+1 BIO - ZOOLOGY

BOOK BACK STUDY MATERIAL

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11TH –BIO-ZOOLOGY(BOOK BACK QUESTIONS&ANSWERS)

CHAPTER.1- LIVING WORLD

Evaluation

1. A living organism is differentiated from non-living structure based on

a. Reproduction b. Growth **c. Metabolism** d. Movement

2. A group of organisms having similar traits of a rank is

a. Species **b. Taxon** c. Genus d. Family

3. Every unit of classification regardless of its rank is

a. Taxon b. Variety c. Species d. Strain

4. Which of the following is not present in same rank?

a. Primata b. Orthoptera c. Diptera d. Insecta

5. What taxonomic aid gives comprehensive information about a taxon?

a. Taxonomic Key b. Herbarium c. Flora d. Monograph

6. Who coined the term biodiversity?

a. Walter Rosen b. AG Tansley c. Aristotle d.APdeCandole

7. Cladogram considers the following characters

a. Physiological and Biochemical **b. Evolutionary and Phylogenetic**

c. Taxonimic and systematic d. None of the above

8. Molecular taxonomic tool consists of

a. DNA and RNA b. Mitochondria and Endocplamicreticulum

c. Cell wall and Membrane proteins d. All the above

9. Differentiate between probiotics and pathogenic bacteria.

PROBIOTIC BACTERIA = They are the bacteria that are helpful/beneficial for other organisms . They do not cause any illness . ex - Lactobacillus

PATHOGENIC BACTERIA =They are the bacteria that are harmful for living organisms and cause diseases in their host organisms .ex- streptococcus pneumonia

10. Why mule is sterile in nature?

- hinnies and **mules** can't have babies of their own.

-They are **sterile** because they can't make sperm or eggs.

-They have trouble making sperm or eggs because their chromosomes don't match up well.

-And, to a lesser extent, because of their chromosome number.

-A **mule** is the offspring of a male donkey (a jack) and a female horse (a mare).

- A horse has 64 chromosomes, and a donkey has 62. The **mule** ends up with 63.

-Mules can be either male or female, but, because of the odd number of chromosomes, they **can**'t**reproduce**.

11. List any five salient features of the family *Felidae*

Wild cats (Felidae) are members of the carnivore group (Carnivora) which all share the following **characteristics:**

1. Felidae is basically a cat family.
2. They are obligate carnivores. meat eaters.
3. They have sharp teeth and claws to catch and eat prey.
4. Mostly solitary, secretive and nocturnal.
5. Acute senses – hearing, smell, vision and touch.

12. What is the role of Charles Darwin in relation to concept of species?

*In 1859 charles Darwin in his book origin of species explain the evolutionary connection of species by the process of natural selection.

Biological Species Concept:

In the middle of 18th century, a fresh concept called biological species concept appeared. This concept was accepted in the later half of the nineteenth century after Darwin's "Origin of Species" was published (in 1859). So, this is also known as Newer Species concept. K. Jordan first formulated this concept in 1905. Later in 1940, Mayr supported this concept. As per this concept, "a species is a group of interbreeding natural population that is reproductively isolated from other such groups".

Mayr described that the members of a species show the following properties:

13. Why elephants and other wild animals are entering into human living area?

-The wild is where wild animals live naturally. They were here first.

-Then humans move into the animals' habitat and try to tame it.

-They push the wild animals out, cut down the forests, pave the grasslands, log the mountains, build fences and railroads and farms and wondering why the elephant and hyenas haven't figured out that only people are supposed to live here now.

-This is how humans have managed to kill half of the wild life on this whole planet in only fifty years.

-Our arrogance, greed, ignorance, delusions of superiority, and belief in our entitlement will destroy us all.

14. What is the difference between a Zoo and wild life sanctuary?

Zoo	Wildlife Sanctuary
(i) It is a place where we protect animals.	(i) Here, too, wild animals are protected and preserved.
(ii) Here artificial surroundings are made for animals	(ii) They live in their natural habitat or environment.
(iii) Here animals are supplied prepared food.	(iii) They get their food from forests themselves.

Arignar Anna Zoological Park ,Tamilnadu Bhadra wildlife sanctuary,Karnataka

15. Can we use recent molecular tools to identify and classify organisms?

Molecular taxonomical tools

Technological advancement has helped to evolve molecular taxonomical tools from classical tools to molecular tools. The accuracy and authenticity is more significant in the molecular tools.

The following methods are being used for taxonomical classification.

Molecular techniques and approaches such as **DNA barcoding** (short genetic marker in an organism's **DNA** to identify it as belonging to a particular species),

DNA hybridization (measures the degree of genetic similarity between pools of DNA sequences),

DNA fingerprinting (to identify an individual from a sample of DNA by looking at unique patterns in their DNA),

Restriction Fragment Length Polymorphisms (RFLP) analysis (difference in homologous DNA sequences

that can be detected by the presence of fragments of different lengths after digestion of the DNA samples),

Polymerase Chain Reaction (PCR) sequencing (to amplify a specific gene, or portion of gene,) are used as taxonomical tools.

Neo taxonomical tools – This is based on Electron Microscopy images to study the molecular structures of cell organelles.

16. Explain the role of Latin and Greek names in Biology.

Greek or latin language is also referred to as the dead language, meaning that no changes can be done in the language,it remains constant and no new words are added.

So, to maintain the uniformity of scientific names all throughout the world, latin/greek is used in biology and other fields as well.

-Latin and Greek words commonly used in systematic names is intended to help those unfamiliar with classical languages to understand and remember the scientific names of organisms.

-The binomial nomenclature used for animals and plants is largely derived from Latin and Greek words, as are some of the names used for highertaxa, such as orders and above.

-At the time when biologist Carl Linnaeus (1707–1778) published the books that are now accepted as the starting point of binomial nomenclature, Latin was used in Western Europe as the common language of science, and scientific names were in Latin or Greek: Linnaeus continued this practice.

-Although Latin is now largely unused except by classical scholars, or for certain purposes in botany, medicine and the Roman Catholic Church, it can still be found in scientific names.

- It is helpful to be able to understand the source of scientific names. Although the Latin names do not always correspond to the current English common names, they are often related, and if their meanings are understood, they are easier to recall.

-The binomial name often reflects limited knowledge or hearsay about a species at the time it was named.

CHAPTER-2 -KINGDOM ANIMALIA

Evaluation

1.The symmetry exhibited in cnidarians is

(a) Radial (b) Bilateral (c) Pentamerous radial (d) Asymmetrical

2.Sea anemone belongs to phylum

(a) Protozoa (b) Porifera **(c) Coelenterata** (d) Echinodermata

3.The excretory cells that are found in platyhelminthes are

(a) Protonephridia **(b) Flame cells** (c) Solenocytes (d) All of these

4.In which of the following organisms, self fertilization is seen.

(a) Fish (b) Round worm (c) Earthworm **(d) Liver fluke**

5.Nephridia of Earthworms are performing the same functions as

(a) Gills of prawn **(b) Flame cells of Planaria**

(c) Trachea of insects (d) Nematoblasts of Hydra