

Biological Classification

1. Which of the following statements is correct? **(2021)**
 - (a) Fusion of protoplasts between two motile or non-motile gametes is called plasmogamy.
 - (b) Organisms that depend on living plants are called saprophytes.
 - (c) Some of the organisms can fix atmospheric nitrogen in specialized cells called sheath cells.
 - (d) Fusion of two cells is called Karyogamy.
2. Which of the following is correct about viroids? **(2020)**
 - (a) They have free RNA without protein coat.
 - (b) They have DNA with protein coat.
 - (c) They have free DNA without protein coat.
 - (d) They have RNA with protein coat.
3. Which of the following is incorrect about Cyanobacteria? **(2020 Covid Re-NEET)**
 - (a) They lack heterocysts
 - (b) They often form blooms in polluted water bodies
 - (c) They have chlorophyll 'a' similar to green plants
 - (d) They are photoautotrophs
4. Which of the following statement is incorrect? **(2019)**
 - (a) Viroids lack a protein coat.
 - (b) Viruses are obligate parasites.
 - (c) Infective constituent in viruses is the protein coat.
 - (d) Prions consist of abnormally folded proteins.
5. Which of the following statements is incorrect? **(2019)**
 - (a) Morels and truffles are edible delicacies.
 - (b) Claviceps is a source of many alkaloids and LSD.
 - (c) Conidia are produced exogenously and Ascospores endogenously.
 - (d) Yeasts have filamentous bodies with long thread-like hyphae.
6. Select the wrong statement **(2018)**
 - (a) Cell wall is present in members of Fungi and Plantae
 - (b) Mushrooms belong to Basidiomycetes
 - (c) Pseudopodia are locomotory and feeding structures in Sporozoans
 - (d) Mitochondria are the powerhouse of the cell in all kingdoms except Monera
7. After karyogamy followed by meiosis, spores are produced exogenously in **(2018)**
 - (a) Neurospora
 - (b) Alternaria
 - (c) Agaricus
 - (d) Saccharomyces
8. Oxygen is not produced during photosynthesis by **(2018)**
 - (a) Nostoc
 - (b) Green sulphur bacteria
 - (c) Cycas
 - (d) Chara
9. Which of the following organisms are known as chief producers in the oceans? **(2018)**
 - (a) Dinoflagellates
 - (b) Diatoms
 - (c) Cyanobacteria
 - (d) Euglenoids
10. Ciliates differ from all other protozoans in **(2018)**
 - (a) Using flagella for locomotion
 - (b) Having a contractile vacuole for removing excess water
 - (c) Using pseudopodia for capturing prey
 - (d) Having two types of nuclei
11. Which of the following are found in extreme saline conditions? **(2017)**
 - (a) Archaeobacteria
 - (b) Eubacteria
 - (c) Cyanobacteria
 - (d) Mycobacteria
12. Which among the following are the smallest living cells, known without a definite cell wall, pathogenic to plants as well as animals and can survive without oxygen? **(2017)**
 - (a) Bacillus
 - (b) Pseudomonas
 - (c) Mycoplasma
 - (d) Nostoc
13. Viroids differ from viruses in having: **(2017)**
 - (a) DNA molecules with protein coat
 - (b) DNA molecules without protein coat
 - (c) RNA molecules with protein coat

- (d) RNA molecules without protein coat
14. An example of flagellate protozoan is: **(2017)**
- Paramoecium
 - Trypanosoma
 - Entamoeba
 - Plasmodium
15. Which of the following is not true of organisms in the kingdom Monera? **(2017)**
- They originated at least 3.5 billion years ago
 - They have prokaryotic cellular organisation
 - They may be autotrophic or heterotrophic in nature
 - They reproduce by mitosis
16. Select the sac fungus: **(2017)**
- Albugo
 - Agaricus
 - Neurospora
 - Mucor
17. The protein coat around a virus is called: **(2017)**
- Capsule
 - Core
 - Capsid
 - Trichome
18. Select the wrong statement: **(2016 - II)**
- Diatoms are chief producers in the oceans
 - Diatoms are microscopic and float passively in water
 - The walls of diatoms are easily destructible
 - 'Diatomaceous earth' is formed by the cell wall of diatoms.
19. Methanogens belong to: **(2016 - II)**
- Dinoflagellates
 - Slime moulds
 - Eubacteria
 - Archaeobacteria
20. Which one of the following is wrong for fungi? **(2016 - II)**
- They are heterotrophic
 - They are both unicellular and multicellular
 - They are eukaryotic
 - All fungi possess a purely cellulosic cell Wall
21. The primitive prokaryotes responsible for the production of biogas from the dung of ruminant animals, include the: **(2016 - I)**
- Halophiles

- Thermoacidophiles
 - Methanogens
 - Eubacteria
22. Chrysophytes, Euglenoids, Dinoflagellates and Slime moulds are included in the kingdom: **(2016 - I)**
- Animalia
 - Monera
 - Protista
 - Fungi
23. Which one of the following statements is wrong? **(2016 - I)**
- Cyanobacteria are also called blue-green algae
 - Golden algae are also called desmids
 - Eubacteria are also called false bacteria
 - Phycomycetes are also called algal fungi
24. One of the major components of cell wall of most fungi is: **(2016 - I)**
- Chitin
 - Peptidoglycan
 - Cellulose
 - Hemicellulose
25. Which of the following statements is wrong for viroids? **(2016 - I)**
- They lack a protein coat
 - They are smaller than viruses
 - They causes infections
 - Their RNA is of high molecular weight
26. Which one of the following matches is correct? **(2015)**
- | | | | |
|-----|--------------|-----------------------------|----------------|
| (a) | Mucor | Reproduction by Conjugation | Ascomycetes |
| (b) | Agaricus | Parasitic fungus | Basidiomycetes |
| (c) | Phytophthora | Aseptate mycelium | Basidiomycetes |
| (d) | Alternaria | Sexual reproduction absent | Deuteromycetes |
27. The gut of cow and buffalo possess: **(2015)**
- Methanogens
 - Cyanobacteria
 - Fucus
 - Chlorella

28. True nucleus is absent in: **(2015)**
 (a) Vaucheria
 (b) Volvox
 (c) Anabaena
 (d) Mucor
29. Choose the wrong statements: **(2015 Re)**
 (a) Neurospora is used in the study of biochemical genetics
 (b) Morels and truffles are poisonous mushrooms
 (c) Yeast is unicellular and useful in fermentation
 (d) Penicillium is multicellular and produces antibiotics
30. In which group of organisms the cell walls form two thin overlapping shells which fit together? **(2015 Re)**
 (a) Euglenoids
 (b) Dinoflagellates
 (c) Slime moulds
 (d) Chrysophytes
31. Which of the following are most suitable indicators of SO₂ pollution in the environment? **(2015 Re)**
 (a) Conifers
 (b) Algae
 (c) Fungi
 (d) Lichens
32. Cell wall is absent in: **(2015 Re)**
 (a) Funaria
 (b) Mycoplasma
 (c) Nostoc
 (d) Aspergillus
33. Select the wrong statements: **(2015 Re)**
 (a) W.M. Stanley showed that viruses could be crystallised
 (b) The term 'Contagium vivum fluidum' was coined by M.W. Beijerinck
 (c) Mosaic disease in tobacco and AIDS in human being are caused by viruses
 (d) The viroids were discovered by D.J. Ivanowsky
34. The imperfect fungi which are decomposer of litter and help in mineral cycling belong to: **(2015 Re)**
 (a) Basidiomycetes
 (b) Phycomycetes
 (c) Ascomycetes
 (d) Deuteromycetes
35. Pick up the wrong statement: **(2015 Re)**
 (a) Protista has photosynthetic and heterotrophic modes of nutrition
 (b) Some fungi are edible
 (c) Nuclear membrane is present in Monera
 (d) Cell wall is absent in Animalia
36. Viruses have: **(2014)**
 (a) Both DNA and RNA
 (b) DNA enclosed in a protein coat
 (c) Prokaryotic nucleus
 (d) Single chromosome
37. Which one of the following living organisms completely lacks a cell wall? **(2014)**
 (a) Blue - green algae
 (b) Cyanobacteria
 (c) Sea - fan (Gorgonia)
 (d) Saccharomyces
38. A location with luxuriant growth of lichens on the trees indicates that the: **(2014)**
 (a) Location is not polluted
 (b) Trees are very healthy
 (c) Trees are heavily infested
 (d) Location is highly polluted
39. Five kingdom system of classification suggested by R.H. Whittaker is not based on **(2014)**
 (a) Complexity of body organisation
 (b) Presence or absence of a well defined nucleus
 (c) Mode of reproduction
 (d) Mode of nutrition
40. Which one of the following fungi contains hallucinogens? **(2014)**
 (a) Ustilago sp.
 (b) Morchella esculenta
 (c) Amanita muscaria
 (d) Neurospora sp.
41. Archaeobacteria differ from Eubacteria in: **(2014)**
 (a) Mode of reproduction
 (b) Cell membrane structure
 (c) Mode of nutrition
 (d) Cell shape
42. Which of the following shows coiled RNA strand and capsomeres? **(2014)**
 (a) Retrovirus
 (b) Polio virus
 (c) Tobacco mosaic virus
 (d) Measles virus
43. Pigment-containing membranous extensions in some cyanobacteria are: **(2013)**
 (a) Chromatophores
 (b) Heterocyst's
 (c) Basal bodies
 (d) Pneumatophores

Answer Key

S1. Ans. (a)

S2. Ans. (a)

S3. Ans. (a)

S4. Ans. (c)

S5. Ans. (d)

S6. Ans. (c)

S7. Ans. (c)

S8. Ans. (b)

S9. Ans. (b)

S10. Ans. (d)

S11. Ans. (a)

S12. Ans. (c)

S13. Ans. (d)

S14. Ans. (b)

S15. Ans. (d)

S16. Ans. (c)

S17. Ans. (c)

S18. Ans. (c)

S19. Ans. (d)

S20. Ans. (d)

S21. Ans. (c)

S22. Ans. (c)

S23. Ans. (c)

S24. Ans. (a)

S25. Ans. (d)

S26. Ans. (d)

S27. Ans. (a)

S28. Ans. (c)

S29. Ans. (b)

S30. Ans. (d)

S31. Ans. (d)

S32. Ans. (d)

S33. Ans. (d)

S34. Ans. (d)

S35. Ans. (c)

S36. Ans. (d)

S37. Ans. (c)

S38. Ans. (a)

S39. Ans. (b)

S40. Ans. (c)

S41. Ans. (b)

S42. Ans. (c)

S43. Ans. (a)

Solutions

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|---|---|
| <p>S1. Ans.(a)
Fusion of protoplasm between two motile or non- motile gametes is called plasmogamy.</p> <p>S2. Ans.(a)
Viroid is a new infectious agent that was smaller than viruses and caused potato spindle tuber disease. It was found to be a free RNA and it lacked the protein coat.</p> <p>S3. Ans.(a)
Cyanobacteria (also referred to as blue-green algae) have chlorophyll a similar to green plants and are photosynthetic autotrophs. Some of these organisms can fix atmospheric nitrogen in specialised cells called heterocysts, e.g., Nostoc and Anabaena</p> <p>S4. Ans.(c)
Infective constituent in viruses is the genetic material either DNA or RNA, not protein.</p> <p>S5. Ans.(d)
Yeast is an unicellular sac fungus. It lacks filamentous structure or hyphae.</p> <p>S6. Ans.(c)
Protozoans like sporozoa have no movement and they do not possess pseudopods, flagella or cilia.</p> <p>S7. Ans.(c)
In Agaricus, the basidiospores (or meiotic spores) are produced on probasidial cells exogenously or externally.</p> <p>S8. Ans.(b)
Green sulphur bacteria perform anoxygenic photosynthesis. They mainly use sulfide ions as electron donors.</p> <p>S9. Ans.(b)
Diatoms are the most common phytoplankton in the ocean. They utilise inorganic nutrients to form</p> | <p>proteins, fats and provide food for various sea creatures.</p> <p>S10. Ans.(d)
Ciliates contain two types of nuclei – somatic macronucleus and germline micronucleus.</p> <p>S11. Ans.(a)
Archaeobacteria are special since they live in some of the most harsh habitats such as extreme salty areas (Halophiles), hot springs (Thermoacidophiles) and marshy areas (Methanogens).</p> <p>S12. Ans.(c)
Mycoplasmas are organisms without a cell wall. They are the smallest living cells known. They can survive without oxygen. Many are pathogenic in animals and plants.</p> <p>S13. Ans.(d)
Viroids are sub-viral agents as infectious RNA particles, without protein coat.</p> <p>S14. Ans.(b)
Flagellated protozoans: They are either free-living or parasitic. They have flagella. The parasitic forms cause diseases such as sleeping sickness. E.g., Trypanosoma.</p> <p>S15. Ans.(d)
Bacteria reproduce mainly by fission.</p> <p>S16. Ans.(c)
Ascomycetes are commonly known as sac-fungi, the ascomycetes are mostly multicellular, e.g., Penicillium, Claviceps and Neurospora.</p> <p>S17. Ans.(c)
The protein coat of virus is called capsid; made of small subunits called capsomeres, protects the nucleic acid.</p> <p>S18. Ans.(c)
The walls of diatoms are embedded with silica and thus the walls are indestructible.</p> <p>S19. Ans.(d)</p> |
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Methanogens belong to Archaeobacteria and are present in the gut of several ruminant animals such as cows and buffaloes and they are responsible for the production of methane (biogas) from the dung of these animals.

S20. Ans.(d)

The cell walls of fungi are composed of chitin and polysaccharides. The green plants had a cellulosic cell wall.

S21. Ans.(c)

Methanogens are present in the gut of several ruminant animals such as cows and buffaloes and they are responsible for the production of methane (biogas) from the dung of these animals.

S22. Ans.(c)

All single-celled eukaryotes are placed under Protista. Chrysophytes, Euglenoids, Dinoflagellates and Slime moulds are included in the kingdom Protista.

S23. Ans.(c)

Eubacteria are also known as true bacteria. They are characterised by the presence of a rigid cell wall, and if motile, a flagellum.

S24. Ans.(a)

The cell walls of fungi are composed of chitin (N-acetyl glucosamine) and polysaccharides.

S25. Ans.(d)

In 1971, T.O. Diener discovered a new infectious agent that was smaller than viruses and caused potato spindle tuber disease. It was found to be a free RNA; it lacked the protein coat that is found in viruses, hence the name viroid. The RNA of the viroid is of low molecular weight.

S26. Ans.(d)

Mucor	Phycomycetes
Agaricus	Non - parasitic fungus

Phytophthora	Septate mycelium
Alternaria	Absence of sexual reproduction (Deuteromycetes)

S27. Ans.(a)

Some of the methanogens (archaeobacteria) live as symbionts (e.g., Methanobacterium) inside rumen of cow, buffaloes and helpful to the ruminants in fermentation of cellulose.

S28. Ans.(c)

Vaucheria and Volvox are eukaryotes (Plant kingdom) while Mucor is a fungi (phycomycetes) and eukaryote but Anabaena is a prokaryote. Prokaryotes lack nucleus.

S29. Ans.(b)

Many members of Ascomycetes like morels and truffles are edible and are considered delicacies.

S30. Ans.(d)

Chrysophytes: Groups under Protista includes diatoms and Golden algae (desmids). They are found in fresh as well as marine environments in diatoms. The cell wall form two thin overlapping shells which fit together like soap box.

S31. Ans.(d)

Lichens serve as indicator of air pollution, as they are very sensitive to air pollution, especially SO₂ pollution.

S32. Ans.(b)

Mycoplasma are organisms that completely lack cell wall.

They are the smallest living cells known and can survive without oxygen.

S33. Ans.(d)

In 1971, T.O Diener discovered a new infectious agent namely viroid which is smaller than virus.

S34. Ans.(d)

Deuteromycetes is an artificial class of fungi which includes all those fungi in which sexual stage is not known. They are commonly known as imperfect fungi.

S35. Ans.(c)

Animal cells do not have cell wall.

Agaricus (mushroom) is an edible fungi. Prokaryotic cells lack nuclear membrane envelope.

S36. Ans.(b)

Genetic material of virus is enclosed by the protein coat.

S37. Ans.(c)

Sea fan (Gorgonia) belongs to kingdom - Animalia, as it is a animal so it lacks cell wall. BGA (Blue Green Algae), cyanobacteria and Saccharomyces have cell wall.

S38. Ans.(a)

Lichens are good air pollution indicator.

S39. Ans.(b)

Main criteria for classification used by R.H. Whittaker includes cell structure, thallus organization, mode of nutrition, reproduction and phylogenetic relationship.

S40. Ans.(c)

Amanita muscaria has hallucinogenic property.

S41. Ans.(b)

Archaeobacteria differ from other bacteria in having a different cell wall structure.

S42. Ans.(c)

S43. Ans.(a)

Chroma (coloured/pigmented) + phores (cells). These are light - reflecting, pigment containing cells or group of cells. In cyanobacteria, chlorophyll a is present but unlike plants, these chlorophylls are found in chromatophores instead of cell organelle chloroplast.