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PG 3rd Semester Examination, 2024

ZOOLOGY

PAPER – ZOO-301.1 & 301.2

Full Marks : 50

Time : 2 hours

Answer all questions

The figures in the right hand margin indicate marks

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

Illustrate the answers wherever necessary

PAPER : ZOO-301.1

(Entomology)

GROUP – A

1. Answer any *two* of the following questions :
2 × 2

(Turn Over)

- (a) What is peritrophic membrane ? Where can it be found ? 1 + 1
- (b) What are pheromones ? Write a short note on Trail Marking Pheromone. 1 + 1
- (c) What is the ideal temperature and humidity for the chawki rearing ?
- (d) What are apodeme and apophysis ?

GROUP – B

2. Answer any *two* of the following questions : 4 × 2
- (a) What are the different orders of Apterygote ? What is the unique distinguishing feature of the insect orders Coleoptera and Ephemeroptera ? 2 + 2
- (b) What is the difference between Opisthognathous and Hypognathous insect head ? Explain a raptorial leg with suitable example. 2 + 2

- (c) State the neuro-endocrine control of ecdysis & metamorphosis of insect.
- (d) What is hemimetabolous metamorphosis ?
State the role of PTTH in insect metamorphosis. 2 + 2

GROUP – C

3. Answer any *one* of the following questions : 8 × 1
- (a) State the role of ecdysteroids in insect spermatogenesis. Perform a Swot analysis of sericulture. 4 + 4
- (b) What is the scientific name of the stem borer of cashew nut ? Mention its nature of damage & control. 1 + 4 + 3

PAPER : ZOO-301.2

(*Ecotoxicology*)

GROUP – A

4. Answer any *two* questions from the following : 2 × 2
- (a) Define Toxicology and Ecotoxicology.
 - (b) How can chemical toxins lead to immunosuppression ?
 - (c) State on Bio-indicator and Biomarkers with example.
 - (d) What do you mean by antidote ? Give two examples.

GROUP – B

5. Answer any *two* questions from the following : 4 × 2
- (a) Write the steps of biotransformation process of chemicals.
 - (b) Write a note on the impact of microplastics in marine environment.

(5)

- (c) What is oxidative stress, and how does it contribute to DNA damage ?
- (d) State on bio-concentration and bio-magnification.

GROUP – C

6. Answer any *one* question from the following : 8 × 1
- (a) How can a dose-response curve help in the development of safety regulations for industrial chemicals ? What is the difference between a dose-response curve for acute vs. chronic exposure to a toxin ? 5 + 3
- (b) Define LD50, EC50 and MATC. Write the characteristics of Heavy metals. Give an account on the toxicokinetics of any one Heavy metal. $3 + 1\frac{1}{2} + 3\frac{1}{2}$

[Internal Assessment – 10 Marks]
