

Teaching Plan 2018-19 (Odd Semester)

(January 2020 to April 2020)

Subject: GE-I (Calculus)

Semester-I

Department of mathematics, Ram Lal Anand College

Teacher: Mr. Dileep Kumar/Ms. Sweeti Yadav

Week	Course Content
20 July-26 July	Concept of differentiability, the first and second derivative tests, Concavity and Convexity.
29 July-2 Aug	Inflection points, Curve tracing using first and second derivate tests.
05 Aug-09 Aug	Concept of finite and infinite limits, L'Hopital's rule, Definition of asymptotes with examples.
12 Aug- 16 Aug	Horizontal and vertical asymptotes, Graphical representation of asymptotes.
19 Aug-23 Aug	Methods of finding volume by slicing, volume of solids of revolution by disk.
26 Aug-30 Aug	Method of finding volume by washer method, cylindrical shells.
02 Sept-06 Sept	Length of a plane curve. Method of finding area of surfaces of revolution. Definition and finding of arc length.
09 Sept-13 Sept	Tracing of conics, reflection properties of conics.
16 Sept-20 Sept	Polar coordinates. Curve tracing using polar coordinates.
23 Sept-27 Sept	Arc lengths. Curvature, Unit tangent and normal vectors. Basic definitions of functions of several variables.
30 Sept-04 Oct	Limit, continuity and differentiability of functions of several variables.
14 Oct-18 Oct	Level curves, partial derivatives, Gradient vectors.
21 Oct-25 Oct	Chain rule, Directional derivatives and its applications.
28 Oct-01 Nov	Concept of tangent plane and normal lines with related examples.
04 Nov-08 Nov	Maxima and minima for functions of several variables. Saddle points.
11 Nov-15 Nov	Revision of syllabus.

