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PG CBCS

M.Sc. Semester-III Examination, 2020

ZOOLOGY

PAPER: ZOO 301

Full Marks: 40 **Time: 2 Hours**

The figures in the right-hand margin indicate full marks. Candidates are required to give their answers in their own words as far as practicable.

Group-A
(Marks: 20)
(Basic and applied Entomology)

1. Answer <u>two</u> questions of the following: **2X10**

a. Why insects are most successful group in the world –discuss. Mention two characters and one example of Lepidoptera and Hymenoptera. 7+3

b. Briefly describe the sutures present in insect head. Diagrammatically represent the wing venations of insects. 7+3

c. Name the neuroendocrine structure of insect. Differentiate between moulting and metamorphosis. Enumerate the neuroendocrine integration in moulting and metamorphosis. 1+2+7

d. Define Pheromones. Classify it. What is bioluminescence? Enumerate the mechanism and mention its significance. 1+2+2+5

e. Write short note on-

i. Filter chamber 5

ii. Pest of betel vine 5

Group-B
(Marks: 20)
(Ecotoxicology)

2. Answer <u>two</u> questions of the following: **2X10**

a. Distinguish acute toxicity andchronic toxicity. Write a note on the factors affecting acute toxicity. Describe the methods for evaluating LD_{50} or LC_{50}. 2+2+6

b. What is biotransformation? Write down the Phase I and Phase II reaction of biotransformation. 2+8

c. Differentiate between a carcinogen and a mutagen with examples. What are the different sources of neurotoxin exposure? What is narcosis? How does it affect enzyme function? Discuss in brief about receptor mediated toxicity. 2+1+1+2+4

d. What is the significance of genotoxicological studies? What are different types of DNA damage due to toxic exposure? Discuss about Comet Assay evaluation in genotoxicology. Comment on the immunological defensive responses in fish. 2+2+3+3

e. What are immunotoxicants? Classify immunotoxicants. Write briefly on the effects of immunotoxicants on immune system. 2+3+5

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