2007

ZOOLOGY

PAPER I (Group-B)

Full Marks :50

Time : 2 hours

Answer any **four** questions taking two from each Unit

The figures in the right-hand margin indicate marks

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

Illustrate the answers wherever necessary

Write **the answers Qpestiem of each Unit in separate books**

UNIT-I

(Applied Zoology)

1. **What are the structural peculiarities of insect integument** ? Add a **note on the physical and chemical nature of chitin. Describe briefly different phases during molting in insects** . 4+3+5 $\frac{1}{2}$

2. **What is vermitechnology? State the merits of vermicompost over other organic manures. What are the different ingradients required for this technology ? Briefly describe the extraction process of vermicompost.**

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

3. **Discuss** the bottlenecks of sericultural practices in South-West part of West **Bengal**. Write about the different **measures** to be undertaken for overcoming **these to ensure** better silk production.

7+5 $\frac{1}{2}$

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

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

(i) Sutures in insects head

(ii) Evolutionary significance of wing's modification **in insects**

(iii) Nest **Building in termites**

(iv) Nature of damage of any coleopteran stored **grain pest**

(**v) Exotic fishes and their impact on** fishery.

(Biosystematics)

5. (a) Define biochemical taxonomy.

(b) Discuss in details the approach of bioeheinibal systematics.

(c) Role of biochemical taxonomy in tracing the animal evoluti6ii 7 $2\frac{1}{2}+8+2$

6. (a) Explain the role of systematics in biology.

(b) What is Type ? **How Holotype, Syntype, Paratype and Lectotype are used in taxonomy** ? $7+(1+4\frac{1}{2})$

7. (a) Discuss the role of systematics in applied biology.

(b) Comment on the type concept. $9+3\frac{1}{2}$

8. Write notes on any *three* of the following : $4+4+4\frac{1}{2}$

(i) Typological species and biological species

(ii) Nominalistic species and evolutionary species

(iii) Allopatric **and Sympatric** species

(iv) **a and 0 taxonomy**

(v) Taxonomic characters

;iyi3;-Explain **Sibling species with example**

(vii) **Cladism**

(4K) **Synonymy and Homonymy.**