

Total number of printed pages-4

3 (Sem-6/CBCS) ZOO HE 1

2025

ZOOLOGY

(Honours Elective)

Paper : ZOO-HE-6016

(Biology of Insecta)

Full Marks : 60

Time : Three hours

The figures in the margin indicate full marks for the questions.

1. Choose the correct option : $1 \times 7 = 7$

(i) Termites have _____ type of antennae.

(a) Moniliform

(b) Filiform

(c) Plumose

(d) Serrate

(ii) 'Costa' is a part of

(a) Antenna

(b) Mouth

(c) Wing venation

(d) Thorax

- (iii) Siphoning type of mouthparts are found in
- (a) Butterfly
 - (b) Housefly
 - (c) Mosquitoes
 - (d) Honey bee
- (iv) The thorax of insects has _____ segments.
- (a) two
 - (b) three
 - (c) four
 - (d) five
- (v) Halteres are found in—
- (a) Coleoptera
 - (b) Orthoptera
 - (c) Diptera
 - (d) Hemiptera
- (vi) _____ absorbs nitrogenous waste from haemolymph.
- (a) Haemocytes
 - (b) Oenocytes
 - (c) Malpighian body
 - (d) Rectum

- (vii) Complete metamorphosis is found in—
- (a) Grasshopper
 - (b) Silverfish
 - (c) Dragonfly
 - (d) Butterfly

2. Answer the following questions : $2 \times 4 = 8$

- (i) What are the primary parts of the insect mouth ?
- (ii) Distinguish between simple eyes and compound eyes of insects.
- (iii) What is plastron ?
- (iv) Mention the function of Haemolymph in insects.

3. Answer the following questions : **(any three)**
 $5 \times 3 = 15$

- (i) Distinguish between hemimetabolous and holometabolous metamorphosis.
- (ii) Write about the abdominal structures of insects.
- (iii) Describe the raptorial type of legs of insects.
- (iv) What is *corpora allata* ? What hormone does it secrete ? Mention its functions.

$1 + 1 + 3 = 5$

(v) What are reasons for the fact that insects are a dominant group of animals ?

4. Answer the following questions : **(any three)**
10×3=30

(i) What are the important characteristics of social organisation in insects ? Write about the social behaviour of *any one* insect.

(ii) What do you mean by plant-insect interactions ? Describe plant defence mechanisms and adaptation of insects to plant defences. 2+8=10

(iii) Describe the following type of mouth parts of insects with labelled diagrams :

(a) Biting and chewing type

(b) Piercing and sucking type

5+5=10

(iv) Describe the digestive system of insects.

(v) What are the different types of sense organs in insects ? Describe Mechano-receptors and Chemoreceptors.

(vi) Write the distinctive characters of the orders *Coleoptera*, *Diptera*, *Lepidoptera* and *Hymenoptera* with examples.

2½×4=10