

C 2089

(Pages : 2)

Name.....

Reg. No.....

**FOURTH SEMESTER M.Sc. DEGREE (REGULAR) EXAMINATION
MARCH 2021**

(CBCSS)

Zoology

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

(2019 Admissions)

Time : Three Hours

Maximum : 30 Weightage

General Instructions

1. *In cases where choices are provided, students can attend all questions in each section.*
2. *The minimum number of questions to be attended from the Section / Part shall remain the same.*
3. *There will be an overall ceiling for each Section / Part that is equivalent to the maximum weightage of the Section / Part.*

Part A

I. Answer any *four* of the following. Each question carries 2 weightage :

- 1 Give an account of plastron respiration.
- 2 Comment on hygrometers in insects.
- 3 Explain the composition of haemolymph.
- 4 Briefly explain control of heart beat in insects.
- 5 What is diapause ? Give an account of different types of diapause.
- 6 Write an account of paedogenesis in insects.
- 7 Briefly explain synaptic transmission of impulses in insects.

(4 × 2 = 8 weightage)

Part B

II. Answer any *four* of the following. Each question carries 3 weightage :

- 8 Give an account of insect pheromones and their functions.
- 9 Describe the structure of male and female reproductive systems in insects.
- 10 Write an account of neurosecretory cells and endocrine glands in insects.

Turn over

- 11 Explain, how ventilation is controlled in insects.
- 12 Briefly describe the anatomy and histology of malpighian tubules in Coleoptera.
- 13 Write an account of locomotion in aquatic insects.
- 14 Give an account of histomorphology of insect muscles.

(4 × 3 = 12 weightage)

Part C

III. Answer any *two* of the following. Each question carries 5 weightage.

- 15 Give an account of hormonal control of moulting in insects.
- 16 Write an essay on digestive enzymes and physiology of digestion in insects.
- 17 Explain the structure of wings and mechanisms of wing development in insects.
- 18 Write an essay on the structure and functioning of insect photoreceptors.

(2 × 5 = 10 weightage)