

C 42085

(Pages : 2)

Name.....

Reg. No.....

**FOURTH SEMESTER M.Sc. DEGREE (REGULAR/SUPPLEMENTARY)
EXAMINATION, APRIL 2023**

(CBCSS)

Zoology

ZOL 4E 11 01—ENTOMOLOGY—II : ANATOMY AND PHYSIOLOGY

(2019 Admission onwards)

Time : Three Hours

Maximum : 30 Weightage

Part AI. Short Answer Questions. Answer any *four* questions. Each question carries 2 weightage :

- 1 What is the role of vitamins in insect ?
- 2 Define extra intestinal digestion.
- 3 Define Haemocoel.
- 4 Define Tracheoles.
- 5 Define neuromuscular junction.
- 6 Define Morphogenesis.
- 7 Give the aquatic adaptations in insects for swimming and skating in water.

(4 × 2 = 8 weightage)

Part BII. Short Essay Questions. Answer any *four* questions. Each question carries 3 weightage :

- 8 Give a brief account on role of carbohydrate, sterols and fatty acids in insects.
- 9 Give a brief account on composition of haemolymph.
- 10 Give the difference between blood and haemolymph.
- 11 Briefly describe the anatomy of brain.
- 12 Give a brief account on types of pheromones present in insects and their functions.

Turn over

- 13 Draw the structure of male reproductive system in insects and discuss their function.
- 14 Briefly explain the formation of blastoderm.

(4 × 3 = 12 weightage)

Part C

III. Essay Questions. Answer any *two* questions. Each question carries 5 weightage :

- 15 Describe in detail about the physiology of digestion in insects.
- 16 Describe in detail about the respiratory adaptations in aquatic insects and endo-parasitic insects.
- 17 Explain in detail about the types and functions of hormones.
- 18 Describe in detail about the mechanism of wing movement and flight in insects.

(2 × 5 = 10 weightage)