



**WEST BENGAL STATE UNIVERSITY**  
B.Sc. Honours 5th Semester Examination, 2020, held in 2021

**ZOOADSE02T-ZOOLOGY (DSE1/2)**

**ENTOMOLOGY**

Time Allotted: 2 Hours

Full Marks: 40

*The figures in the margin indicate full marks.  
Candidates should answer in their own words and adhere to the word limit as practicable.  
All symbols are of usual significance.*

1. Answer any **eight** questions from the following: 2×8 = 16
- (a) Name the insect pests causing 'dead heart' and 'defoliation' of the paddy plant.
  - (b) Define with example the saltatorial types of insect legs.
  - (c) What do you mean by elytra and halter?
  - (d) Give two examples of wingless insects.
  - (e) Mention the exact location of malpighian tubules and hepatic caeca.
  - (f) What is hypogynium?
  - (g) Write the order of the following insects:  
*Pediculus sp., Xenopsylla sp., Apis sp. and Lepisma sp.*
  - (h) Distinguish between nymph and larva.
  - (i) Define hemimetabolic metamorphosis.
  - (j) Define with example of allochemicals.
  - (k) Write the functions of insect blood.
  - (l) Define ommatidium.
2. Answer any **three** questions from the following: 3×3 = 9
- (a) Draw a labelled diagram of a typical insect antenna. Write its function. 2+1
  - (b) Describe the biting and chewing type of mouthparts of insect. 3
  - (c) Write the mechanism of respiration of insect. 3
  - (d) Mention two insect hormones and their functions. 3
  - (e) Distinguish between male and female cockroaches. 3

3. Answer any *three* questions from the following: 5×3 = 15
- (a) Draw and describe the integumentary system of insect. 2+3
- (b) Write characters with example of the following orders: 2  $\frac{1}{2}$  ×2=5  
Collembola and Phasmida.
- (c) Draw and describe the nervous system of insect. 2+3
- (d) Describe the holometabolic metamorphosis. 5
- (e) Write the scientific name of major insect paddy pest. Mention the nature of damages and state its control measure. 1+2+2

**N.B. :** *Students have to complete submission of their Answer Scripts through E-mail / Whatsapp to their own respective colleges on the same day / date of examination within 1 hour after end of exam. University / College authorities will not be held responsible for wrong submission (at in proper address). Students are strongly advised not to submit multiple copies of the same answer script.*

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