

PG CBCS
M.Sc. Semester-III Examination-2019
M.Sc. ZOOLOGY
 Paper Code: ZOO-301



Full Marks: 40

Time: 2 Hours

The figures in the margin indicate full marks.

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

Illustrate the answers whenever necessary.

Use separate Answer Scripts for Group-A & Group-B

GROUP-A

(BASIC AND APPLIED ENTOMOLOGY)

1. Answer any two questions from the following : 2×2=4

- a) Give example of the following insect order –
 III) Lepidoptera II) Hymenoptera
 IV) Diptera IV) Odonata
- b) What do you mean by apolysis ?
- c) Write down the empirical formula of chitin of insect cuticle?
- d) What are allomones and Synomones?

2. Answer any two questions from the following : 2×4=8

- a) Write a short note on filter chamber. Mention the functions of peritrophic membrane . 2.5+1.5
- b) What do you mean by phytophagy. Comment on different types of phytophagy. 1+3
- c) Define bioluminescence write down the chemical pathway of bioluminescence in insects. 1+3
- d) Discuss the structural and functional significance of insect midgut.

3. Answer one question from the following: 8×1=8

- a) What is neurohaemal organ ? Name the neurohaemal organ present in insects. Enumerate the neuro endocrine integration in moulting and metamorphosis in insects. 1+1+6

(P.T.O)



(2)

GROUP-B

(ECOTOXICOLOGY)

b) What is moulting Describe this process in insects. Comment on neuroendocrine control over it. 2+3+3

4. Answer any two questions from the following: 2×2=4

- What do you mean by exogenous endogenous xenobionts.
- Name two teratogenic agents.
- Define mutagenic and carcinogenic xenobionts.
- What do you mean by dose response relationship?

5. Answer any two questions from the following: 2×4=8

- What do you mean by universal antidote? Briefly describe the antidotal treatment of mercury toxicity. 1+3
- What do you mean by biomagnification? Explain with proper example. 1+3
- Write a note on chelation therapy.
- Write the effects of acid rain on aquatic ecosystem.

6. Answer any one question from the following: 8×1=8

- What do you mean by biotransformation? Name the factors affecting biotransformation. Briefly describe the phase-I reaction of it. 1+2+5
- What are immunotoxicants classify it. Write briefly on the effects of immunotoxicants on immune system.
