

M.Sc.(Zoology) (CBCS Pattern) Third Semester  
**PSCZOOT10-1 / PSCZOO10-1 Entomology Paper-I Special Group Paper-X**  
**(Insect Morphology and Physiology)**

P. Pages : 1

Time : Three Hours



**GUG/W/18/11307**

Max. Marks : 80

- Notes :
1. All questions are compulsory.
  2. All questions carry equal marks.
  3. Illustrate your answers with well labelled diagrams.

1. Give details account on wing structure and mechanism of flight in Insects. **16**

**OR**

Write notes on:

- a) Molecular structure of insect integument
- b) Insect appendages.

2. Give detailed account on structure of alimentary canal and add a note on salivary glands. **16**

**OR**

Write notes on:

- a) Plastron respiratory mechanism.
- b) Haemolymph- Cellular and chemical composition.

3. Give details account on structure and function of neuroendocrine system of Insects. **16**

**OR**

Write notes on:

- a) Physiology of excretion.
- b) Pheromones

4. Describe in details on mechanism of spermatogenesis and vitellogenesis. **16**

**OR**

- a) Parthenogenesis.
- b) Metamorphosis.

5. Attempts the following. **16**

- a) Morphology of insect abdomen.
- b) Tracheal respiration.
- c) Anatomy of Brain.
- d) Early embryonic development.

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