

Curriculum Plan: B.Sc (GE-I) (Semester I)
Fundamentals of Calculus (2025-26)

Dr. Mohd Nadeem Assistant Professor Department of Mathematics Kalindi College University of Delhi Delhi- 110008		Marks Distribution	Theory -90
		Classes Assigned	IA+CA--30+40
			Theory: 3 per week
Reference		References: 1. Anton, Howard, Bivens, Irl, & Davis, Stephen (2013). Calculus (10th ed.). Wiley India Pvt. Ltd. New Delhi. International Student Version. Indian Reprint 2016. 2. Prasad, Gorakh (2016). Differential Calculus (19th ed.). Pothishala Pvt. Ltd. Allahabad. 3. Thomas Jr., George B., Weir, Maurice D., & Hass, Joel (2014). Thomas' Calculus (13th ed.). Pearson Education, Delhi. Indian Reprint 2017.	
Section	Week	Topics	
	1st week	Limits and continuity, Types of discontinuities;	
	2nd week	Differentiability of functions; Successive differentiation:	
	3rd week	Calculation of the nth derivatives, Leibnitz theorem;	
	4th week	Partial differentiation, Euler's theorem on homogeneous functions.	
	5th week	Assignment submission and class test scheduled	
	6th week	Rolle's theorem, Mean value theorems and applications to monotonic functions and inequalities;	
	7th week	Taylor's theorem, Taylor's series,	

	8th week	Maclaurin's series expansions of , $\sin x$, $\cos x$
	9th week	, $\log (1+x)$, $(1+x)^m$
	10th week	Indeterminate forms.
		Semester break and Home Exam
	11th week	Concavity and inflexion points,
	12th week	Asymptotes (parallel to axes and oblique),
	13th week	Relative extrema,
	14th week	Tracing graphs of polynomial functions,
	15th week	rational functions, and polar equations.
Dispersal of classes, preparation leave and practical examination		