

CBSE TEST PAPER-03
CLASS - XI BIOLOGY (The Living World)

General Instruction:

- All questions are compulsory.
 - Question No. 1 to 3 carry one marks each. Question No. 4 to 6 carry two marks each. Question No. 7 and 10 carry three marks each.
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1. Name the highest categories of classification?
2. What are the three codes of nomenclatures?
3. What do you mean by “chemotaxonomy”?
4. Why are living organisms classified?
5. What is Taxonomic key? How is it helpful in the identification & classification of an organism?
6. Differentiate between taxonomy & systematic.
- 7 What is a taxon? Illustrate the taxonomical hierarchy with a suitable example examples of a plant and an animal.
8. What are taxonomic aids? Mention some of the taxonomic aids for identification
9. How would you set up a herbarium?
10. Differentiate between classical taxonomy & Modern taxonomy.

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[ANSWERS]

Ans. 1 Kingdom.

Ans. 2 International code of botanical, zoological & bacteriological nomenclature.

Ans. 3 Classification of organisms based on differences at the biochemical level, especially in the amino acid sequences of common proteins.

Ans. 4 A large variety of plants, animals, and microbes found on earth and they differ in size, shape, colour, habitat, and many other characteristics. So, studying each of them is impossible. Therefore, scientists have devised mechanisms to classify all living organisms on certain rules and principles that allow identification, nomenclature, and finally classification of an organism.

Ans. 5 Key is a taxonomical aid that helps in identification of plant and animal species. These keys are based on similarities and dissimilarities in characters, generally in a pair called couplet. Each statement in a taxonomic key is referred to as a lead. For categorizing each taxonomic rank, such as family, genus, species, etc., different keys are used. It is also useful in identification of unknown organisms.

Ans. 6

TAXONOMY	SYSTEMATICS
i) The science of identification, nomenclature & classification is called taxonomy.	i) It refers to the science of identification description, nomenclature & classification.
ii) It deals with the rules & the principles of classification.	ii) It deals with unique characteristics at every level of classification.

Ans. 7 Taxon is a taxonomic group of any rank, such as a species, family, or class.

The arrangement of various taxa in a hierarchical order is called taxonomic hierarchy. In this hierarchy, species is present at the lowest level whereas kingdom is present at the highest level.

Classification of a plant

As an example, let us classify *Solanum melongena* (Brinjal).

Kingdom – Plantae

Division – Angiospermae

Class – Dicotyledonae

Order – Solanales

Family – Solanaceae

Genus – *Solanum*

Species – *melongena*

Classification of an animal

As an example, let us classify *MAN*

Kingdom – Animalia

Phylum – Chordata

Class – Mammalia

Order – Primate

Family – Hominidae

Genus – *Homo*

Species – *Sapiens*

Ans. 8 Taxonomic aids are devices used to study, Identification & classify organism, some of these are:-

- i) Herbarium :- collections of present /preserved or mounted plant specimens. arranged systematically to provide information on sheets
- ii) Botanical gardens :- specialized gardens for collection of living plants, it is maintained for references & identification purposes in which each plant is labelled showing its biological

name.

iii) Zoological parks:- places with live animals are called zoos or zoological parks. The animal live in their natural habitat there are separate places for birds, tigers, lions, reptiles etc.

iv) Museums :- These are mostly set up in institutions where collection of preserved plants & animals for reference & taxonomic studies are placed in preservatives eg. Alcohol & formalin.

Ans. 9 Setting up of herbarium involves the following steps:-

i) Visit to a specific area to get intact part or plant, seeds or flowers.

ii) Information about habitat, season & time of collection as well topography etc.

iii) For collection, some tools are needed, notebook, digger, scissor, knife polyethene, newspaper etc.

iv) Spreading of specimens & drying, change the paper sheets after 3-4 days, plant press may be used for it. The dried specimens are pasted on herbarium sheets & pesticides like CS₂, naphthalene Hgcl₂ etc.

v) Put label on specimen & mention its place of collection, time of collection, common name scientific name etc.

Ans.10

CLASSICAL TAXONOMY	MODERN TAXONOMY
i) It is called old taxonomy or systematic	i) It is called Neo- systematic or Bio- systematic.
ii) The species was considered a basic, concrete & separate unit that was fixed or static entity & the work of creator.	ii) The species is considered related to one another, mutable & the work of gradual modification as wall as dynamic & ever- changing.
iii) In it, classification was based on the morphological features only	iii) In it, classification was based on phylogenetic relationships of the organisms
iv) Few individuals were studied.	iv) large number of individuals are studied
v) The species was delimited on morphological characters.	v) Emphasis in population instead of species. Morphological delimitation was replaced by biological delimitation.