



Course Code / Name :U15MA101 /Calculus

Class (Year / Programme / Department / Section): I/BE/CSE/A&B

LESSON PLAN

UNIT -1 DIFFERENTIAL CALCULUS				
Session No	Topic	Duration in Minutes	Teaching Aid	Book Referred
1	Limit	45	BB	R2
2	Taylor's theorem, Maxima and Minima	45	BB	R2
3	continuity, differentiability	45	BB	R2
4	rules of differentiation	45	BB	R2
5	differentiation of various functions	45	BB	R2
6	Rolle's theorem	45	BB	R2
7	Mean value theorem,	45	BB	R2
8	Intermediate value theorem	45	BB	R2
UNIT -2FUNCTION OF SEVERAL VARIABLES				
1	Partial derivatives	45	BB	R2
2	Jacobians	45	BB	R2
3	Total derivatives	45	BB	R2
4	Total derivatives	45	BB	R2
5	Taylor's theorem	45	BB	R2
6	maxima and minima, Lagrangian multipliers,	45	BB	R2
UNIT -3 INTEGRAL CALCULUS				
1	Riemann integral methods of integration (Integration by parts,	45	BB	R1
2	- Fundamental theorem of calculus -	45	BB	R1
3	Trigonometric integrals	45	BB	R1
4	Trigonometric substitutions	45	BB	R1
5	Integration of rational functions by partial fraction,	45	BB	R1
6	Integration of irrational functions) -Reduction formula of	45	BB	R1
UNIT -4MULTIPLE INTEGRALS				
1	Double and Triple integration	45	BB	R1
2	Change of order of integration	45	BB	R1
3	Applications to area	45	BB	R1
4	volume	45	BB	R1
5	surface	45	BB	R1
6	Change of variables	45	BB	R1
7	Change of order of integration	45	BB	R1
8	surface	45	BB	R1
9	Change of variables	45	BB	R1

UNIT -5ORDINARY DIFFERENTIAL EQUATIONS				
1	Second order Linear ordinary differential equations with constant coefficients,	45	PPT	R1
2	Legendre's Linear differential equations	45	PPT	R1
3	Cauchy's	45	PPT	R1
4	Euler equations	45	PPT	R1
5	Method of variation of parameters	45	PPT	R1
6	Linear differential equations	45	PPT	R2
7	Method of variation of parameters	45	PPT	R1