SEMESTER	I1	QP CODE	23STA22

P.R. GOVERNMENT COLLEGE (AUTONOMOUS), KAKINADA

SEM END EXAMINATIONS APRIL -2025

I B.SC STATISTICS: COURSE 4-RANDOM VARIABLES AND MATHEMATICAL EXPECTATIONS

TIME: 2 HRS

DATE& SESSION	25.04.2025 & FN	REG NO	2	4	S	T	A	2	2		MAX MARKS	50

SECTION-I

Answer any THREE of the following questions. And attempt one question from Each section part Each question carries TEN marks **3X10=30Marks**

PART-A

1. Define distribution function and explain its properties.
2. Define i) Bivariate r.v ii) Joint distribution functions and its properties iii) Independence of r.v
3. State and prove chebyshev's inequality.

PART-B

4. State and prove a multiplication theorem of expectation for 'n' events.
5. Explain about MGF and its properties.
6. State and prove lind berg-levy theorem

SECTION-II

Answer any FOUR of the following questions. Each question carries FIVE marks

4 X 5=20Marks

7. Define pmf and pdf.
8. Explain about MDF in bivariate r.v.
9. State and prove Cauchy-schwartz inequalities.
10. State and prove multiplication theorem in expectation for two events.
11. Describe about strong-law of large numbers.
12. Explain about bivariate discrete r.v.
13. Explain the following i) population ii) sample iii) parameter