



DEPARTMENT OF SCIENCE 2022-23

BIOLOGY QUESTION BANK - 1

CLASS: XI Chapter 1: The living world & Chapter 2: Biological classification

I	<b><u>SHORT ANSWER TYPE QUESTIONS FOR 2 MARKS:</u></b>
1.	What are the steps in the process of taxonomy? Ans: Characterisation, identification, classification, nomenclature.
2.	Define a taxon. Give an example. Ans: Each level or category in the hierarchy of taxonomy is called a taxon. Eg; Species
3.	What is a species? What is a genus? Ans: A group of similar organisms that are capable of interbreeding and producing fertile offspring constitutes a species. A group of similar species constitute a genus.
4.	What is hierarchical classification? Ans: It is the system of arranging organisms for classification in the order of logical sequence. Higher the category, lesser will be the number of common characteristics of the organisms.
5.	What is nomenclature? Who proposed the binomial nomenclature? Ans: The system of providing scientific specific names to organisms is called nomenclature. Carolus Linnaeus propose the binomial nomenclature .
6.	List down the criteria used by R.H. Whittaker for five kingdom classification. Ans: a) Nature of the nuclear material b) Complexity of the body structure c) Nutrition mode d) Cell design
7.	What are the characteristics of organisms included in kingdom Monera? Ans: The salient features of monerans are: a) Prokaryotic b) Unicellular

	<p>c) Some are autotrophic and some are heterotrophic</p> <p>d) Some have cell wall but not made up of cellulose</p>
8.	<p>What is diatomaceous earth?</p> <p>Ans: The cell wall of diatoms are made of silica and are indestructible. So when these cell walls get deposited in the sea bed after the death of diatoms ,it accumulates for years and forms the diatomaceous earth ;used as abrasive in many industries.</p>
9.	<p>What are ascocarps and basidiocarps?</p> <p>Ans: Ascocarp is the fruiting body in fungi of ascomycetes group that produce spores called ascospores. Basidiocarps are fruiting bodies in fungi of basidiomycetes group that form spores called basidiospores.</p>
10.	<p>What are red tides? State its significance.</p> <p>Ans: Some dinoflagellates which found in large numbers in sea impart a red colour to water and this is referred to as red tide. Red tides harm aquatic life as these organisms release toxins that harm the aquatic life.</p>
11.	<p>What are the characteristic features of Euglenoids?</p> <p>Ans: Euglenoids have the following features:</p> <ul style="list-style-type: none"> <li>i)They have a flexible pellicle covering the cell in the absence of the cell wall.</li> <li>ii)They have chlorophyll and so are autotrophic in nutrition. But, in the absence of light they are heterotrophic in nutrition.</li> </ul>
12.	<p>State the salient features of dinoflagellates.</p> <p>Ans: i) The dinoflagellates have two flagella; one located longitudinally and the other transversely.</p> <p>ii )Some of the members are phosphorescent and so make the sea glow at night.</p>
13.	<p>Give a brief account of slime moulds.</p> <p>Ans: i) Slime moulds are Protistans found growing in damp and shady places.</p> <p>ii)The general body of slime moulds includes a multinucleated slimy mass of protoplasm that show amoeboid movements.</p>
14.	<p>Compare hyphae and mycelium.</p> <p>Ans: Hyphae are the single filament like structures that make up a fungal body.</p> <p>A network of hyphae forms a mycelium.</p>
15.	<p>How is the body organisation of the various fungal groups different?</p>

	Ans: Phycomycetes of the fungal kingdom have aseptate hyphae in the mycelium whereas all the other groups have septate hyphae in the mycelium.			
16.	Why are members of class Deuteromycetes considered the imperfecti fungi? Ans: Commonly known as imperfect fungi because only the asexual or vegetative phases of these fungi are known. Once sexual stages of members of Dueteromycetes were discovered, they were often moved to ascomycetes and basidiomycetes.			
III	<b>THREE MARK QUESTIONS :</b>			
17.	State the disadvantage of common names and also any two advantages of binomial nomenclature. Ans: <u>Disadvantages of common names are:</u> i) Common name may have different meanings in different languages and so it becomes misleading. <u>Advantages of binomial nomenclature</u> i) The scientific names are same in all languages. ii) They indicate the relationship also.			
18.	What are the universal rules in binomial nomenclature? Ans: The universal rules of nomenclature are as follows: a) The first word in a biological name represents the genus while the second component denotes the specific epithet. b) Both the words in a biological name, when handwritten, are separately underlined, or printed in italics to indicate their Latin origin. c) The first word denoting the genus starts with a capital letter while the specific epithet starts with a small letter.			
19.	Give a comparative account of sexual reproduction in the various groups of fungi. Ans:			
	Phycomycetes	Ascomycetes	Basidiomycetes	Deuteromycetes
	Sexual reproduction through zygospores	Sexual reproduction through ascospores formed in ascocarps.	Sexual reproduction through basidiospores borne on basidiocarps.	Sexual reproduction is absent.
20.	Explain asexual reproduction in fungi.			

	<p>Ans: Phycomycetes reproduces asexually through zoospores or aplanospores.</p> <p>In ascomycetes, asexual reproduction occurs through budding mainly.</p> <p>In basidiomycetes, asexual spores are absent but they reproduce through fragmentation.</p> <p>In deuteromycetes, asexual spores are formed called conidia.</p>								
21.	<p>What are the characteristics of the various archaebacteria?</p> <p>Ans: Archaeobacteria includes a group of bacteria that live in extreme conditions. They are able to withstand the extreme conditions because of the presence of a complex cell wall. These include the following groups:</p> <p>i)Methanogens- Archaeobacteria that is found in gut of ruminants capable of producing methane gas.</p> <p>ii)Thermoacidophiles- Archaeobacteria found in hot water springs.</p> <p>iii)Halophiles-Archaeobacteria found in high salinity sources.</p>								
22.	<p>State the differences between Monera and Protista. Give an example for each of these kingdoms.</p> <p>Ans:</p> <table border="1"> <thead> <tr> <th>Monera</th> <th>Protista</th> </tr> </thead> <tbody> <tr> <td>i)Prokaryotic</td> <td>i)Eukaryotic</td> </tr> <tr> <td>ii)Autotrophic and heterotrophic forms are formed in this kingdom</td> <td>ii)Mostly heterotrophic</td> </tr> <tr> <td>Eg : Bacteria</td> <td>Eg : Amoeba</td> </tr> </tbody> </table>	Monera	Protista	i)Prokaryotic	i)Eukaryotic	ii)Autotrophic and heterotrophic forms are formed in this kingdom	ii)Mostly heterotrophic	Eg : Bacteria	Eg : Amoeba
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24.	Suggest any three useful importance of fungi.								

	<p>Ans: i)Yeast is a ascomycetes fungi helps in fermentation that is used for preparing breads,wines,alcohol etc</p> <p>ii)Various edible mushrooms belong to the fungal group basidiomycetes.</p> <p>iii)Fungi form a member in the symbiotic association - Lichens that play a role in ecological succession.</p>
<b>III</b>	<b><u>LONG ANSWER TYPE QUESTIONS FOR 5 MARKS</u></b>
25.	<p>Briefly explain the various groups of protozoans.</p> <p>Ans: There are four major groups of protozoans.</p> <p>i)Amoeboid protozoans: These organisms live in fresh water, sea water or moist soil. They move and capture their prey by putting out pseudopodia (false feet) as in Amoeba.</p> <p>ii) Flagellated protozoans: The members of this group are either free-living or parasitic. They have flagella. Eg: Trypanosoma.</p> <p>iii) Ciliated protozoans: These are aquatic, actively moving organisms because of the presence of thousands of cilia. Eg: Paramecium.</p> <p>iv) Sporozoa: This includes diverse organisms that have an infectious spore-like stage in their life cycle and no specific cellular appendages for movement or food collection.</p>
26.	<p>What are the various groups under Protista? State any one salient feature of each group.</p> <p>The various groups of Protista are:</p> <p>i) Chrysophytes- Mainly includes diatoms which are aquatic and producers of the aquatic ecosystem.</p> <p>ii) Dinoflagellates-The members in this group are also autotrophic. have two flagella :one longitudinally seen and the other which is transverse.</p> <p>iii) Euglenoids- These include organisms that show plant and animal characteristics.Photosynthetic in presence of light and heterotrophic in the absence of light.</p> <p>iv)Slime moulds-Saprotrophic organisms in whom the body is a slimy mass of multinucleated protoplasm.</p> <p>v)Protozoa-Group of heterotrophic Protistans having various locomotory cellular processes like flagellum, cilia, pseudopodia etc.</p>

27.	<p>List any five economic importance of bacteria.</p> <p>Ans: i) They are helpful in making curd and cheese from milk.</p> <p>ii)Some are pathogens causing damage to human beings, crops, farm animals and pets. Cholera, typhoid, tetanus, citrus canker are well known diseases caused by different bacteria.</p> <p>iii)Some are used in preparing antibiotics.</p> <p>iv)Some bacteria in symbiotic association help in nitrogen fixation.</p> <p>v)Some anaerobic forms in sewage plants help in treatment of the domestic waste as they are decomposers.</p>
28.	<p>What is binomial nomenclature? State the universal rules in binomial nomenclature.</p> <p>Ans: Binomial nomenclature is a system of scientific naming where the names has two distinct components-Generic name followed by specific name.The universal rules in this system are:-</p> <p>a) The first word in a biological name represents the genus while the second component denotes the specific epithet.</p> <p>b) Both the words in a biological name, when handwritten, are separately underlined, or printed in italics to indicate their Latin origin.</p> <p>c) The first word denoting the genus starts with a capital letter while the specific epithet starts with a small letter.</p>
29.	<p>Give an outline of the 5-Kingdom classification.</p> <p>Ans:</p>

