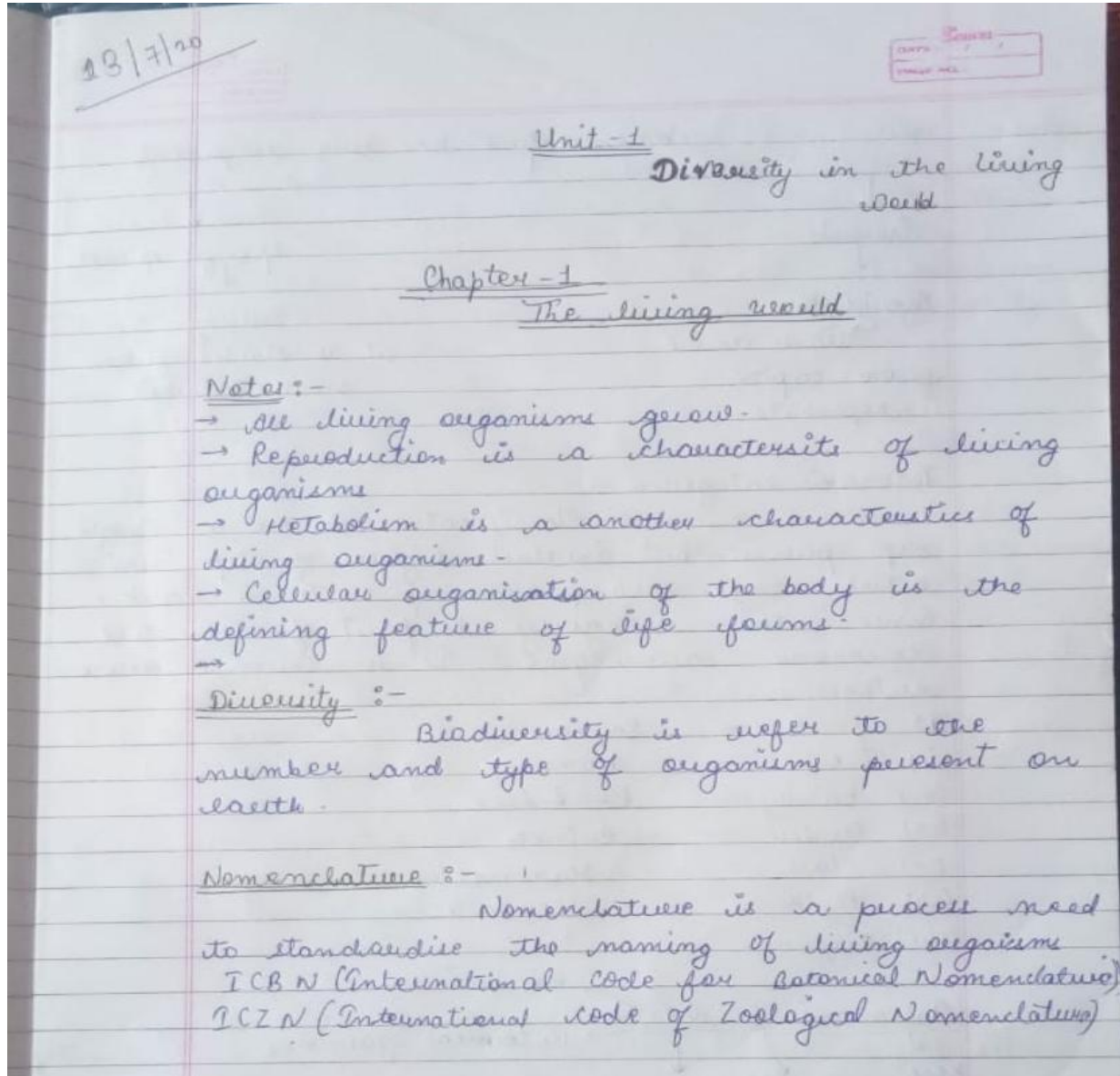


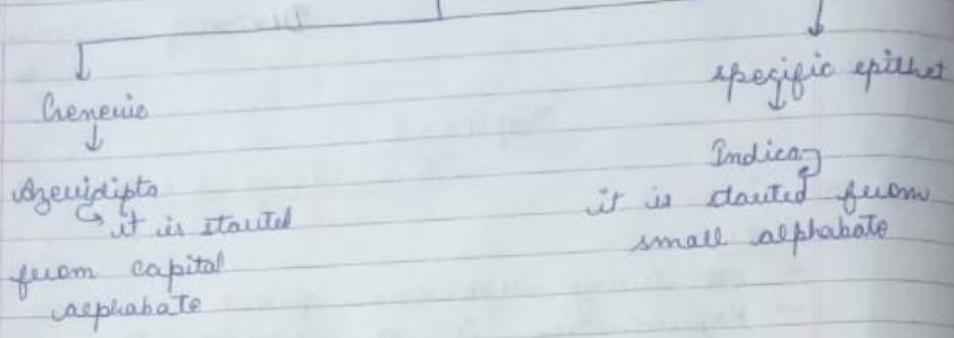
Subject – Science

Class- 11

Topic – chapter-1



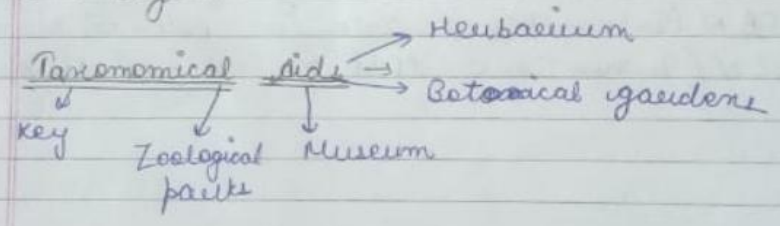
Nomenclature has two components



Taxonomic categories →

Classification is not a single step process but involves higher of steps in which each step process presents a mark. Since the category is part of overall taxonomic arrangement. It is called a taxonomic categories.

- (i) Species - Sapiens
- (ii) Genus - Homo
- (iii) Family - Homonidae
- (iv) Order - Primata
- (v) Class - Mammalia
- (vi) Phylum - Chordata
- (vii) Kingdom -



mammals constitute the next higher category called Phylum. All these, based on the common features like presence of notochord and dorsal hollow neural systems, are included in phylum Chordata. In case of plants, classes with a few similar characters are assigned to a higher category called Division.

(ii) Class →

This category includes related orders. For example, order Primata comprising monkey, gibbon and gibbon is placed in class Mammalia along with order Carnivora that includes animals like tiger, cat and dog. Class Mammalia has other orders also.

(iii) Family →

The next category, family, has a group of related genera with still less number of similarities as compared to genus and species. Families are characterised on the basis of both vegetative and reproductive features of plant species. Among animals for example, genus Panthera, tiger, leopard, Felis (cats) in the family Felidae.

(iv) Order →

Generally order and other higher taxonomic categories are identified category, on the aggregates of characters. Order being a higher category, is the assemblage of families which

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Ques 6 Describe herbarium, botanical gardens, Museum, Zoological parks and key briefly?

Ans (i) Herbarium →

Herbarium is a store house of collected plant specimens that are dried, preserved on sheets. Further, these sheets are arranged according to a universally accepted system of classification. The herbarium sheets also carry a label providing information about date of and place of collection, English, local and botanical names, family, collector's name etc. Herbaria also serve as quick referral systems in taxonomical studies.

(ii) Botanical Gardens →

These specialised gardens have collections of living plants for reference, plant species in these gardens are grown from for identification purpose and each plant is labelled indicating its botanical/scientific name and its family. The famous botanical gardens are at Kew (England), Indian Botanical Garden, Howrah (India) and at National Botanical Research Institute, Lucknow (India).

(iii) Museum →

Biological Museums are generally set up in educational institutes such as schools and colleges. Museums have collections of

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preserved plants and animals specimens for study and reference. Plant and animal specimens may also be preserved as dry specimens. Insects are preserved in insect boxes after collecting, killing and pinning. Museums often have collections of skeletons of animals too.

(iv) Zoological parks →

These are the places where wild animals were kept in protected environments under human care and which enable us to learn about their food habits and behaviour. All animals in a zoo are provided, as far as possible, the conditions similar to their natural habitats. Children love visiting these parks, commonly called Zoo.

(v) Key →

Key is another taxonomical aid used for identification of plants and animals based on the similarities and dissimilarities. The keys are based on the contrasting characters generally in a pair called couplet. It represents the choice made between two opposite options. Keys are generally analytical in nature.

Ques 7 What do you learn from identification of individuals and populations?

Ans The basic requirements in the knowledge

of characters of an individual or group of organisms. This helps in identifying similarities and dissimilarities among the individuals of the same kind of organisms as well as of other kinds of organisms.

Ques 8 Illustrate the taxonomical hierarchy with suitable examples of a plant and an animal.

<u>Ans</u>	Common name	Binomial name	Genus	Family	Order	Class	Phylum/Division
	Man	<i>Homo sapiens</i>	<i>Homo</i>	Hominidae	Primates	Mammalia	Chordata
	Housefly	<i>Musca domestica</i>	<i>Musca</i>	Muscidae	Diptera	Insecta	Arthropoda
	Mango	<i>Mangifera indica</i>	<i>Mangifera</i>	Anacardiaceae	Sapindales	Dicotyledonae	Angiosperms
	wheat	<i>Triticum aestivum</i>	<i>Triticum</i>	Poaceae	Poales	Monocotyledonae	Angiosperms