

M.Sc. 2nd Semester Examination, 2025

ZOOLOGY

(Biosystematics)

PAPER — ZOO-201

Full Marks : 25

Time : 1 hour

Answer all questions

The figures in the right hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

GROUP—A

1. Answer any *two* of the following questions :

(a) Define taxon and phenon with example. 2×2

(Turn Over)

- (b) State on infra-species and super-species with example.
- (c) What is karyotype ? Write its importance in taxonomy.
- (d) Distinguish between symplesiomorphy and synapomorphy.

GROUP-B

2. Answer any *two* of the following questions : 4 × 2

- (a) Give an account on evolutionary species concept.
- (b) How cytological approaches are important for taxonomic identification ? Explain.
- (c) Write a note on DNA barcoding in taxonomic study.
- (d) How does identification differ from classification ? Portray monophyly, paraphyly and polyphyly with suitable examples. 1 + 3

(3)

GROUP-C

3. Answer any *one* of the following question :

8 × 1

(a) What is sibling species ? How does it differ from sympatric species ? Write the different causes of speciation. $1 + 2\frac{1}{2} + 4\frac{1}{2}$

(b) What are taxonomic characters ? Why are taxonomic characters termed quasi-independent parts ? Explain briefly how ecological and ethological characters mitigate the taxonomic problems.

1 + 1 + (3 + 3)

[Internal Assessment – 5 Marks]

