

M.Sc. 3rd Semester Examination, 2022

ZOOLOGY

(Basic and Applied Entomology/Ecotoxicology)

PAPER — ZOO-301.1 & 301.2(CCAIE)

Full Marks : 40

Time : 2 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.

PAPER — ZOO-301.1

(Basic and Applied Entomology)

Answer any two of the following questions : 2×2

1. What is peritrophic membrane ? 2
2. What is prothoracic gland ? Mention its function. 1 + 1

(Turn Over)

3. State the function of luciferin and luciferase. 1 + 1
4. State the chemical nature and empirical formula of chitin ? 1 + 1

Answer any two questions of the following : 4 × 2

5. What is aerolium ? State its function. 1 + 3
6. Write a note on Trail marking pheromone. 4
7. State the difference between Control and IPM. Name one species specific insecticide. 3 + 1
8. Write down the modifications of pro cuticle and epicuticle. 2 + 2

Answer any one question of the following : 8 × 1

9. State the neuroendocrine control of moulting and metamorphosis of insects. 8
10. Write the scientific name of a Jute pest. Write down its nature of damage and control measures. 1 + 3 + 4

PAPER – ZOO-301.2

(*Ecotoxicology*)

Answer any two questions form the following : 2×2

11. Differentiate pollutants and Xenobionts.
12. What do you mean by systemic toxicant ?
13. Define toxicokinetics and toxicodynamics.
14. Which Xenobiont is responsible for Minamata disaster ?

Answer any two questions from the following : 4×2

15. Give an account on biomagnification.
16. Write a note on immunogenotoxicity.
17. State different factors that impact on toxicity.
18. Discuss on the sources and impact of Arsenic pollution in the environment.

Answer any **one** question from the following : 8×1

19. (i) What is Chelation therapy ?

(ii) Mention the criteria of a good Chelating agent.

(iii) Discuss the mechanism of chelation therapy.

2 + 2 + 4

20. (i) What is biotransformation ?

(ii) Discuss the mechanism of biotransformation process of any chemicals.

(iii) Add a note on bioconcentration

2 + 4 + 2