



QP CODE: 25050803



25050803

Reg No :

Name :

MA DEGREE (CSS) EXAMINATION DECEMBER 2025

First Semester

MA Econometrics

**Core Courses - EM010103 - STATISTICAL METHODS FOR ECONOMETRIC
ANALYSIS**

2020 Admission Onwards

EA95BA47

Time: 3 Hours

Weightage: 30

Part A (Short Answer Questions)

*Answer any **eight** questions.*

Weight 1 each.

1. Define impossible events.
2. Define k^{th} moment about origin.
3. State Mean, Variance, and Moment-Generating Function of a Uniform Random Variable.
4. Explain Pareto distribution.
5. Define Folded Normal distribution.
6. Distinguish between parametric and non-parametric tests.
7. Explain ANOVA.
8. Discuss one-way chi square test.
9. What is measurement error?
10. What is judgement sampling?

(8×1=8 weightage)

Part B (Short Essay/Problems)

*Answer any **six** questions.*

Weight 2 each.

11. Explain Mean and Variance of linear combination of random Variables.
12. Write a short note on Joint and Marginal probability distribution and its significance.
13. Describe Rayleigh distribution along with its economic applications.
14. State and prove Chebyshev's Theorem.





15. What are Asymptotic properties of estimators?
16. Explain least square estimator.
17. What are the steps to test a hypothesis?
18. How is simple random sampling used in stratified random sample. Explain with an example.

(6×2=12 weightage)

Part C (Essay Type Questions)

*Answer any **two** questions.*

*Weight **5** each.*

19. a) Define Joint and Marginal probability.
b) The joint probability function of two discrete random variables X and Y is given by $f(x, y) = c(2x + y)$, where x and y can assume all integers such that $0 \leq x \leq 2$, $0 \leq y \leq 3$, and $f(x, y) = 0$ otherwise. a) Find value of c
b) Find $P(X=1, Y=1)$, c) Find $P(X \leq 1, Y \geq 2)$. d) Find marginal probability functions for X and Y
20. Write an essay on the properties and applications of normal distribution.
21. How does Bayesian Posterior updates, when new information is available? Explain.
22. Explain the properties of random samples.

(2×5=10 weightage)

