Vidyasagar University

Curriculum for B.Sc (General) inMathematics
[Choice Based Credit System]

Semester-I

Course	Course Code	Name of the Subjects	Course Type/ Nature	Teaching Scheme in hour per week			Credit	Marks
				L	T	P		
CC1 [DSC-1A]		**C1T:**Differential Calculus	Core Course-1	5	1	0	6	75
CC2 [DSC-2A]	TBD	**DSC-2A (other Discipline)**	Core Course-2				6	75
CC3 [DSC-3A]	TBD	**DSC-3A (other Discipline)**	Core Course-3				6	75
AECC		English	AECC (Elective)	1	1	0	2	50
Semester Total							**20**	**275**

L=Lecture, **T**=Tutorial, **P**=Practical, **CC** = Core Course, **TBD** = To be decided, **AECC**= Ability Enhancement Compulsory Course

DSC-1 = Discipline Specific Core of Subject-1, **DSC-2** = Discipline Specific Core of Subject-2, **DSC-3** = Discipline Specific Core of Subject-3.

Semester-I
Core Courses (CC)

CC-1: Differential Calculus   **Credit : 06**

C1T: Differential Calculus

Limit and Continuity (ε and δ definition), Types of discontinuities, Differentiability of functions, Successive differentiation, Leibnitz's theorem, Partial differentiation, Euler's theorem on homogeneous functions. Tangents and normals, Curvature, Asymptotes, Singular points, Tracing of curves. Parametric representation of curves and tracing of parametric curves, Polar coordinates and tracing of curves in polar coordinates. Rolle's theorem, Mean Value theorems, Lagrange's and Cauchy's theorem, Taylor's theorem with Lagrange's and Cauchy's forms of remainder, Power series and its convergences, Taylor's series, Maclaurin's series of sin x, cos x, ex, log(l+x), (l+x)m, Maxima and Minima, Indeterminate forms.

Suggested Readings:
1. H. Anton, I. Birens and S. Davis, *Calculus*, John Wiley and Sons, Inc., 2002.
2. G.B. Thomas and R.L. Finney, *Calculus*, Pearson Education, 2007.