

SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN
(AUTONOMOUS)

(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)

Chromepet, Chennai - 600 044.

M.Sc.Biostatistics - END SEMESTER EXAMINATIONS - APRIL 2025

SEMESTER - II

24PBSET2A02 - Categorical Data Analysis

Total Duration : 2 Hrs. 30 Mins.

Total Marks : 60

Section B

Answer any **SIX** questions ($6 \times 5 = 30$ Marks)

1. Explain the distributions used for analysing categorical data.
2. Describe about Pearson and likelihood ratio chi-square tests.
3. Explain trend test for $2 \times J$ tables and inference based on it.
4. Write a brief note on components of GLM.
5. Discuss logit models for Binary data.
6. Give a brief note on Logit models for multi-way contingency tables.
7. Estimate response probability of Logit models for ordinal responses.
8. How will you interpret the parameters of loglinear models for two-way tables?

Section C

I - Answer any **TWO** questions ($2 \times 10 = 20$ Marks)

9. Elaborate on odds ratio along with its properties, log odds ratio, odds ratio in $I \times J$ tables and relative risk for categorical data.
10. Explain association in three-way tables and homogeneous association.
11. Elucidate complementary log-log link model.
12. Estimate the parameters of Poisson log-linear model for count data using MLE.

II - Compulsory question ($1 \times 10 = 10$ Marks)

13. Describe in detail about Logistic regression and estimate its parameters.
