

## FOURTH SEMESTER M.Sc. DEGREE EXAMINATION, JUNE 2019

(CUCSS—PG)

Zoology

ZO 4ET 11—ENTOMOLOGY—II : ANATOMY AND PHYSIOLOGY

(2016 Admissions)

Time : Three Hours

Maximum : 36 Weightage

**Part A**I. Answer all *fourteen* questions :

- 1 What is elytral stridulation ?
- 2 What are slow axons ?
- 3 How is wood digested in an insect ?
- 4 What is paedogenesis ?
- 5 Mention the thermoreceptors of insects.
- 6 Mention the major nutrients required for insect growth.
- 7 What is lepidopteran type of Malpighian tubules ?
- 8 Name any two respiratory pigments in insects.
- 9 Name the various layers of insect cuticle.
- 10 Mention the special features of ventilation in parasitic insects.
- 11 Name the different insect haemocytes.
- 12 Comment on the heart rate of insect.
- 13 How is wing beat controlled in an insect ?
- 14 Comment on Proprioceptors of insects.

(14 × 1 = 14 weightage)

**Part B**II. Answer any *seven* questions :

- 15 Explain the composition of haemolymph.
- 16 Discuss the role of hormones in moulting.

**Turn over**

- 17 Explain the process of sex determination in insects.
- 18 Write notes on locomotion in aquatic insects.
- 19 Describe the anatomy of insect brain.
- 20 Comment on the hormonal control of insect metamorphosis.
- 21 Explain histomorphology of corpora cardiaca.
- 22 Describe the structure of insect chemoreceptors.
- 23 Explain the structure of male reproductive system in insects.
- 24 Write notes on neuromuscular junctions.

(7 × 2 = 14 weightage)

### Part C

III. Answer any *two* questions :

- 25 Give an account on insect pheromones and their functions.
- 26 Explain the structure of respiratory system of insects. Add a note on the process of ventilation.
- 27 Write an essay on the structure and functioning of insect photoreceptors.
- 28 Give an account on histomorphology of skeletal and visceral muscles.

(2 × 4 = 8 weightage)