

M.Sc. 2nd Semester Examination, 2025

ZOOLOGY

*(Biosystematics, Ecological Principles, Biophysics,
and Biochemistry)*

(Practical)

PAPER — ZOO-208

Full Marks : 50

Time : 3 hours

Answer all questions

The figures in the right hand margin indicate marks

1. Prepare a taxonomic key from the provided data. 5

2. (a) How can the GPP of the supplied water sample be estimated using the light and dark bottle method ? Comment on your result. 5 + 2

(Turn Over)

(b) After conducting a study on herbaceous community in a grassland ecosystem, using 10 quadrats (1m² each), the recorded cumulative number of species observed across the quadrats are as follows :

**Quadrat Number Cumulative Number
 of Species**

1	4
2	7
3	9
4	11
5	12
6	13
7	13
8	14
9	14
10	14

Using species-area (quadrat) curve method, estimate the Minimum number of quadrats needed to adequately represent the herbaceous plant diversity of the study site. Plot your experienced data on a graph paper and conclude with your result. 5 + 3

3. Determine the pH of haemolymph from a terrestrial household insect (in stressed condition) and comment on : the vascular cells of the given species. $2\frac{1}{2} + 2\frac{1}{2}$

4. Execute appropriate bio-chemical test on the sample provided. Record the observation. Draw a standard curve and plot your result. Write down the principle and comment on your result. 8 + 2 + 3 + 2

5. Submission of Laboratory Note Book. 5

6. Viva-voce. 5

