



7. Diversity in Living Organisms

Additional And Important questions:

SHORT-ANSWER TYPE:

Que: Who is called the father of taxonomy?

Ans: Carolus Linnaeus.

Que: Write the scientific name of human being.

Ans: Homo sapiens.

Que: Write the scientific name of frog.

Ans: Rana tigrina.

Que: Write the scientific name of cat.

Ans: Felis domestica.

Que: Write the scientific name of tiger.

Ans: Felis forestica.

Que: Which is the largest phylum of animal Kingdom?

Ans: Arthropoda.

Que: Name the organisms which are outside of the classification.

Ans: Virus and Prions.

Que: Name the phylum in which organisms have bilaterally symmetrical and segmented body and jointed leg.

Ans: Arthropoda.

Que: Name the group of animals which have spiny skinned.

Ans: Echinodermata.

Que: Give two examples of Echinodermata.

Ans: Star fish, Echinus.

Que: Name the organ of Echinodermata group of animals by which they use to move around.

Ans: Peculiar water-driven tube.

Que: By which material in Echinodermata group of animal's skeleton is made of?

Ans: Hard Calcium Carbonate.

Que: Which type of circulatory system does Mollusca have?

Ans: Open circulatory System.

Que: Name four animals of Mollusca group.

Ans: Snails, Unio, Octopus, chiton etc.

Que: Write one major function of Notochord.

Ans: It provides a place for muscles to attach for ease (easiness) of movement.

Que: Where are the organisms of Protochordata mainly found ?

Ans: Protochordates are marine (sea) animals.

Que : What is generally called the organisms of Porifera?

Ans : Sponges.

Que : Where are the organisms of Porifera generally found?

Ans : Marine habitats.

Que : Name two mammals which lay eggs?

Ans : Platypus and Echidna.

Que : Name the phylum of the animal kingdom whose skin is covered with scales and plates.

Ans : Pisces

Que : Name the phylum of animal kingdom which has mammary glands for production of milk to nurish their baby.

Ans : Mammals.

Que: Where are the organisms of thallophyta found.

Ans: In water (Aquatic animal)

Que: name cell-wall made of a tough complex sugar in fungi.

Ans: Chitin.

Que: Name that organism which uses decaying organic material as food.

Ans: saprophytes.

Que: Name two organisms of fungi.

Ans: (i) Yeast (ii) Mushrooms.

Que: Write the name of that living group in which structures named cilia and flagella are found for moving around.

Ans: Protista group.

Que: What is the primary characteristic on which the first division of organisms is made?

Ans: cellular structure and their function.

Additional Questions with solutions:**SHORT-ANSWER TYPE:**

Que. - What is called primitive organism?

Ans. – Some groups of organisms which have ancient body designs that have not change very much. Such organisms are called primitive organisms.

Que. – What are called advanced organism?

Ans. – Some groups of organisms which have acquired their particular body designs relatively recently. Such organisms are called advanced organisms.

Que. – Define plants.

Ans. – Those which synthesize their own food in taking part in photosynthesis process are called plants.

Que – Define symbiotic?

Ans – Some fungal species live in permanent mutually dependent relationships with bluegreen algae (or cyanobacteria). Such relationships are called symbiotic. Ex. Lichens.

Que - Define Taxonomy.

Ans: The branch of science that classify living organisms among different categories or group is called taxonomy. It is the science of identifying and naming species into system of classification.

Que – Which type of organisms found in Protista class. Give two example.

Ans – The organisms of unicellular Eukaryotic are found in Protista. Give two example. E x. Ameoba and Paramecium.

Que – What are phanerogams?

Ans – plants with well differentiated reproductive tissues that ultimately make seeds are called phanerogams.

Que – What are cryptogams?

Ans - The reproductive organs of plants in such groups are very inconspicuous, and they have hidden reproductive organs'. Therefore they are called 'cryptogamae'.

Que – What is Nomenclature?

Ans - There need for systematic naming of living organisms for identifying them as we can't identify the organisms by their general name anywhere in the world. This is also known as scientific name. There are two names with Nomenclature, the first genus and second for species.

Que – What is Notochord?

Ans – The notochord is a long rod-like support structure (chord=string) that runs along the back of the animal separating the nervous tissue from the gut.

Que : There are holes or pores all over the body of the Porifera organisms, What is the function of these holes?

Ans : These holes lead to a canal system that helps in circulating water throughout the body to bring in food and oxygen.

Que – Write the advantage of nomenclature.

Ans – we can't identify the organisms by their general names anywhere in world. As organisms have different name in different localities. Organisms can be identified by the nomenclature (Scientific name). Nomenclature provides organisms' scientific name.

Additional Questions With Solutions**LONG ANSWER TYPE:****Que: In How many classes Plantae is divided?**

Ans: Plantae is divided into five parts.

- (i) Thallophyta
- (ii) Pteridophyta
- (iii) Bryophyta
- (iv) Gymnosperms
- (v) Angiosperms

Que: write the features of THALLOPHYTA.

Ans:

- (i) Plants that do not have well-differentiated body design fall in this group.
- (ii) The plants in this group are commonly called algae
- (iii) These are aquatic plants. Examples are *Spirogyra*, *Ulothrix*, *Cladophora* and *Chara*

Que: Write the features of BRYOPHYTA.

Ans:

- (i) These plants are both aquatic and terrestrial so this group is called the amphibian of plant kingdom.
- (ii) The plant body is commonly differentiated to form stem and leaf-like structures.
- (iii) There is no specialized tissue for the conduction of water and other substances from one part of the plant body to another.
- (iv) Examples are moss (*Funaria*) and *Marchantia*

Que: Write the features of Pteridophyta.

Ans:

- (i) The plant body is differentiated into roots, stem and leaves.
- (ii) It has specialised tissue for the conduction of water and other substances.
- (iii) Examples are *Marsilea*, ferns and horse-tails.
- (iv) It has naked embryos that are called spores.
- (v) The reproductive organs of plants in all these three groups are very inconspicuous.

Que: Write the features of gymnosperms.

Ans:

- (i) This group bear naked seeds.
- (ii) These are usually perennial, evergreen and woody.
- (iii) Examples – Pines such as Deodar, and Cycas.

Que: Write the features of angiosperms.

Ans:

- (i) The seeds develop inside an organ which is modified to become a fruit.
- (ii) These are also called flowering plants.
- (iii) plant embryos in seeds have structures called cotyledons.

Que: In How many part animalia kingdom is divided?

Ans: Animalia kingdom is divided into two part.

- (i) Chordate
- (ii) Non chordate

Que: Write two differences between Gymnosperms and Angiosperms.

Ans:

Gymnosperms	Angiosperms
1. They bear necked seed. 2. They are usually perennial, evergreen and woody.	1. The seeds develop inside fruit. 2. They are flowering plants.

Que: Write the differences between exoskeleton and endoskeleton.

Ans: There are following differences between exoskeleton and endoskeleton.

Exoskeleton	Endoskeleton
1. The hard part outside of body is called exoskeleton. 2. It provides both structure and protection to the body. 3. It is made up of chitin and calcium carbonate. 4. Eg: Arthropoda, Echinodermata and Mollusca etc.	1. The hard part inside the body is called endoskeleton. 2. It provides only structure to the body. 3. It is made up of bone and cartilage. 4. Eg: Pisces, Reptiles, Aves and Mammalia etc.

Que: Write the differences between Monocots and Dicots.

Ans:

Monocots	Dicots
1. Plants with seeds have a single cotyledon. 2. Eg: Paphiopedilum	1. Plants with seeds have two cotyledons. 2. Eg: Ipomoea

Que: What are the advantages of classification of Organisms?.

Ans: The advantages of classification of Organisms.

- (i) It tells relations among the various classes of organisms.
- (ii) It describe about the evolution of organisms.
- (iii) It makes simple the study of various organisms.

Que: Write the differences between Aves and Mammalia.

Ans: the differences between Aves and Mammalia are as follows:

Aves	Mammalia
1. They lay eggs.	1. They produce live young ones.
2. There is an outside covering of feathers.	2. Their skin has hairs as well as sweat and oil glands.
3. They have no mammary glands to nourish their young.	3. They have mammary glands to nourish their young.
4. Their two forelimbs are modified for flight.	4. Their two forelimbs are not used for flight.

Que: Write three similarities between Aves and Mammalia.

Ans: Three similarities between Aves and Mammalia as follows:

Aves:

- (i) These are warm-blooded animals and have a four-chambered heart.
- (ii) They breathe through lungs.

Mammalia:

- (i) Mammals are warm-blooded animals with four-chambered hearts.
- (ii) They breathe also through lungs.

Que : Write the difference between Pteridophyta and Phanerogams.

Ans:

Pteridophyta:

- (i) It has no ability to produce seeds.
- (ii) The reproductive organs are very inconspicuous (hidden).

Phanerogams:

- (i) Seeds are the result of the reproductive process.
- (ii) Reproductive tissues are well differentiated (developed).

Que: What features do all chordates possess?

Ans: All chordates possess the following features:

- (i) They have a notochord
- (ii) They have a dorsal nerve cord
- (iii) They are triploblastic
- (iv) They have paired gill pouches
- (v) They are coelomate.

Que: Explain the basis for grouping organisms into five kingdoms.

Ans: The major characteristics considered for classifying all organisms into five major kingdoms are:

- (a) Whether they are made of prokaryotic or eukaryotic cells
- (b) Whether the cells are living singly or organised into multicellular and thus complex organisms
- (c) Whether the cells have a cell-wall and whether they prepare their own food.