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**PG (CBCS)**  
**M.SC Semester- II Examination, 2023**  
**ZOOLOGY**  
**PAPER: ZOO 295**  
**(BIOSYSTEMATICS, ECOLOGICAL PRINCIPLES, BIOPHYSICS,**  
**BIOCHEMISTRY)**

**Full Marks: 50**

**Time: 6 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.

1. Prepare a taxonomic key for the sample provided. 5
2.
  - a) Estimate the value of dissolved oxygen from the provided water sample. 5
  - b) The number of individuals of five species of carnivore population in the savannah grassland of Masaiamara National Park was studied in ten different sample plots of grassland ecosystem. Calculate from the given data- the density, diversity, frequency and abundance of the Carnivore community. 10

Sl. No.	Name of species	Number of individuals sighted in area									
		A	B	C	D	E	F	G	H	I	J
1	<i>Panthera leo leo</i>	13	7	0	0	4	6	0	4	0	0
2	<i>Acinonyx jubatus</i>	0	4	16	0	8	3	5	0	0	9
3	<i>Crocuta crocuta</i>	9	0	7	0	0	4	1	2	4	0
4	<i>Panthera pardus</i>	0	0	0	9	2	8	0	0	0	3
5	<i>Lycaon pictus</i>	6	3	4	0	0	0	8	7	0	9

3. How do you measure the pH of a given water sample using pH meter? Record the pH of the supplied water sample, as measured by you. 3+2
4. Write down the principle of protein estimation by Lowry method. Prepare BSA standard curve and estimate the protein concentration from sample provided. 5+5+5
5. Laboratory Note Book 5
6. Viva-voce 5

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