

Topic :- Biological classification

- 1 **(b)**
Mucoris is a saprophytic fungus belonging to the order-**Mucorales** and family-**Mucoraceae** and grows on decaying dung and on some food stuffs.
Mucor shows the best growth on a piece of bread at a temperature of about 25°C, relative humidity of about 95% in a moist and shady place.
- 2 **(b)**
Rhodospirillum is a free-living, anaerobic, nitrogen fixer. Both *Beijerinckia* and *Azotobacter* are free-living, nitrogen-fixing, aerobic microbes. *Rhizobium* is a symbiotic, nitrogen-fixer.
- 3 **(a)**
Morchella Commonly known as sponge mushroom is a saprophytic fungus. The edible part of mushroom is the fruiting body basidiocarp. The common mushroom are *Agaricus bisporus*, *Lentinus*, *Volvariella*, *Pleurotus*, etc.
- 4 **(c)**
Casuarina tree has nitrogen fixing root nodules that harbor a filamentous streptomycete like symbiotic nitrogen fixing organism, called *Frankia*
- 5 **(c)**
The genomes of viruses can be composed of either DNA or RNA. Usually plant viruses contain RNA but there are many plant viruses, which contain DNA as genetic material. Similarly, animal viruses usually contain DNA but there are many animal viruses, which contain RNA as genetic material.
- 6 **(a)**
In the five-kingdom classification, *Chlamydomonas* and *Chlorella* have been included kingdom-Plantae
- 7 **(c)**
The accumulated food reserve in fungi is **glycogen**.

- 8 **(b)**
Yeast (*Saccharomyces cerevisiae*) is an unicellular fungus because some fungal hyphae of *S.cerevisiae* grow in such a way that they give the appearance of Pseudomycelium.
- 9 **(c)**
Acquired Immuno Deficiency Syndrome(AIDS) is caused due to the infection of Human Immunodeficiency Virus (HIV). This virus belongs to retroviral family and contains two single strands of RNA as genetic material.
- 10 **(a)**
The algal or cyanobacterial cells are photosynthetic, and possess the green pigment, chlorophylls enabling them to use sunlight's energy to make their own food from water and CO₂ through photosynthesis. They also provides vitamins to the fungus
- 11 **(a)**
Amoeboid, flagellates, ciliates, sporozoans.
On the basis of locomotory organelles, the protozoans are divided into four groups Flagellated protozoans, amoeboid protozoans, sporozoans and ciliated protozoans
- 12 **(d)**
In addition to proteins, viruses also contain genetic material that could be either RNA or DNA, not the both. They have no cell wall, cytosol, ribosomes, etc. Bacteria have cell wall, cytosol, ribosomes and both DNA and RNA.
- 13 **(b)**
Viral genome incorporated into host DNA is called **prophage**. Most of the prophage genes are repressed by two repressor proteins that are the product of phage genes.
- 14 **(b)**
Maximum number of antibiotics are obtained from bacteria. About 2100 antibiotics have been isolated from Actinomycetes (mycelial bacteria), while a single species of *Streptomyces* (*S. griseus*) is known to form more than 40 antibiotics. Bacteria like *Bacillus subtilis* alone produce around 60 antibiotics.
- 15 **(a)**
Glycogen is the storage form of glucose in animals and humans. Glycogen is synthesised and stored mainly in the liver and the muscles. Excess of glucose in body gets converted into fats
- 16 **(a)**
Many Gram positive and Gram negative bacteria have a regular structured layer called **slime-layer** on their surface. It may protect the cell against ion and pH fluctuations, osmotic stress, enzymes etc.

- 17 **(a)**
Some plants may be partially heterotrophic as in the case of insectivorous plants like *Drosera*, *Nepenthes* and Venus fly trap.
Insectivorous plants can capture and digest live prey, to obtain nitrogen compounds that are lacking in its usual marshy habitat.
The plant cell has a eukaryotic structure with a distinct nucleus, prominent chloroplast and cell wall is made up of cellulose.
- 18 **(b)**
Mycoplasmas are the smallest known anaerobic, Gram negative prokaryotes without a cell wall. These are also known as Pleuro Pneumonia Like Organisms (PPLOs). These cause pleuropneumonia in humans and cattle.
- 19 **(a)**
A lichen is a structurally organised entity, consisting of the permanent association of a fungus and alga. The fungal component of a lichen is called mycobiont and the algal component is called phycobiont.
- 20 **(a)**
Lichen is a symbiotic association of algae and fungi. According to a view for the nature of association in lichen, the relationship between fungus and the algal partner, is an example of symbiosis but fungus in his partnership has an important role. The algal partner lives as a subordinate partner the association between the two partners is thus, described as beneficial salavary for the alga. A term **helotism** is used for this kind of association.

ANSWER-KEY										
Q.	1	2	3	4	5	6	7	8	9	10
A.	b	b	a	c	c	a	c	b	c	a
Q.	11	12	13	14	15	16	17	18	19	20
A.	a	d	b	b	a	a	a	b	a	a

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