

**2021**  
**M. Sc 3<sup>rd</sup> Semester Examination**  
**ZOOLOGY**

**Paper-ZOO 395 (Practical)**

**Full marks- 50**

**Time-2 hrs**

*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 answer wherever necessary.*

1. Identification with ecological and economical comments. 2.5 x 4 = 10

a.



b.



c.



d.



2. Estimate the LC<sub>50</sub>/LD<sub>50</sub> value of a pesticides. 8

Number of Test Animals – 20

Pesticides – Chlorpyrifos

Concentration of Pesticides (mg/lit):

0.10, 0.20, 0.30, 0.40, 0.50, 0.60, 0.70, 0.80, 0.90, 1.00.

Mortality at 24 hours (Number):

00, 00, 02, 03, 05, 07, 12, 13, 17, 19.

Mortality at 48 hours (Number):

00, 02, 03, 05, 07, 09, 13, 15, 19, 20.

3. Partial DNA sequence of three species are given below

Species 1 AACCGGATCT

Species 2 AATTGGATTC

Species 3 A - - - GAATTC

Are there any transversion mutation? How many transition mutations are there between species 1 and species 3? Are there any insertion/deletion mutations? If yes how many are there? Calculate the hamming distance between the above DNA sequences. 10

4. Write down the procedure of bacterial stain Preparation from the culture media. Depending on stain write the types of bacteria with reason. 8
5. Write the procedure of coliform bacteria enumeration from drinking water. 4
6. Laboratory note book. 5
7. Viva-voce. 5