

POST-GRADUATE COURSE

Term End Examination — June, 2023/December, 2023

ZOOLOGY

**Paper-1B : TAXONOMY, BIODIVERSITY AND
CONSERVATION**

Time : 2 hours]

[Full Marks : 50

Weightage of Marks : 80%

Special credit will be given for precise and correct answer. Marks will be deducted for spelling mistakes, untidiness and illegible handwriting. The figures in the margin indicate full marks.

1. Answer *two* questions : 9 × 2 = 18
 - a) What do you mean by molecular taxonomy ? Describe how DNA types and sequencing are used in molecular taxonomy. 3 + 3 + 3
 - b) Who proposes the punctuated equilibrium theory of evolution ? Describe how it relates with the differential rates of evolution. 2 + 7
 - c) Describe how prezygotic and postzygotic reproductive isolation play the key role in speciation mechanism. 4 + 5
 - d) What do you mean by threatened animals ? How many categories are there ? Mention their names with example. What is Red Data book ? 2 + 4 + 3

2. Answer *three* questions : 6 × 3 = 18
 - a) What are the basic differences between classification and identification of animals ? State the aim of good classification. 4 + 2
 - b) What do you mean by taxonomic characters ? Mention the important taxonomic characters which are generally used for taxonomic purposes in animals. 1 + 5
 - c) Write short notes on Introgressive hybridization and hybrid breakdown. 3 + 3
 - d) Define zoological typification. Mention the different 'types' which are generally considered for taxonomic purposes. 2 + 4
 - e) What do you mean by levels of biodiversity ? Mention the different levels of biodiversity with their important features. 2 + 4
 - f) Write a short note on the causes of wildlife depletion. 6

3. Answer *two* questions : 4 × 2 = 8
- a) Define biome. Write the important features of Desert biome. 1 + 3
 - b) What do you mean by taxonomic key ? Mention the difference between bracketed key and branching type key. 1 + 3
 - c) Define orthogenesis. Describe the different types of lineage production during evolution. 1 + 3
 - d) What do you mean by panmictic and apomictic species ? Define quantum speciation. 3 + 1
 - e) Describe why India is considered as megadiversity country.
4. Answer *two* questions : 3 × 2 = 6
- a) What is electrophoresis ? Mention the major principles of electrophoresis. 1 + 2
 - b) Describe the role of allozymes and isozymes in taxonomical studies.
 - c) Write short notes on mitochondrial DNA and repetitive DNA. 1½ + 1½
 - d) “Species diversity increases with primary production”. — Justify.
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