

QB365
Important Questions - Biological Classification
11th Standard CBSE

Biology

Reg.No. :

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Time : 01:00:00 Hrs

Total Marks : 50

Section-A

- 1) How the Aristotle divided animals into two groups? 1
- 2) Who proposed the two kingdom classification? 1
- 3) The two gametangia come in contact and fuse to form a zygote in which event? Give two examples. 1
- 4) Give the name of a fungus which causes rust diseases. 1
- 5) Give the name of the classes of Kingdom - Plantae. 1
- 6) Which are the main groups of kingdom-Animalia? 1
- 7) Why lichens are called dual organisms? 1
- 8) Why virus cannot grow on non-living culture medium? 1
- 9) Explain PPLO, Also give the other name of it 1
- 10) Name the group of fungi which is commonly called the club fungi 1

Section-B

- 11) What are bacteriophages and their types? Identify their shape. 2
- 12) How do fungi form partnership with most plants? 2
- 13) How does a nucleoid differ from a nucleus? 2
- 14) Give the name of causative agents of following diseases. Tuberculosis, Leprosy, Diphtheria, Pneumonia. 2
- 15) Diatoms are called as pearls of ocean. Why ? What is diatomaceous earth ? 2
- 16) Briefly describe the life cycle phases of fungi. 2
- 17) Write a brief account of reproduction in fungi 2
- 18) Explain the following terms in relation to Phycomycetes. 2
 - (i) Mycelium
 - (ii) Eucarpy and holocarpy
 - (iii) Asexual reproduction.
- 19) What observable features in Trypanosoma would make you classify it under kingdom-Protista? 2
- 20) Give the name of hosts of malarial parasite plasmodium 2

Section-C

- 21) Write difference between ascocarp and basidiocarp 5
- 22) List any six diseases caused by these classes of fungi 5
- 23) Give a brief account of viruses with respect to their structure and nature of genetic materials. Also, name four common viral diseases. 5

24) Briefly describe the components of a typical bacteria cell

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Section-A

- 1) 1
Aristotle divided animals in two groups. These are Enaima (with red blood) and Anaima (without red blood)
- 2) 1
Linnaeus proposed the two kingdom classification in 1758.
- 3) 1
Gametangial copulation, e.g., *Rhizopus*, *Mucor*, etc.
- 4) 1
Puccinia graminis tritici causes black stem rust of wheat.
- 5) 1
Algae, Bryophytes, pteridophytes, gymnosperms and angiosperms.
- 6) 1
Sponges, coelenterates, helminthes, annelids, arthropods, molluscs, Echinodermata, amphibian, reptiles, aves, and mammals.
- 7) 1
Lichens are dual organisms which contain a fungus or mycobiont and an alga or phycobiont.
- 8) 1
A virus cannot grow on non-living culture medium because it needs living cells for its metabolism and multiplication.
- 9) 1
Pleuropneumonia-like organism, Mycoplasma
- 10) 1
Basidiomycetes

Section-B

- 11) 2
Bacteriophages are viruses which kill bacteria. They are numbered T₁ to T₇ as their types. The shape of bacteriophages is tadpole-like with a head and a tail.
- 12) 2
Some fungi have evolved essential relationships with the roots of many living plants. These fungi grow around and into the roots. Both partners benefit so that neither would thrive without the other. This partnership is called mycorrhizal symbiosis.
- 13) 2
0 0
- 14) 2
Causative agents of the following diseases are
Tuberculosis Mycobacterium tuberculosis
Leprosy Mycobacterium leprae
Diphtheria Corynebacterium diphtheriae
Pneumonia Diplococcus pneumonia

- 15) 2
Pearl of ocean Diatoms have a shining silicified two valved covering or frustule. Because of their distinctive cell walls these are sometimes called the pearls of ocean.
Diatomaceous earth It is pile of siliceous skeletons of diatoms which accumulates at the bottom of sea or oceans, being resistant to decay.
- 16) 2
All fungi through two phases or stages in their life cycle. These phases are vegetative or assimilative phase and reproductive phase
Vegetative phase In this phase, they grow speedily in the food giving substratum. The food substratum may be bread, cheese, wood, etc. Coprophilous fungi grow well on cow dung. dead parts of plants like fallen leaves.
Reproductive phase In this phase, erect hyphae develop which produce reproductive structure. This is the holocarpic condition. In other fungi, reproductive structures develop from a part of the vegetative body and the condition is called eucarpic.
- 17) 2
Reproduction in fungi occurs by asexual and sexual methods. Asexually, it takes place either by formation of motile spores or by formation of non-motile spores or conidia. Ascomycetes and Basidiomycetes fungi produce fruiting bodies by sexual process called ascospores and basidiospores, respectively.
- 18) 2
(i) **Mycelium** Mycelium is coenocytic and non-septate or aseptate. Septa are formed only in connection with separation of old senescent parts and delimitation of reproductive structures.
(ii) **Eucarpy and holocarpy** In eucarpy, only a portion of somatic body is transformed into reproductive body is found in only some primitive forms.
(iii) **Asexual reproduction** It involves the formation of sporangia. The sporangia function as conidia in dry habitats as zoosporangia under wet conditions.
- 19) 2
Observable features in Trypanosoma are
(i) Unicellular, flagellum with basal granules.
(ii) Well-developed nucleus like eukaryotes.
(iii) reproduces asexually
(iv) Reserved food material is in the form of granules.
- 20) 2
(i) female Anopheles mosquito It is a primary host of malarial parasite. The sexual phase of parasite occurs in mosquito.
(ii) Human being These are intermediate or secondary host of plasmodium, The asexual phase of parasite occurs in human

Section-C

21) Difference between ascocarp and basidiocarp are given below

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Ascpcarp	Basidiocarp
It is a fructification found in Ascomycetes.	It is a fructification found in Basidiomycetes.
It is simpler in construction.	It is more elaborate in construction.
Ascocarp contains numerous asci.	Basidiocarp contains several basidia.
Ascus is generally aseptate.	Basidium may be septate or aseptate.
An ascus forms eight ascocarps.	A basidium produces four basidiospores.
These are formed endogenously.	These are formed exogenously.

22)

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Diseases caused by different classes of fungi are given below

Phycomycetes	Ascomycetes	Basidiomycetes	Deuteromycetes
Club rot of crucifers	stem galls of coriander	Loose smut of wheat	Red rot of sugarcane
Wart diseases of potato	Leaf curl of peach	Smurt of corn	Blast of rice
Rhizome rot of ginger	Powdery mildew of grapes	Black rust of wheat	Wilt of potato, tomato, cotton and banana.
White rust of crucifers	Powerdy mildew of peas	yellow rust of wheat.	Tikka diseases
Downy mildew of grapes	Ergot rye and grasses	Rust of peas	Early blight of potato
Late blight of potato	Brown rot of pear	Leaf rust of coffee	Die back of chillies.

23)

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Viruses are nucleoproteins. The genetic material is protected within a protein coat, called **Capsid**. The capsid consists of a number of subunits called capsomeres. The capsids are arranged in helical, polyhedral or geometric form.

The genetic material, i.e., DNA or RNA may be single - stranded or double - stranded.

The four common viral diseases are poliomyelitis, rinderpest, dengue, potato mosaic.

A bacterial cell consists of following components

Cell envelope It is the outer covering of protoplasm of bacterial cell. It contains mucilage sheath, cell wall and plasma membrane.

Cytoplasm It is a crystallo colloidal complex that forms the protoplasm excluding its nucleoid. Membrane bound cell organelles are absent. Cytoplasm along with nucleoid are together called as protoplasm.

Nucleoid It represents the genetic material of prokaryotes. Nucleoid consists of a single circular strand of DNA duplex which is super coiled with the help of RNA. No nuclear envelope is present.

Plasmids these are self-replicating , extrachromosomal segments of double-stranded, circular, naked DNA.

Flagella These are unstranded, equivalent to a single microtubular fibre. These help in movement and locomotion.

Pili and Fimbriae Pili are longer, fewer and thicker tubular outgrowths made up of protein pilin. Fimbriae are small bristle-like fibres sprouting from cell surface in large number. Pili are helpful in attaching to recipient cell and forming conjugation tube. Fimbriae cause agglutination of RBC.They also help in mutual clinging of bacteria.