	Parul University **Faculty of Engineering and Technology** **Parul Institute of Engineering and Technology** **Department: AI-ML/AI-RO/AI/AI-DS/CSE/MICRO/SAP/QUICK/ORACLE/IT/AERO**

Subject Name	**PROBABILITY, STATISTICS AND NUMERICAL METHODS**	**A.Y**	**2025/2026**
Subject Code	**303191251**	**Semester**	**4^{th}**

Course Outcomes

After Learning the Course, the students shall be able to:

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1	Analyse correlation and regression between variables, determine rank correlation, and apply curve-fitting techniques using the method of least squares.
2	Apply the concepts of probability, random variables, and standard probability distributions to model and interpret real-life uncertain events.
3	Evaluate statistical hypotheses by performing appropriate significance tests for means, proportions, variances, and independence of attributes.
4	Apply numerical methods such as Bisection, Regula-Falsi, and Newton–Raphson to obtain approximate solutions of algebraic and transcendental equations.
5	Interpolate and estimate unknown functional values using finite differences and interpolation techniques, including Newton's and Lagrange's formulas.
6	Utilize numerical integration techniques and numerical methods such as Taylor's series, Euler, Modified Euler, and Runge–Kutta methods to evaluate definite integrals and solve ordinary differential equations.