

**M.Sc. 3rd Semester Examination, 2022**

**ZOOLOGY**

**PAPER — ZOO-395 (CCAЕ)**

**( Practical )**

*Full Marks : 50*

*Time : 5 hours*

*The figures in the right hand margin indicate marks*

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

1. Jot down the procedure and perform the experiment to identify gram positive or gram negative bacteria from provided \_\_\_\_\_ sample using gram staining technique. Draw the microscopic observation. 3 + 5 + 2
2. (a) Elaborate stepwise protocol to perform Streak plate culture of bacteria.

( 2 )

Or

(b) Write down the procedure with figure for enumeration of coliform bacteria through multiple tube fermentation method. 6

3. (a) Identify the following parts of honey bee and comment upon their behavioral modification :  $2\frac{1}{2} \times 2$

(A)

(B)

(b) Dissect and display sting apparatus of honey bee. Draw and label the same. 3 + 2 + 2

4. Malathion is an important pesticide used in agricultural field and indirectly impacts fish mortality. 24 hours and 48 hours fish mortality observed in different concentration (ppm) of Malathion are as follows. Total number of fishes = 20  
Calculate the LC50 value of 24 hours and 48 hours and comment on your result. 12

( 3 )

Sl. No.	Dose (ppm)	24 hours mortality	48 hours mortality
1	1	1	2
2	2	4	5
3	3	8	8
4	4	10	12
5	5	14	15
6	6	16	18

5. Laboratory note book. 5
6. Viva-voce. 5
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