

**2020**

**ZOOLOGY — HONOURS**

**Paper : DSE-A-2**

**(Biology of Insects)**

**Full Marks : 50**

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words  
as far as practicable.*

1. Answer **any fifteen** questions from the following : 2×15
- (a) What is the function of corpora allata?
  - (b) Name the hemocytes found in insects.
  - (c) What is ophisthognathous head?
  - (d) What is tegmina and haltere?
  - (e) Mention four characteristic features of praying mantis.
  - (f) What are the functions of hormone secreted from prothoracic gland?
  - (g) What is holometaboly and hemimetaboly?
  - (h) Mention order characters of Coleoptera with example.
  - (i) What is rhabdom?
  - (j) What is Johnston's organ?
  - (k) Where do you find stridulatory apparatus? What is its significance?
  - (l) Name two mechanoreceptors in insects.
  - (m) What are allelochemicals?
  - (n) What is saltatorial leg?
  - (o) State the function of bursicon hormone.
  - (p) Name two digestive enzymes of insect.
  - (q) What do you mean by polymorphism in termite colony?
  - (r) How do you identify adult female of *Scirpophaga incertulus*?
  - (s) Give two examples of gall maker.
  - (t) Define biological vector.

**Please Turn Over**

2. Answer **any four** questions from the following :

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| (a) Mention the salient features of orders Hymenoptera and Isoptera with examples.     | 2+2+1 |
| (b) What is cryptonephridia? What are its significances?                               | 3+2   |
| (c) Briefly describe the endocrine regulation in metamorphosis of insects.             | 5     |
| (d) Mention the functions of salivary gland and crop in insects during digestion.      | 2½+2½ |
| (e) Mention briefly different parts of male and female genitalia in insects.           | 2½+2½ |
| (f) Compare apposition and superposition image formation in insects.                   | 5     |
| (g) Write a short note on evolutionary significance of trophallaxis.                   | 5     |
| (h) Describe briefly on host recognition and plant acceptance by phytophagous insects. | 5     |
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