2018

M.Sc. Part–I Examination

ZOOLOGY

PAPER—I (Group—B)

Full Marks : 50

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

Unit—I

(*Applied Zoology*)

1. Discuss the structural and functional speciality of insects' midgut. What are peritrophic membrane and filter chamber ? What role do they play in insect's digestion ?

    3+3+6½

2. Discuss the constraints in the development of mulberry sericulture in South-West Bengal. Highlight the management strategies for overcoming the problems to ensure better silk production. What are the ideal temperature required for development of instars of silk worm?

5+5+2½

3. Name two major pests of Jute. Describe the life history of one such pest. Comment on nature of damage caused by this pest. Discuss the precautions to be taken against stored grain pest in insects. 2+5+3+2½

4. Write short notes (any *three*) : 4½+4+4

 (a) IPM ;

 (b) Ecdyson ;

 (c) JH ;

 (d) Vermicompost ;

 (e) Capture fishery ;

 (f) Merits of vermicompost over other organic manures.

Unit—II

(*Biosystematics*)

5. (a) What are the characteristics of texa ?

 (b) Explain the 'Law of priority' with examples.

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

 (d) Linnaean hierarchy.

 (e) Explain allopatric speciation with examples.

2½+3+2½+2+2½

6. Distinguish between :

 (a) Allopatric and sympatric species

 (b) Biological species and typological species.

 (c) Primary types and Secondary types.

 (d) Cladogram and Phenogram. 3+3+3+3½

7. State the importance of taxonomy in : (a) forestry, (b) public health and (c) wildlife management. What is numerical taxonomy ? State its significance.

(2+2+2)+2+4½

8. (a) Explain (any *one*) :

   (i) DNA hybridistation as an aid to cytotaxonomical studies.

   (ii) Code of Zoological Nomenclature, pertaining to 'Rejection of names'. 4½

(b) Write notes on (any *two*) : 2×4

   (i) Sibling species with example

   (ii) Objectives of taxonomy

   (iii) Biological races

   (iv) Bar coding and its necessity in identification.

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