

4. (a) Explain the structure and function of insect stomodeum, mesenteron and proctodeum with suitable diagram. (8)
- (b) Define different types of antennae found in the insects with a labeled diagram. (7)
5. (a) What is tracheal respiration? Explain the respiratory system of insects with a diagram. (8)
- (b) Explain the structure of and function of different types of heads in insects. (7)
6. (a) Describe the different types of legs and their functions in the insect. (8)
- (b) Write a brief account on the structure of insect wings and its modifications. (7)
7. (a) Explain the physiology of excretion in insects in detail with suitable diagram. (8)
- (b) Write a brief account on the circulatory system of the insects. (7)
8. Write short notes on **any three** of the following: (15)
  - (a) Insect-plant interactions
  - (b) Mouth parts of cockroach
  - (c) Cash crops and stored grains
  - (d) Nervous system of insect

(1000)

[This question paper contains 4 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 1264

I

Unique Paper Code : 2233010012

Name of the Paper : DSE-BIOLOGY OF INSECTA

Name of the Course : B.Sc. (HONS) ZOOLOGY

Semester : V

Duration : 3 Hours

Maximum Marks : 90

**Instructions for Candidates**

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt **ANY FIVE** questions in all.
3. Question no. 1 is compulsory
4. Draw well labelled diagram wherever possible.

1. (a) Define the following : (5)

(i) Trochanter

(ii) Chitin

(iii) Nymph

(iv) Ecdysis

(v) Raptorial leg

P.T.O.

(b) Give the location and functions of the following :

(5)

- (i) Malpighian tubules
- (ii) Labrum
- (iii) Spiracle
- (iv) Corpora cardiac
- (v) Alary muscle

(c) Differentiate between the following pairs (**any four**) (8)

- (i) Fossorial leg and Saltatorial leg
- (ii) Apterygota and Pterygota
- (iii) Geniculate antenna and Serrate antenna
- (iv) Chitinous wing and membranous wing
- (v) Corpora cardiac and Corpora allata

(d) Give the scientific name of the following Pest

(3)

- (i) Rice weevil
- (ii) Mulberry silkworm
- (iii) Pulse beetle

(e) Match the following :

(5)

(i) Tibia	(a) Central Nervous System
(ii) Siphoning mouthparts	(b) Sclerites
(iii) Mesonotum	(c) Hormone
(iv) Subesophageal ganglion	(d) Butterflies
(v) Juvenile	(e) Leg

(f) Classify the following upto the order

(4)

- (i) Termite
- (ii) Grasshopper
- (iii) Pulse beetle
- (iv) Honey bee

2. (a) Give a detailed account on the life stages of pulse beetle with diagram. (8)

(b) Write a brief note on insect diversity with examples. (7)

3. (a) What is Metamorphosis? Define different types of metamorphosis with examples. (8)

(b) Explain the structure of compound eyes and the image formation in insects. (7)