Mathematics-I

Discipline: B.Tech. Ist Year (All Branches)
Semester: I
Subject: Mathematics- I
Lesson Plan Duration: 15weeks
**Work(Lecture) per week (In Hours): Lecture-03,Tutorial-01

WEEK	LECT	TOPIC
1st	1	Introduction of definite and improper integrals
	2	Beta and Gamma functions
	3	Properties of Beta and Gamma functions
2nd	4	Numerical of Beta and Gamma functions
	5	Relation between Beta and Gamma functions
	6	Applications of definite integrals to evaluate surface areas
3rd	7	Applications of definite integrals to evaluate volumes of revolutions.
	8	Indeterminate forms and L'Hospital's rule
	9	Convergence for sequence and series
4th	10	ComparisonTest
	11	D'Alembert's ratio test
	12	Logarithmic test
5th	13	Cauchy root test,Raabe's test
	14	Introduction and Fourier-Euler formula
	15	Change of interval
6th	16	Dirichlet's conditions
	17	Fourier series for even and odd functions
	18	Half range sine and cosine series
7th	*Minor Test-I*	
8th	22	Taylor's series (forone and more variables)
	23	Series for exponential, trigonometric and logarithm functions
	24	Partial Derivatives
9th	25	Total Differential
	26	Chain rule for differentiation
	27	Homogeneous functions
10th	28	Euler's Theorem
	29	Jacobian
	30	Maxima,Minima and saddle points
11th	31	Method of Lagrange Multipliers
	32	Multiple Integration,:Double integral (Cartesian)
	33	Double integral (Cartesian) Continued
12th	34	Change of order of integration
	35	Change of variables
	36	Application to Area
13th	37	Applications to volumes
	38	Triple integrals
	39	Orthgonals Curvilinear Coordinates
14th	*Minor Test-II*	
15th	43	Simple applications involving cubes
	44	Simple applications involving Sphere
	45	Simple applications involving Rectangular parallelopipeds