

**First Semester M.Sc. Degree Examination (CSS)- Zoology**  
**ZY1CT04 Course IV – Biostatistics, Computer Application and**  
**Research Methodology**

**Time: 3Hours**

**Total Weight: 30**

**Section I – Short answer type questions**

**weight- 1**

**Answer any 10 out of 12**

1. What are non parametric tests?
2. Define the term harmonic mean and geometric mean.
3. Comment on the applications of probit analysis in toxicological studies.
4. Define the terms-Skeweness and Kurtosis.
5. Comment on VBG model.
6. Explain the term IPR.
7. Differentiate between hardware and Firmware.
8. What is BIOSIS?
9. Give a brief account on UNIX.
10. What are Life tables?
11. Comment on the basic concept of research.
12. What is the necessity of defining a research problem?

**Section II- Short essay type questions**

**Weight -2**

**Answer any 5 out of 8**

13. Compute mean and variance of the given data.

Class	31-35	36-40	41-45	46-50	51-55	56-60	61-65	66-70
Frequency	2	3	8	12	16	5	2	2

14. Calculate Karl Pearson's correlation coefficient

X	12	9	8	10	11	13	7
Y	14	8	6	9	11	12	3

15. From the table given below, test by mean of  $K^2$  whether the colour of the son's eyes is associated with that of father's eyes.

		Eye colour in son	
		Not light	Light
Eye colour in father	Not light	230	148
	Light	151	471

16. Find the regression of X on Y from the following data:

$$\sum x = 24 \quad \sum y = 44 \quad \sum xy = 306 \quad \sum x^2 = 164 \quad \sum y^2 = 574 \quad N = 4$$

Also, find the value of x when y=6

17. Write notes on statistical software used in biology.

18. Briefly describe different types of computer memory and memory devices.

19. Which are the sources of information required for a research scholar?

20. Mention the steps required for the development of a research plan.

### Section III- Long essay type questions

**Weight -5**

#### Answer any 2 out of 3

21. Describe different computer communication network and networking protocols.

22. What is regression analysis? Indicate its utility in economic analysis and biology.

23. Discuss the important points one should take into consideration while preparing thesis and research papers.

