

**M.Sc. 3rd Semester Examination, 2023**

**ZOOLOGY**

*( Ecology Special Practical-I )*

( Practical )

PAPER – 395

*Full Marks : 50*

*Time : 5 hours*

Answer **all** questions

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

Answer **all** questions :

1. Prepare and identify the bacteria from the given sample using gram staining technique. Write down the brief procedure. Draw a diagram of the microscopic observation.

3 + 5 + 2

*Or*

Elaborate stepwise protocol to perform spread plate culture of bacteria.

2. (a) Draw the scheme of enumeration of coliforms through multiple tube fermentation method. 8

*Or*

(b) From the given results of 24 hour incubation, calculate the MPN of bacteria present in given water sample and write proper inference.

3. Find out the  $LC_{50}$  value for the data given (attached) with suitable illustrative comments on your findings. 12
4. Write down the Systematic position, important identifying characters and entomological importance of the following insects :
- (i) \_\_\_\_\_ 5 × 2

(ii) \_\_\_\_\_

*Or*

(a) Identify/dissect the following parts of honey bee and comment on their adaptive modifications.

8 + 2

5. Laboratory Note Book 5

6. Viva-voce. 5

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