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SF-17010

M.Sc. Zoology (3rd Semester) Examination, Dec.– 2023

Compulsory /Optional

Biosystematics, Taxonomy and Biodiversity

Paper - II

Time : Three Hours] *[Maximum Marks : 080*

Note : Answer from both the Sections as directed. The figures in the right-hand margin indicate marks.

Section- A

1. Answer the following questions: 1×10=10

(a) Who developed the idea of a "natural classification" system, emphasizing evolutionary relationships among organisms?

(i) Ernst Haeckel

(ii) Carolus Linnaeus

(iii) Augustin Pyramus de Candolle

(iv) Charles Darwin

(b) Which mechanism contributes significantly to genetic diversity and adaptation in panmictic species?

(i) Allopatric speciation

(ii) Autopolyploidy

(iii) Apomixis

(iv) Sexual reproduction and recombination

(c) Which of the following is not included under in situ conservation?

(i) National park

(ii) Biosphere reserve

(iii) Sanctuary

(iv) Botanical garden

(d) The region of biosphere reserve which is legally protected and where no human activity is allowed is known as:

(i) Buffer zone

(ii) Core zone

(iii) Restoration zone

(iv) Transition zone

(e) Keystone species are:

(i) Important for ecosystem

(ii) Important for plants

(iii) Endangered species

(iv) Rare species

(f) Name the organization which provides rules for naming animals.

(i) ICZN

(ii) ICN

(iii) ICBN

(iv) IBM

(g) Taxonomy is the Science of_____

(i) Identification

(ii) Survey

(iii) Group

(iv) Classification and Nomenclature

(h) What is called for a discrete group of organisms of the same kind?

(i) Genes

(ii) Community

(iii) Species

(iv) Column

(i) Classical taxonomy is also termed.

(i) Beta taxonomy

(ii) Systematics

(iii) Descriptive taxonomy

(iv) Experimental taxonomy

(j) Which taxonomic category is lower than order but higher than family?

(i) Genus

(ii) Phylum

(iii) Class

(iv) Superorder

2. Answer the following short answer type questions: 2×5=10

(a) What are implications of the systematics

(b) What is Chemotaxonomy?

(c) Write the mechanism of panmictic species?

(d) What is the role of ICZN?

(e) Give brief introduction about hot spot diversity?

Section- B

Answer the following questions: 15×4=60

3. Give a detailed description on Cytotaxonomy with suitable examples.

OR

Define taxonomy and give a note on molecular taxonomy with suitable example.

4. Define speciation and explain the mechanism of panmictic and apomictic species.

OR

Write about different kinds of taxonomic characters.

5. Describe taxonomic procedures, taxonomic collection, preservation and curetting

(7)

OR

Write about process of typification and give a brief note on different zoological types.

6. Write about the biodiversity hotspots found in India.

OR

What are the threats to biodiversity and provide their remedies.