

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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