

M.Sc.(Zoology) CBCS Pattern Semester-III  
**PSCZOOT10-1 - Paper-X Special Group - Entomology Paper-I :**  
**Insect Morphology and Physiology**

P. Pages : 1

Time : Three Hours



**GUG/W/23/11307**

Max. Marks : 80

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- Notes :
1. All questions are compulsory.
  2. All questions carry equal marks.
  3. Draw well labeled diagrams wherever necessary.

1. Write an account on Dermal Wing structure and mechanism of flight in Insects. **16**

**OR**

Write notes on:

- a) Moulting and sclerotization
- b) Morphology of Head

2. Write an account on structure of alimentary canal and salivary glands and mechanism of digestion. **16**

**OR**

Write notes on:

- a) Insect mouth parts and morphology.
- b) Tracheal respiratory system.

3. Write an account on excretory system, organs and physiology of excretion in Insects. **16**

**OR**

Write notes on:

- a) Structure and anatomy of brain insects.
- b) Pheromones

4. Write an account on early embryonic development upto germ band formation in insects. **16**

**OR**

Write notes on:

- a) Types of Larvae and pupae.
- b) Viviparity and Polyembryony

5. Attempt the following. **16**

- a) Antennae
- b) Haemolymph.
- c) Neuroendocrine system
- d) Vitellogenesis in insects

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