

U.G. 6th Semester Examination - 2024**ZOOLOGY****[PROGRAMME]****Discipline Specific Elective (DSE)****Course Code : ZOOL-G-DSE-T-02****(Biology of Insecta)****Full Marks : 40****Time : 2½ Hours***The figures in the right-hand margin indicate marks.**Candidates are required to give their answers in their own words as far as practicable.*

1. Answer any five of the following: 2×5=10
- a) What is haemocoelic insemination? Where it is seen? 1+1
 - b) Differentiate between Hypognathous and Prognathous type of head with example.
 - c) Mention the role of peritrophic membrane.
 - d) What is the basic unit in the eye of insect?
 - e) Differentiate between elytra and hemi-elytra wing. Comment on hamuli. 1+1
 - f) What is the function of antennae?
 - g) Mention the positive effects of allelochemical in insects.

[Turn Over]

- h) Distinguish between diapause and hibernation.
2. Answer any **two** of the following : $5 \times 2 = 10$
- a) All insects are hexapods but all hexapods are not insects. — Explain.
 - b) Draw a neat labelled diagram of generalized wing articulation in insect.
 - c) Give a brief note on typical male genitalia in insects with suitable diagram.
 - d) State the salient features of the order to which the following insects belong: $2 \frac{1}{2} + 2 \frac{1}{2}$
 - i) Dragonfly
 - ii) Butterfly
3. Answer any **two** of the following : $10 \times 2 = 20$
- a) Discuss the role of different hormones involved in metamorphosis in insects. Write short notes on Trophallaxis. $7 + 3$
 - b) Draw and describe the different parts of a typical insect antenna. Give a note on different types of antenna found in insects with example. Write a note on filter chamber in insects. $(1 + 2) + 5 + 2$
 - c) Define Polyphagus. Monophagus and Oligophagus insect with an example from each group. Discuss and draw a neat labelled diagram of chewing type of mouth parts. $6 + 4$

- d) Write short notes (any **two**): $5 \times 2 = 10$
- i) Eusociality in termites.
 - ii) Fossorial and Raptorial legs in insect
 - iii) Neopterous and Paleopterous wing in insects
 - iv) Role of hormones in insect metamorphosis
 - v) Cibarial pump and halter
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