

QP Code: 22/PT/14/IB

POST-GRADUATE COURSE

Term End Examination — June, 2022/December, 2022

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 chaemotaxonomy ? Name four important chemical compounds which are generally used for chaemotaxonomy. What is chiasma frequency ? How can it be used in cytotaxonomy ? 2 + 2 + 2 + 3
- b) What is levels of biodiversity ? Distinguish between alpha and beta diversity. Mention four important values of diversity. 2 + 3 + 4
- c) What is endemic species ? Give an example. What is red data book ? Justify the statement "Species diversity increased with primary production". 3 + 2 + 4
- d) What is biome ? Write the important characteristics of desert biome with emphasis on faunal make up. Mention how desert animals are adapted in relation to conservation of water. 2 + 3 + 4
2. Answer *three* questions : 6 × 3 = 18
- a) Mention the basic difference between micro and macro evolution. Define parapatric speciation with example. What is quantum speciation ? 2 + 3 + 1
- b) Mention the basic difference between evolutionary and phylogenetic species concept. Distinguish between taxon and category. 4 + 2

- c) "Isolation is an outcome of natural selection." — Justify. Describe in brief the genetic basis of origin of reproductive isolation. 3 + 3
- d) Write short notes on any *two* of the following : 3 + 3
(i) Holotype, (ii) Homotype, (iii) Neotype, (iv) Paratype.
- e) Mention the major causes of extinction of biodiversity. What is key stone species ? Give example. 3 + 2 + 1
- f) Write the important cause for the depletion of mangrove ecosystem in India.
3. Answer *two* questions : 4 × 2 = 8
- a) Write notes on hybrid breakdown and typological species concept. 2 + 2
- b) What do you mean by superspecies ? Write the important properties of good classification. 2 + 2
- c) Mention the important causes for the wildlife depletion.
- d) What is the full form of IUCN ? Distinguish between endangered and vulnerable species. 1 + 3
- e) What do you mean by megadiversity country ? Give example. Define wetland with example. 2 + 2
4. Answer *two* questions : 3 × 2 = 6
- a) What is chromosome banding ? How it is related to molecular taxonomy ? 1 + 2
- b) Describe the orthogenesis process with an example.
- c) What is the full form of ICZN ? Describe its operative principle. 1 + 2
- d) Describe the different conservation strategy followed for the protection of Himalayan musk deer.
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