



**K.S. SCHOOL OF ENGINEERING AND MANAGEMENT, BANGALORE - 560109**  
**DEPARTMENT OF MATHEMATICS**

NAME OF THE STAFF : VINUTHA S V  
 SUBJECT CODE/TITLE : 18MAT11/Calculus and Linear Algebra  
 SEMESTER/YEAR : I / I-F SEC  
 ACADEMIC YEAR : 2019-2020

Sl. No.	Topic to be covered	Mode of Delivery	Teaching Aid	No. of Periods	Cumulative No. of Periods	Proposed Date	Delivered Date
<b>MODULE 1</b>							
1	Linear Algebra-Rank of a matrix-Echelon form	L,PS	BB	1	1	20-8-19	20-8-19
2	Solution of system of linear equations-Consistency	L,PS	BB	2	3	21-8-19 21-8-19	21-8-19 21-8-19
3	Gauss elimination method	L,PS	BB	1	4	22-8-19	22-8-19
4	TUTORIALS		BB	0	4	23-8-19	23-8-19, 26-8-19
4	Gauss Jordon method	L,PS	BB	1	5	27-8-19	27-8-19
5	Approximate solution by Gauss Seidal method	L,PS	BB	1	6	28-8-19	28-8-19
6	Eigen values and Eigen vectors method	L,PS	BB	1	7	28-8-19	28-8-19
7	Rayleigh's power method	L,PS	BB	2	9	29-8-19	29-8-19
8	TUTORIALS		BB	0	9	30-8-19	30-8-19
9	Diagonalization of a square matrix of order two	L,PS	BB	2	11	31-8-19 31-9-19	31-8-19
<b>MODULE 2</b>							
10	Review of elementary differential calculus	L,PS	BB	1	12	3-9-19	3-9-19
11	Polar curves - angle between the radius vector and tangent	L,PS	BB	1	13	4-9-19	3-9-19 4-9-19
12	Angle between two curves, pedal equation.	L,PS	BB	2	15	4-9-19 5-9-19	4-9-19 5-9-19
13	TUTORIALS		BB	0	15	6-9-19	6-9-19
14	Pedal Equations-Problems	L,PS	BB	1	16	9-9-19	9-9-19
15	Curvature and radius of curvature- Cartesian form	L,PS	BB	2	18	14-9-19 17-9-19	11-9-19 (3 hours)
16	Curvature and radius of curvature- Polar form	L,PS	BB	2	20	18-9-19 18-9-19	12-9-19 13-9-19
17	Applications to evolutes and involutes.	L,PS	BB	2	22	19-9-19	14-9-19
18	TUTORIALS		BB	0	22	20-9-19	25-9-19
<b>MODULE 3</b>							
19	Taylor's and Maclaurin's series expansions for	L,PS	BB	2	24	24-9-19	17-9-19

	one variable					25-9-19	24-9-19
20	Indeterminate forms - L'Hospital's rule.	L,PS	BB	2	26	25-9-19 26-9-19	25-9-19 26-9-19
21	TUTORIALS		BB	0	26	27-9-19	27-9-19
22	Partial differentiation; Total derivatives-differentiation of composite functions.	L,PS	BB	2	28	1-10-19 3-10-19	1-10-19 1-10-19
23	TUTORIALS		BB	0	28	4-10-19	9-10-19
24	Maxima and minima for a function of two Variables	L,PS	BB	3	31	5-10-19 9-10-19 9-10-19	9-10-19 9-10-19
25	Method of Lagrange multipliers with one subsidiary condition.	L,PS	BB	2	33	10-10-19 17-10-19	10-10-19
26	TUTORIALS	L,PS	BB	0	33	11-10-19	11-10-19 (2 hrs)
27	TUTORIALS	L,PS	BB	0	33	18-10-19	18-10-19
28	Method of Lagrange multipliers with one subsidiary condition.	L,PS	BB	2	35	22-10-19 23-10-19	22-10-19 23-10-19
29	Applications of maxima and minima with illustrative examples.	L,PS	BB	2	37	23-10-19 24-10-19	23-10-19 24-10-19
30	TUTORIALS		BB	0	37	25-10-19	5-11-19
31	Jacobians-simple problems.	L,PS	BB	2	39	26-10-19 30-10-19	30-10-19 "
<b>MODULE 4</b>							
32	Review of elementary integral calculus. Multiple integrals: Evaluation of double and triple integrals	L,PS	BB	1	40	30-10-19	5-11-19
33	Evaluation of double integrals-change of order of integration	L,PS	BB	2	42	31-10-19 5-11-19	12-11-19
34	Evaluation of double integrals-changing into polar co-ordinates.	L,PS	BB	1	43	6-11-19	16-11-19
35	Applications to find area volume and centre of gravity	L,PS	BB	1	44	6-11-19	19-11-19
36	TUTORIALS	L,PS	BB	0	44	8-10-19	28-11-19
37	Beta and Gamma functions: Definitions, Relation between beta and gamma functions	L,PS	BB	1	45	7-11-19	20-11-19
38	Beta and Gamma functions: simple problems	L,PS	BB	1	46	9-11-19	20-11-19
39	Exact and reducible to exact differential equations. Bernoulli's equation	L,PS	BB	2	48	12-11-19 13-11-19	21-11-19
40	Applications of ODE's-orthogonal trajectories	L,PS	BB	2	50	13-11-19 14-11-19	22-11-19
<b>MODULE 5</b>							
41	Newton's law of cooling	L,PS	BB	1	51	19-11-19	26-11-19
42	L-R circuits	L,PS	BB	2	53	20-11-19 20-11-19	27-11-19 27-11-19
43	Nonlinear differential equations: Introduction to general and singular solutions; Solvable for p only;	L,PS	BB	1	54	21-11-19	28-11-19
44	Clairaut's and reducible to Clairaut's equations only	L,PS	BB	1	55	23-11-19	29-11-19

45	TUTORIALS	L,PS	BB	0	0	22-11-19	30-11-19
46	REVISION	L,PS	BB	0	0	28-11-19	2-12-19
47	REVISION	L,PS	BB	0	0	29-11-19	3-12-19
48	REVISION	L,PS	BB	0	0	30-11-19	4-12-19
49	REVISION	L,PS	BB	0	0	2-12-19	4-12-19
50	REVISION	L,PS	BB	0	0	3-12-19	5-12-19
51	REVISION	L,PS	BB	0	0	4-12-19	6-12-19
52	REVISION	L,PS	BB	0	0	4-12-19	12-12-19
53	REVISION	L,PS	BB	0	0	5-12-19	12-12-19
54	REVISION	L,PS	BB	0	0	6-12-19	12-12-19
55	REVISION	L,PS	BB	0	0	12-12-19	13-12-19
56	REVISION	L,PS	BB	0	0	13-12-19	19-12-19
57	REVISION	L,PS	BB	0	0	14-12-19	20-12-19
58	REVISION	L,PS	BB	0	0	19-12-19	20-12-19
59	REVISION	L,PS	BB	0	0	20-12-19	20-12-19

Total No. of Lecture Hours = 55

Total No. of Tutorial Hours = 11

Total No. of Revision Hours = 14

*V. Anitha . S. J*

Course In charge

*[Signature]*  
30/10/19

Head - Dept

*[Signature]*

Principal