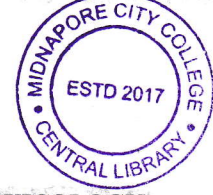


PG (CBCS)
M.Sc. Semester-III Examination, 2022
ZOOLOGY
PAPER: ZOO 301



(BASIC AND APPLIED ENTOMOLOGY AND ECOTOXICOLOGY)

Full Marks: 40

Time: 2 Hours

Write the answer for each unit in separate sheet

UNIT: ZOO 301.1

BASIC AND APPLIED ENTOMOLOGY

GROUP-A

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

- a) Comment on the role of filter chamber in insect digestion.
- b) State the function of photocytes in insects.
- c) State the functions of insect antennae.
- d) What is the role of bursicon hormone in insect metamorphosis?

GROUP-B

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

- a) Write a short note on chloride cells in insects with suitable diagram.
- b) Discuss any one physical and any one chemical defense of plants against insects.
- c) State the differences between Control and IPM. Name one species specific insecticide.
- d) Comment on the role of PBAN in the biochemical synthesis of pheromones.

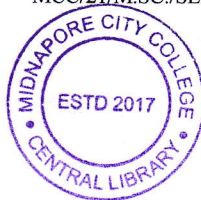
GROUP-C

3. Answer any ONE from the following questions: 1×8=8

- a) Elaborate the mechanism of signal perception and processing in insects. State the significance of peritrophic membrane in insect gut. 6+2
- b) Schematically represent the chemistry of light production in insects. State the damage symptoms and control measures of any one pest of cashew. 5+3

(P.T.O.)

**UNIT: ZOO 301.2
ECOTOXICOLOGY**



GROUP-A

4. Answer any TWO from the following questions:

2×2=4

- a) What do you mean by xenobiotics? Name one corrosive and neurotoxic Xenobiotic.
- b) What is OTA toxin? How it works?
- c) Distinguish LC₅₀ with LD₅₀.
- d) Mention the advantages of biomarkers in environmental monitoring.

GROUP-B

5. Answer any TWO from the following questions:

2×4=8

- a) What do you mean by universal antidotes? Briefly describe the antidotal treatment of arsenic toxicity. 1+3
- b) What do you mean by eutrophication? Write the effects of it on aquatic fauna. 2+2
- c) Discuss the role of Cytochrome P450 in biotransformation.
- d) Discuss the role of chelation therapy for reduction of heavy metal toxicity.

GROUP-C

6. Answer any ONE from the following questions:

1×8=8

- a) What do you mean by carcinogens? Describe the mechanism of carcinogenesis. 2+6
- b) How are phase I products chemically conjugated with amino acid and glucuronic acid? Distinguish between direct and indirect labelling of antibody. 5+3
