2016

M.Sc. Part-I Examination

ZOOLOGY

PAPER—I (Group—B)

Full Marks : 50

Time : 2 Hours

The figures in the margin indicate full marks.

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

Illustrate the answers wherever necessary.

Group—B

Answer any *four* questions taking *two* from each unit.

Unit—I

[Applied Zoology]

1. Briefly describe the structural excellence of peritrophic membranc highlighting its functional role. Add a note on filter chamber in insects. $8+4\frac{1}{2}$

2. What are the major constraints in lateritic soils for mulberry crop production ? How do you reclaim the soil for higher leaf yield in mulberry ? What are the optimum environmental condition of silkworm rearing.

$4+5+3\frac{1}{2}$

3. Name three insect pests infesting the Jute (*Corchoras capsularis*). Give a brief accounts on the symptom of damage, life history & control of one important inset pest species inferting the Jute.

$3+9\frac{1}{2}$

4. Write short notes on (any *three*) of the following :

$4\frac{1}{2}+4+4$

(a) Eusociality in termites ;

(b) Bee dance ;

(c) SWOT analysis in sericulture ;

(d) Neuroendocrine control of moulting.

(e) Juvenile hormone.

Unit—II

[Biosystematics]

5. (i) Discuss different stages of taxonomy.

(ii) Define 'Paratype', 'Syntype' and 'neotype' with examples.

(iii) Mention the role of taxonomy in Biological Control.

(iv) Add a note on 'Nomen hybridum'.

$3+4+3+2\frac{1}{2}$

6. (i) Enlist the name of different species concept.

(ii) Write down the criticism of Biological Species Concept.

(iii) Distinguish between sympatric species and Sibling Species.

(iv) Add a note on Keys tone Species.

$2\frac{1}{2}+3\frac{1}{2}+4+2\frac{1}{2}$

7. (i) Mention the Linnaeus proposed categories.

(ii) State the scientific nomenclature in taxonony.

(iii) Discuss embryological approach of taxonomic identification.

(iv) Enumerate the role of taxonomy in environmental management. $2\frac{1}{2}+2+4+4$

8. Write short notes (*any three*) : $4\frac{1}{2}+4+4$

(i) Speciation by seasonal isolation ;

(ii) Cytotaxonomy and its importance ;

(iii) Dichotomous key ;

(iv) Difficulties in biological species concept.

(v) What is binomial and binominal nomenclature ?
