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(Pages : 2) Name.....

Reg. No.....

FOURTH SEMESTER M.Sc. DEGREE (REGULAR/SUPPLEMENTARY) EXAMINATION, APRIL 2022

(CBCSS)

Zoology

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

Time : Three Hours (2019 Admission onwards)

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. *The instruction if any, to attend a minimum number of questions from each sub section / sub part / sub division may be ignored.*
4. *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 a brief account of the histology of insect integument.

2 What are juvenile hormones ?

3 Give an account of viviparity in insects.

4 What is diapause ? Mention the types.

5 Explain the digestion of wood in insects.

6 Describe the histology of malpighian tubules in Lepidoptera.

7 Write an account of neuromuscular junctions in insects.

(4 × 2 = 8 weightage)

Part B

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

8 Describe the structure of reproductive system in insects.

9 Explain different types of parthenogenesis in insects.

Turn over

10 Give an account of sound production in insects.

11 Give an account of cellular elements of insect haemolymph.

12 Describe the histomorphology of insect muscles.

13 Explain the synthesis of uric acid and formation of excreta in insects.

14 Write an account of nutritional requirements in insects.

Part C

(4 × 3 = 12 weightage)

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

15 Write an essay on the anatomy and physiology of photoreceptors in insects.

16 Describe the structure and modifications of insect wings.

17 Explain the structure of respiratory system of insects. Add a note on the process of ventilation.

18 Describe nerve impulse transmission and synaptic transmission in insects.

(2 × 5 = 10 weightage)