

M.Sc.

2015

2nd Semester Examination

ZOOLOGY

PAPER—ZOO-201

Full Marks : 40

Time : 2 Hours

The figures in the right-hand margin indicate full marks.

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

Illustrate the answers wherever necessary.

Answer all questions of the following.

Group — A

(Biosystematics)

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

- (a) Define taxonomy and systematics.
- (b) Trinomial nomenclature — explain with example.

(Turn Over)

(c) Macrotaxonomy and Microtaxonomy.

(d) "Law of priority".

2. Write short notes on any *two* of the following : 4×2

(a) Biological species concept.

(b) 'Holotype' and its significance.

(c) Geographic speciation.

(d) Differential systematics.

3. Answer any *one* question of the following : 8×1

(a) (i) Define cytotaxonomy.

(ii) Describe in brief on the different approaches of cytotaxonomy.

(iii) Is cytotaxonomy applicable for identification of animal fossils?

(iv) State the limitations. (2+4+1+1)

(b) Explain the following : 4×2

(i) Application of taxonomy in Environment and Forestry.

(ii) Essential rules of Zoological nomenclature (ICZN, 1985).

Group — B**(Ecology)**

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

- (a) Mention the difference between Ecology and 'Environmental Biology'.
- (b) Differentiate connectedness and connectance.
- (c) Explain ecological equivalence with an example.
- (d) What is life table? Give one utility of life table.

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

- (a) Briefly elaborate the concept of resistance and resilience stability in ecosystem functioning.
- (b) Discuss on 'Gaia Hypothesis'.
- (c) Define macroecology highlighting its significance.
- (d) Describe the competitive exclusion with experimental evidence.

6. Answer any *one* question of the following : 8×1

- (a) Briefly highlight five different approaches on Evolutionary Ecology. What is Evolutionary Fitness? Explain Evolutionary Stable Strategy with example.

$3+1+4$

- (b) (i) Why the species diversity in the tropics is more ?
- (ii) Explain resource partitioning with examples.
- (iii) Mention the difference between Organismic and Individualistic concept of Community.

3+3+2