Collar Sheath Capsomere Tail fibre

Answer: A



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92. Select the pair that consists of viral diseases.

- A. Mumps and small pox
- B. Herpes and influenza
- C. Pneumonia and syphilis
- D. Both a and b

Answer: D



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93. Which one of the following is an incorrect pair?

- A. Louis - Coined the term 'virus'
- B. Beijerinck-contagium vivium fluidum
- C. Ivanovsky-Discovered retroviruses
- D. Stanley-Crystallised TMV

Answer: C



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94. In plants, mosaic formation, leaf rolling and curling, yellowing of plant, vein clearing, dwarfing and stunted growth, necrosis etc. are the symptoms of

- A. Bacterial diseases
- B. mycoplasmal diseases
- C. viral diseases
- D. fungal diseases.

Answer: C



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95. Which of the following is not a viral disease of plants?

- A. Red rot of sugarcane
- B. Tobacco mosaic disease
- C. Leaf curl of tomato
- D. Tristeza diseases of citrus

Answer: A



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96. Read the given statements that describe certain infectious particle.

- (i) It was discovered T.O. Diener and was found to be smaller than viruses.
- (ii) It causes potato spindle tuber disease.

(iii) It is a free RNA particle which lacks the protein coat.

(iv) It has low molecular weight RNA as genetic material.

Which of the following is referred to here?

A. Virus

B. Viroid

C. Virion

D. Bacteriophage

Answer: B



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97. Read the given statements about lichens and select the incorrect ones.

(i) They represent an example of commensalism.

(ii) Algal partner obtains water and mineral salts from the fungus and the fungal partner obtains food prepared by the alga.

(iii) These do not grow in polluted areas.

- (iv) The mycobiont is usually an Ascomycetes or a Basidiomycetes.
- (v) The phycobiont is mostly a green alga or a cyanobacterium.
- (vi) These constitute the pioneer community in case of hydrosere.

- A. i and ii
- B. v and vi
- C. i and vi
- D. i,v and vi

Answer: C



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98. Select the incorrect statement.

- A. Most plant viruses are RNA viruses.
- B. Bacteriophages possess dsDNA.
- C. Virus having an arthropod as vector is called as arbovirus.

D. Prions possess only nucleoid and no proteins.

Answer: D



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99. Match the column I with column II and select the correct option from the given codes.

Column I	Column II
Plant virus	(i) Kuru disease
Animal virus	(ii) Potato spindle tuber
Viroids	(iii) Polio
Prions	(iv) Tobacco mosaic

A. iv,iii,ii,i

B. i,ii,iii,iv

C. iii,iv,i,ii

D. ii,iii,iv,i

Answer: A



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100. Read the following statements and select the option which identifies the incorrect ones.

(i) Potato spindle tuber disease and Chrysanthemum stunt disease are caused by viroids.

(ii) T_4 bacteriophage exhibits lytic cycle.

(iii) Retroviruses have two copies of ssRNA.

(iv) Interferons which prevent viral multiplication are glycolipid particles.

A. ii and iii

B. i and iv

C. iii only

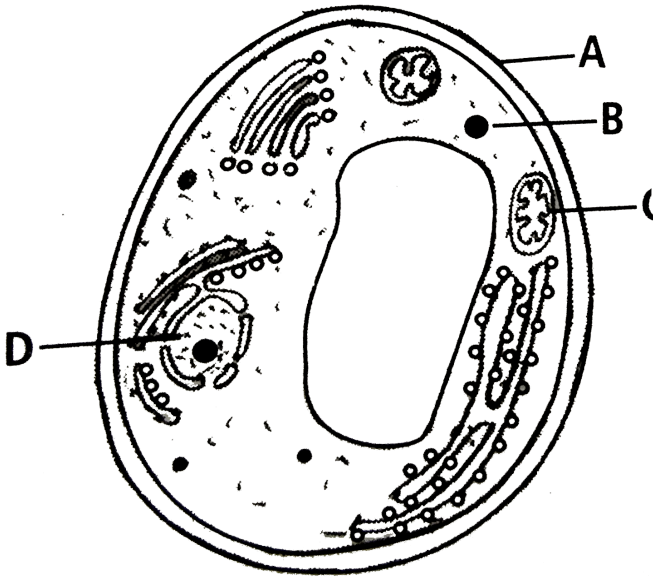
D. iv only

Answer: D



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101. The diagram shows the structure of a fungal cell with different parts labelled as A,B,C and D. Which of the following statements are true with regard to the fungal cell structure?



- (i) A contains mucopolysaccharides which are also present in exoskeleton of insects and crustaceans.
- (ii) D are usually more than one in number in case of aseptate hyphae.
- (iii) Carotenes and xanthophylls are present in C, which harvest light energy for photosynthesis.
- (iv) B is the reserve food material, usually stored in the form of starch and oil.

A. i and ii

B. iii and iv

C. i,ii and iv

D. ii,iii and iv

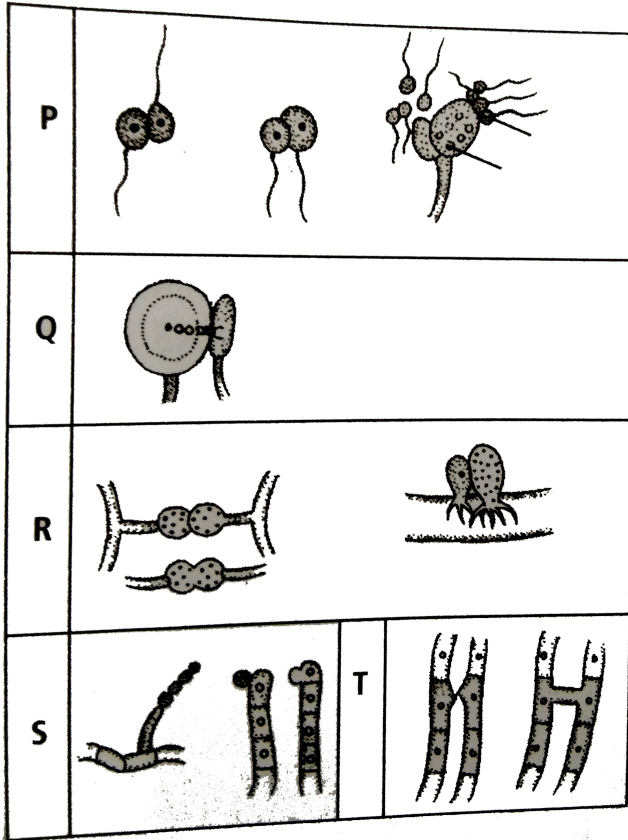
Answer: A



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102. Sexual reproduction in fungi is carried out by the fusion of compatible nuclei from two parents of compatible nuclei from two parents at a definite stage in the life cycle. Identify the different types of sexual reproduction occurring in fungi from the given figures and select

the given figures and select the correct option



A. 

B. 

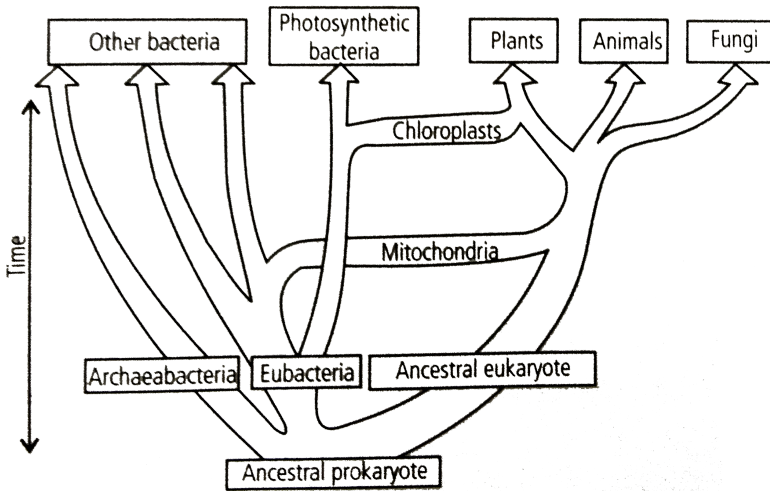
C. 

D. 

Answer: C

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103. Given diagram illustrates an evolutionary tree.



Which of the following statements can be deduced from the given evolutionary tree?

- (i) The ancestral eukaryotes were anaerobic.
- (ii) All eukaryotes were anaerobic.
- (ii) All eukaryotes possess mitochondria.
- (iii) Eubacteria and Eukaryota have a common ancestor whereas Archeobacteria have a unique and independent origin.

- (iv) Mitochondria and chloroplasts have similar genomes.
- (v) Mitochondria are presents in plants, animals and fungi.
- (vi) chloroplasts and mitochondria arose asendosymbionts.
- (vii) Fungi and animals lost chloroplasts during evolution.

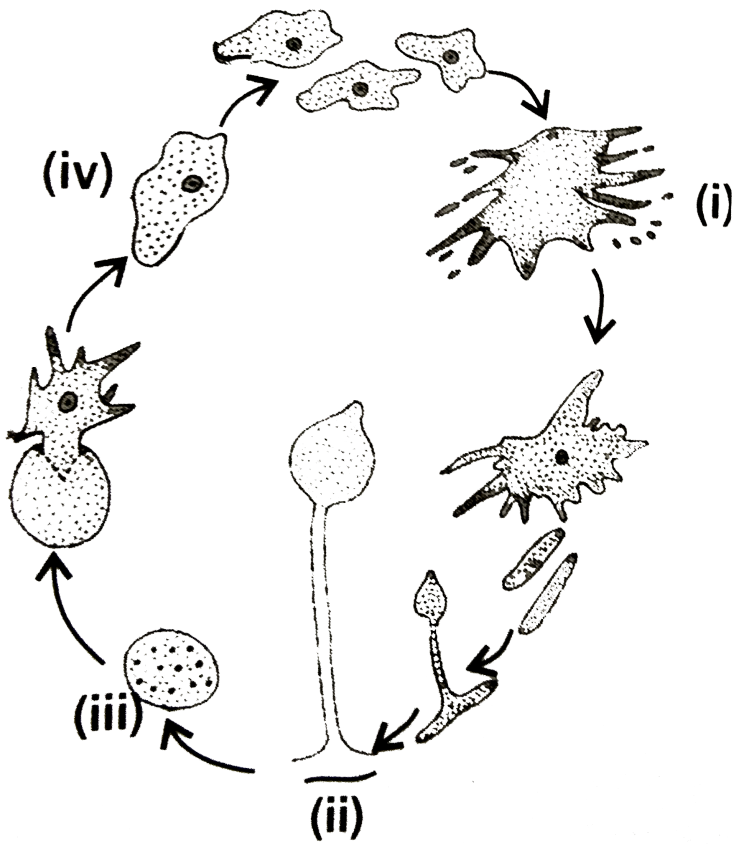
- A. iii,v and vi
- B. i,v and vi
- C. ii,iii,iv and v
- D. i,v,vi and vii

Answer: B



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104. Study the given life cycle of cellular slime moulds and select the incorrect option.



P. Structure (i)

is formed in response to drought conditions and exhaustion of food supply.

Q. Structure (ii) represents myxamoeba, which rounds off and is converted to a spore.

R. (iii) are uninucleate, haploid structures without any cell wall.

S. (iv) are uninucleate, haploid structures possessing a conspicuous cell wall.

A. P and Q

B. R and S

C. P,Q and S

D. Q,R and S

Answer: D



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105. In an experiment, common Tobacco Mosaic Virus (TMV) and its mutant strain 'HR' were used to prepare hybrid particles with 'HR' nucleic acid and TMV protein coat. These hybrids were mixed with antibodies against 'HR' strains. If this mixture is applied to plant materials, it will result in

A. loss of infectivity of virus particles due to inactivation of nucleic acids

B. loss of infectivity due to inactivation of protein coat.

C. intact infectivity because only neutrilised

D. unchanged infectivity because neither nucleic acid not protein coat is neutralised.

Answer: D



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106. All eukaryotic unicellular organisms belong to

A. Monera

B. Protista

C. Fungi

D. Bacteria.

Answer: B



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107. The five kingdom classification was proposed by

- A. R.H. Whittker
- B. C. Linnaeus
- C. A.Roxberg
- D. Virchow.

Answer: A



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108. Organisms living in salty areas are called as

- A. methanogens
- B. halophiles
- C. heliophytes
- D. thermoacidophiles.

Answer: B



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109. Naked cytoplasm, multinucleated and saprophytic are the characteristics of

A. monerans

B. protists

C. fungi

D. slime moulds.

Answer: D



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110. An association between roots of higher plants and fungi is called

A. lichen

B. fern

C. mycorrhiza

D. BGA.

Answer: C

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111. A dikaryon is formed when

A. meiosis is arrested

B. the two haploid cells do not fuse immediately

C. cytoplasm does not fuse

D. none of above.

Answer: D

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112. Contagium vivum fluidum was proposed by

- A. D.J. Ivanowsky
- B. M.W. Beijerinck
- C. Stanley
- D. Robert Hooke.

Answer: B



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113. Association between mycobiont and phycobiont are found in

- A. mycorrhiza
- B. root
- C. lichens

D. BGA.

Answer: C



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114. Difference between virus and viroid is

- A. absence of protein coat in viroid but present in virus
- B. presence of low molecular weight RNA in virus but absent in viroid
- C. both (a) and (b)
- D. none of the above

Answer: A



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115. With respect to the fungal sexual cycle, choose the correct sequence of events.

- A. Karyogamy, plasmogamy and meiosis
- B. Meiosis, plasmogamy and karyogamy
- C. Plasmogamy, karyogamy and meiosis
- D. Meiosis, karyogamy and plasmogamy

Answer: C



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116. Viruses are non-cellular organisms but replicate themselves once they infect the host cell. To which of the following kingdoms do viruses belong to ?

- A. Monera
- B. Protista

C. Fungi

D. None of these

Answer: D



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117. Members of Phycomycetes are found in

- (i) aquatic habitats
- (ii) on decaying wood
- (iii) moist and damp places
- (iv) as obligate parasites on plants.

Choose from the following options.

A. None of the above

B. (i) and (iv)

C. (ii) and (iii)

D. All of the above

Answer: D



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118. Assertion : Two kingdom classification was insufficient.

Reason : Majority of organisms did not fall into either of the categories in two kingdom classification.

- A. If both assertion and reason are true and reason is the correct explanation of assertion.
- B. If both assertion and reason are true and reason is not the correct explanation of assertion.
- C. If assertion is true but reason is false.
- D. If both assertion and reason are false.

Answer: A



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119. Assertion : Archaeobacteria are able to survive in harsh habitats.

Reason : Presence of peptidoglycan in cell wall help archaeobacteria to survive in extreme conditions.

- A. If both assertion and reason are true and reason is the correct explanation of assertion.
- B. If both assertion and reason are true and reason is not the correct explanation of assertion.
- C. If assertion is true but reason is false.
- D. If both assertion and reason are false.

Answer: C



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120. Assertion : Methanogens are present in the gut of several ruminant animals.

Reason : Methanogens help in the production of methane from dung of ruminants.

- A. If both assertion and reason are true and reason is the correct explanation of assertion.
- B. If both assertion and reason are true and reason is not the correct explanation of assertion.
- C. If assertion is true but reason is false.
- D. If both assertion and reason are false.

Answer: B



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121. Assertion : Cyanobacteria are photosynthetic autotrophs.

Reason : Cyanobacteria have chlorophyll a and b similar to green plants.

- A. If both assertion and reason are true and reason is the correct explanation of assertion.
- B. If both assertion and reason are true and reason is not the correct explanation of assertion.
- C. If assertion is true but reason is false.
- D. If both assertion and reason are false.

Answer: C



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122. Assertion : Chemosynthetic autotrophic bacteria oxidise various inorganic substances.

Reason : Energy released during oxidation is used in ATP production.

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

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

C. If assertion is true but reason is false.

D. If both assertion and reason are false.

Answer: B

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123. Assertion : Mycoplasmas are pathogenic in animals and plants.

Reason : Mycoplasmas lack cell wall and can survive without oxygen.

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

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

C. If assertion is true but reason is false.

D. If both assertion and reason are false.

Answer: B



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124. Assertion : Cell wall of Chrysophytes are indestructible.

Reason : Cell walls of Chrysophytes have layer of magnesium pectate embedded in it.

- A. If both assertion and reason are true and reason is the correct explanation of assertion.
- B. If both assertion and reason are true and reason is not the correct explanation of assertion.
- C. If assertion is true but reason is false.
- D. If both assertion and reason are false.

Answer: C



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125. Assertion : Euglena is called as plant animal.

Reason : Pellicle of Euglena is made up of cellulose and not protein.

- A. If both assertion and reason are true and reason is the correct explanation of assertion.
- B. If both assertion and reason are true and reason is not the correct explanation of assertion.
- C. If assertion is true but reason is false.
- D. If both assertion and reason are false.

Answer: C



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126. Assertion : The protoplasm of plasmodial slime mould is considered purest in the world.

Reason : Protoplasm of plasmodium is differentiated into an outer enucleated and central nucleated portions.

- A. If both assertion and reason are true and reason is the correct explanation of assertion.
- B. If both assertion and reason are true and reason is not the correct explanation of assertion.
- C. If assertion is true but reason is false.
- D. If both assertion and reason are false.

Answer: A



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127. Assertion : Sporozoans may have silica shells on their surface.

Reason : Shells of sporozoans help in protection from acidic environment of the host.

- A. If both assertion and reason are true and reason is the correct explanation of assertion.
- B. If both assertion and reason are true and reason is not the correct explanation of assertion.
- C. If assertion is true but reason is false.
- D. If both assertion and reason are false.

Answer: D



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128. Assertion : Phycomycetes, are commonly known as sac-fungi.

Reason : In Phycomycetes, ascospore (sexual spores) are produced endogenously in sac like asci.

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

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

C. If assertion is true but reason is false.

D. If both assertion and reason are false.

Answer: D

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129. Assertion : Deuteromycetes is known as fungi imperfecti.

Reason : In Deuteromycetes, only the asexual phase is known.

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

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

C. If assertion is true but reason is false.

D. If both assertion and reason are false.

Answer: A



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130. Assertion : Pasteur coined Contagium Vivum Fluidum.

Reason : Pasteur found that virus infected plant of tobacco can cause infection in healthy plant.

- A. If both assertion and reason are true and reason is the correct explanation of assertion.
- B. If both assertion and reason are true and reason is not the correct explanation of assertion.
- C. If assertion is true but reason is false.
- D. If both assertion and reason are false.

Answer: D



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131. Assertion : Virus is an obligate parasite.

Reason : Virus is host specific.

- A. If both assertion and reason are true and reason is the correct explanation of assertion.
- B. If both assertion and reason are true and reason is not the correct explanation of assertion.
- C. If assertion is true but reason is false.
- D. If both assertion and reason are false.

Answer: B



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132. Assertion : In lichens, mycobiont and phycobiont are symbiotically associated in which algae is predominant and fungi is a subordinate

partner.

Reason : The fungus provides food and alga protects the fungus from unfavourable conditions.

- A. If both assertion and reason are true and reason is the correct explanation of assertion.
- B. If both assertion and reason are true and reason is not the correct explanation of assertion.
- C. If assertion is true but reason is false.
- D. If both assertion and reason are false.

Answer: D



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