

BIOLOGICAL CLASSIFICATION

Que.1. Identify the smallest living organism that possesses the following characters.

Lacks cell wall

[Marks : (1)]

Can survive without oxygen.

Ans. Mycoplasma

Que.2. R.H. Whittaker considered characters like cell type, cell wall and body

organisation for five kingdom classification. Explain how these three characters vary in the members of kingdom Monera and Fungi.

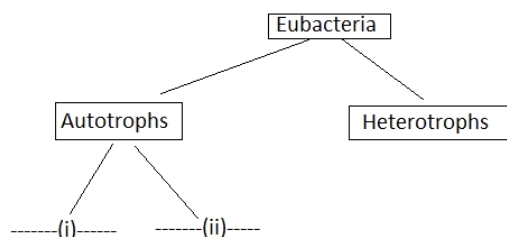
[Marks : (3)]

Ans. Kingdom Monera : Cell type – Prokaryotic, Cell wall - polysaccharides+ amino acids , body organisation - Cellular.

Kingdom Fungi : Cell type- Eukaryotic, Cell wall – Present / chitin, Body organisation - Loose tissue.

Que.3. Observe the flowchart given below.

[Marks : (3)]



a) Fill in the blanks (i) and (ii).

b) Give an example of (i) . Write two uses of heterotrophs.

Ans. (a) (i) Photosynthetic autotrophs.

(ii) Chemosynthetic autotrophs.

(b) Nostoc/anabena.

Uses of heterotrophs

Decomposers

Helpful in making curd from milk

Production of antibiotics

Nitrogen fixation (any two)

Que.4. Based on habitats, archeabacteria are classified into three.

[Marks : (2)]

(a) Name these three groups.

(b) Identify the group that are present in the gut of ruminant animals.

Ans. (a)Thermoacidophiles, Halophiles and Methanogens .

(b)Methanogens.

Que.5. Analyse the table given below and fill in the blanks.

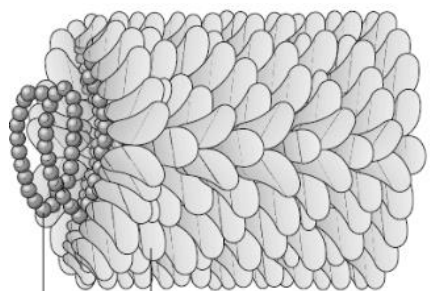
[Marks :(2)]

Organism	Protista group.
Diatoms	-----a-----
-----b-----	Euglenoids
Amoeba	-----c-----
Gonyaulax	-----d-----

Ans. a: Chrysophytes, b :Euglena, c: Protozoan/ amoeboid protozoans, d; Dinoflagellates

Que.6. Observe the figure given below.

[Marks :(2)]



Identify the virus and write its genetic material.

Ans. Virus : Tobacco mosaic virus

Genetic Material : RNA

Que.7. Lichens are the symbiotic association of phycobiont and mycobiont. Write their roles in this association..

[Marks :(2)]

Ans. Phycobiont - Prepares food.

Mycobiont – Provides shelter/absorb mineral nutrients and water.

Que.8. Match the items of column A with Column B.

[Marks :(2)]

A

B

a. Ivanowsky (i) contagium vivum fluidum.

b. T.O. Diener (ii) Discovered lichen

c. M.W. Beijerinck (iii) Crystallised virus.

d. W.M. Stanley (iv) Recognised causative organism of tobacco mosaic virus.

(v) Discovered viroids.

Ans. a) iv, b) v, c) i, d) (iii)

Que.9. Certain features of three fungal groups are given below.

[Marks : (2)]

Sac fungi.

Imperfect fungi.

A common member is Agaricus.

Neurospora, used in biochemical and genetic works, is a member.

Copy the table given below and write the above mentioned features in appropriate columns.

Deuteromycetes	Ascomycetes	Basidiomycetes
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Ans.

Deuteromycetes	Ascomycetes	Basidiomycetes
Imperfect fungi	Sac fungi, Neurospora, used in biochemical and genetic works is a member	A common member is Agaricus.

Que.10. Analyse the table given below and fill in the blanks.

[Marks : (2)]

Kingdom	Cell wall	Cell type	Body organisation
Monera	Presenta.....b.....
Fungic.....	Eukaryotic	Loose tissue
Animalia	Absent	Eukaryoticd.....

Ans. a- prokaryotic, b -cellular, c-present, d-organ system

Que.11. Read the diseases given below and select the disease caused by protozoa.

Citrus canker, Sleeping sickness, Smut, Mumps

[Marks :(1)]

Ans. Sleeping sickness.

Que.12. Choose the correctly matched pair.

[Marks :(1)]

a. Gonyaulax : Chrysophyte

b. Diatoms : Protozoa

c. Methanogens : Archaeobacteria

Ans. c. Methanogens : Archaeobacteria

Que.13. Give appropriate terms for the following.

[Marks :(1)]

Infoldings of plasma membrane in prokaryotes.

Membraneous extensions in to the cytoplasm in cyanobacteria.

Ans. Mesosomes

Chromatophores

Que.14. Name the scientist who discovered viroids ,the causative organism of potato spindle tuber disease.

[Marks :(1)]

Ans. T.O. Diener

Que.15. Identify the protistan group from the hints given below.:

[Marks :(1)]

A protein rich layer called pellicle which makes the body flexible is present.

Photosynthetic in the presence of sunlight, when deprived of sunlight they behave like heterotrophs .

Ans. Euglenoids

Que.16. Sexual reproduction in fungus involves three steps.

[Marks :(3)]

Name and explain the three steps.

Ans. (i) Fusion of protoplasts between two motile or non-motile gametes called plasmogamy.

(ii) Fusion of two nuclei called karyogamy.

(iii) Meiosis in zygote resulting in haploid spores.

Que.17. Choose the correct answer.

[Marks :(1)]

The genetic material in bacterial viruses or bacteriophages is usually

a.Double stranded DNA

b.Single stranded RNA

c.Double stranded RNA

d.Single stranded DNA

Ans. a. Double stranded DNA

Que.18. Choose the correct answer.

[Marks :(1)]

The genetic material in bacterial viruses or bacteriophages is usually

a.Double stranded DNA

b.Single stranded RNA

c.Double stranded RNA

d.Single stranded DNA

Ans. a. Double stranded DNA

Que.19. Fill in the blank.

[Marks :(1)]

The nucleic acid in viruses are protected by outer protien covering made up of small subunits called.....

Ans. Capsomeres

Que.20. Fill in the blank.

[Marks :(1)]

Specialised cells that fix atmospheric nitrogen,seen in nostoc is called-----

Ans. Heterocyst

Que.21. Choose the correct answer.

[Marks :(1)]

Heterocysts that fix atmospheric nitrogen is seen in:

A.Mycoplasma

B.Gonyaulax

C.Anabaena

D.Paramoecium

Ans. C. Anabaena

Que.22. Protozoans are classified into four groups.Name them.

[Marks :(2)]

Ans. Amoeboid protozoans

Flagellated protozoans

Ciliated protozoans

Sporozoans

Que.23. Write three differences between ascospore and basidiospore.

[Marks :(3)]

Ans.

Ascospore	Basidiospore
Sexual spore of ascomycetes	Sexual spore of basidiomycetes
Produced endogenously	Produced exogenously
Produced in ascus	Produced on basidium

Que.24. Red tide is caused by red dinoflagellates.

[Marks :(2)]

a.What do you mean by red tide?

b.Write an example for red dinoflagellate.

Ans. a.Rapid multiplication of red dinoflagellates makes the sea appear red.

b.Gonyaulax.

Que.25. Diatomaceous earth is the cell wall deposition of diatoms.Write two uses of diatomaceous earth.

[Marks :(2)]

Ans. Polishing

Filtration of oils and syrups

Que.26. Observe the relationship between the first two terms and fill in the blank.

Ascomycetes:Sac fungi

[Marks :(1)]

_____ :Imperfect fungi

Ans. Deuteromycetes

Que.27. Match the items of column A with B.

[Marks :(2)]

A	B
a.Sleeping sickness	i.Virus
b.Mad cow disease	ii.Trypanosoma
c.Potato spindle tuber disease	iii.Viroids
d.Malaria	iv.Plasmodium
	v.Prions

Ans. a-ii

b-v

c-iii

d-iv

Que.28. Bacteria are classified into four groups based on their shape. Write the shape of the bacteria given below. [Marks :(2)]

a.Bacillus

b.Spirillum

c.Coccus

d.Vibrium

Ans. a.Rod

b.Spiral

c.Spherical

d.Comma

Que.29. Viruses cause many diseases in plants. Write any four symptoms of viral diseases in plants. [Marks :(2)]

Ans. Mosaic formation, leaf rolling, leaf curling, yellowing, vein clearing, dwarfing, stunted growth (Any four)

Que.30. Lichens are association between two partners. Name the partners and write their roles. [Marks :(3)]

Ans. Phycobiont / Algae and Mycobiont/ Fungi.

Phycobiont-Prepare food.

Mycobiont-Provide shelter and absorb minerals and water.

Que.31. Define dikaryon. Name two fungal groups that show dikaryophase. [Marks :(3)]

Ans. Presence of two nuclei per cell.

Ascomycetes, Basidiomycetes

Que.32. Name the scientist who proposed Two Kingdom Classification. Write the two kingdoms. [Marks :(1)]

Ans. Linnaeus.

Plantae and Animalia

Que.33. Choose the correct answer. [Marks :(1)]

Which of the following is not a method of reproduction in bacteria?

A.DNA transfer

B.Budding

C.Formation of spores

D.Fission

Ans. B.Budding

Que.34. Name the bacteria present in the gut of ruminant animals.

[Marks :(1)]

Ans. Methanogens.

Que.35. Name the disease caused by prions in humans.

[Marks :(1)]

Ans. Cr-Jacob disease/CJD