


Curriculum Plan (ODD SEM 2022-23): Generic Elective (Hons.)

GE-I: Fundamental of Calculus

Teacher Profile Hari Kishan Bhardwaj Department of Mathematics Kalindi College, University of Delhi, Delhi- 110008 Mobile: +91-9868053327 Email : harikishan@kalindi.du.ac.in		Marks Distribution	Theory	75 Marks
			Internal Assessment	25 Marks
				Assignments -10 Marks Test - 10 Marks Attendance - 5 Marks
		Classes Assigned	Lectures	3 per Week
Reference	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 (13 th ed.). Pearson Education, Delhi. Indian Reprint 2017.			
	Week	Topics		
	1 st Week (2-12 NOV)	Limits and continuity,		
	2 nd Week (14-19 NOV)	Types of discontinuities, Differentiability of functions		
	3 rd Week (21-26 NOV)	Successive differentiation, Calculation of the nth derivatives		
	4 th Week (28 NOV-3 DEC)	Leibnitz theorem, Partial differentiation,		
	5 th Week (5-10 DEC)	Euler's theorem on homogeneous functions.		
	6 th Week (12-17 DEC)	Rolle's theorem, Mean value theorems and applications to monotonic functions and inequalities		
	7 th Week (19-24 DEC)	Expansion of functions: Taylor's theorem		
	8 th Week (26-31 DEC)	Taylor's series, Maclaurin's series expansion of e^x , $\sin x$, $\cos x$, $\log(1+x)$ and $(1+x)^m$		
	9 th Week (2-7 JAN)	Indeterminate forms		
	10 th Week (9-14 JAN)	Concavity and inflexion points		
	11 th Week (16-21 JAN)	Asymptotes (parallel to axes and oblique)		
	12 th Week (23-28 JAN)	Relative extrema		
	13 th Week (30 JAN-4 FEB)	Tracing graphs of polynomial functions		
	14 th Week (6-11 FEB)	Tracing of rational functions, and polar equations		
	15 th Week (13-17 Feb)	Revision		