Semester	JAN 2023
Open to semester	2
Course code	**MT1213**
Course title	**Calculus II**
Credits	3 /
Course Coordinator & participating faculty (if any)	Manish Mishra,Tejas Kalelkar
Nature of Course	Lectures and Tutorials
Pre-requisites	Calculus I
Objectives (goals, type of students for whom useful, outcome etc)	This course introduces the basic tools of calculus of functions of several variables. We generalize the notions of continuity, differentiability and integration to functions of several variables and discuss their geometric and physical meaning. We learn the techniques of partial differentiation, integration along curves and surfaces, and indicate a wealth of applications.
Course contents (details of topics /sections with no. of lectures for each)	Vectors and 3-dimensional geometry, functions from R^m to R^n , derivatives and integrals of vector functions, arclength and curvature of space curves, limits and continuity, partial derivatives, total derivatives, maxima and minima, Lagrange multipliers, divergence, curl, iterated integrals, change of variable formula, line integrals, statement of Green's Theorem, surface integrals, statement of Stoke's Theorem, statement of divergence theorem, applications to area and volume.
Evaluation /assessment	End-Sem Examination-40% Mid-Sem Examination-30% Others-Quizzes: 20% Homework: 10%%
Suggested readings (with full list of authors, publisher, year, edn etc.)	1) Calculus: J. Stewart, Cengage Learning 2) Calculus Vol. 2: T. M. Apostol, Wiley 3) Calculus and Analytic Geometry: G.B. Thomas, R. Finney, Addison-Wesley