Solution

S1. Ans. (d)

Rhizopus is a bread mould fungus. *Ustilago* is a smut fungi. *Puccinia is known as rust fungi*. Agaricus is commonly called mushroom.

A-III B-II

C-IV D-I

S2. Ans. (a)

The morphology of the mycelium, mode of spore formation and fruiting bodies form the basis for the division of the kingdom fungi into various classes.

S3. Ans.(a)

Penicillium belongs to class ascomycetes which reproduce asexually by means of conidia.

S4. Ans.(b)

Mycoplasma are smallest cell and only 0.3 micrometer in length. So it can pass through less than 1 micrometer filter size.

Mycoplasma lack cell wall.

S5. Ans.(d)

- Slime moulds are classified under Kingdom Protista.
- Mycoplasma lacks cell wall.
- Bacteria can be autotrophic as well as heterotrophic

S6. Ans.(a)

Fusion of protoplasms between two motile or non- motile gametes is called plasmogamy.

S7. 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.

S8. 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

S9. Ans.(c)

Infective constituent in viruses is the genetic material either DNA or RNA, not protein.

S10. Ans.(d)

Yeast is an unicellular sac fungus. It lacks filamentous structure or hyphae.

S11. Ans.(c)

Protozoans like sporozoa have no movement and they do not possess pseudopods, flagella or cilia.

S12. Ans.(c)

In Agaricus, the basidiospores (or meiotic spores) are produced on probasidial cells exogenously or externally.

S13. Ans.(b)

Green sulphur bacteria perform anoxygenic photosynthesis. They mainly use sulfide ions as electron donors.

S14. Ans.(b)

Diatoms are the most common phytoplankton in the ocean. They utilise inorganic nutrients to form proteins, fats and provide food for various sea creatures.

S15. Ans.(d)

Ciliates contain two types of nuclei – somatic macronucleus and germline micronucleus.

S16. Ans.(a)

Archaebacteria 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).

S17. 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.

S18. Ans.(d)

Viroids are sub-viral agents as infectious RNA particles, without protein coat.

S19. 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.

S20. Ans.(d)

Bacteria reproduce mainly by fission.

S21. Ans.(c)

Ascomycetes are commonly known as sac-fungi, the ascomycetes are mostly multicellular, e.g., Penicillium, Claviceps and Neurospora.

S22. Ans.(c)

The protein coat of virus is called capsid; made of small subunits called capsomeres, protects the nucleic acid.

S23. Ans.(c)

The walls of diatoms are embedded with silica and thus the walls are indestructible.

S24. Ans.(d)

Methanogens belong to Archaebacteria 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.

S25. Ans.(d)

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

S26. 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.

S27. Ans.(c)

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

S28. 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.

S29. Ans.(a)

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

S30. 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.

S31. Ans.(d)

Mucor	Phycomycetes
Agaricus	Non - parasitic fungus
Phytophthora	Septate mycelium
Alternaria	Absence of sexual reproduction (Deuteromycetes)

S32. Ans.(a)

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

S33. 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.

S34. Ans.(b)

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

S35. 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.

S36. Ans.(d)

Lichens serve as indicator of air pollution, as they are very sensitive to air pollution, especially SO_2 pollution.

S37. Ans.(b)

Mycoplasma are organisms that completely lack cell wall.

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

S38. Ans.(d)

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

S39. 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.

S40. Ans.(c)

Animal cells do not have cell wall.

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

S41. Ans.(b)

Genetic material of virus is enclosed by the protein coat.

S42. Ans.(c)

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

S43. Ans.(a)

Lichens are good air pollution indicator.

S44. Ans.(b)

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

S45. Ans.(c)

Amanita muscaria has hallucinogenic property.

S46. Ans.(b)

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

S47. Ans.(c)

Tobbaco Mosaic Virus show coiled RNA strand and capsomere.

S48. 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.