



LESSON PLAN

NAME OF THE STAFF : Dr C VASUDEV

COURSE CODE/TITLE : BMATS101/ MATHEMATICS FOR COMPUTER SCIENCE AND ENGINEERING STREAM-I

SEMESTER/YEAR : I SEM/I

Sl. No.	Topic to be covered	Mode of Delivery	Teaching Aid	No. of Periods	Cumulative No. of Periods	Proposed Date	Delivery Date
MODULE 1							
1	Polar curves - angle between the radius vector and tangent	L+D	BLACK BOARD	2	2	12/12/2022 13/12/2022	12/12/2022
2	Angle between two curves.	L+D	BB	1	3	14/12/2022	13/12/2022
3	Pedal Equations-Problems	L+D	BB	1	4	15/12/2022	14/12/2022 15/12/2022
4	Curvature and radius of curvature- Cartesian, Parametric forms	L+D	BB	2	6	19/12/2022 20/12/2022	19/12/2022
5	Curvature and radius of curvature- Polar, Pedal forms.	L+D,	BB	2	8	21/12/2022 22/12/2022	20/12/2022 21/12/2022
6	Tutorials: Self Study- Center and circle of curvature, Evolutes and Involutives.	L+D	BB	2	-	24/12/2022 26/12/2022	22/12/2022
7	Tutorials: Applications : Computer graphics, Image processing	L+D	BB	2	-	27/12/2022 28/12/2022	24/12/2022 26/12/2022
8	Practicals: 2D plots for Cartesian and polar curve	L+D	BB	2	-	12/01/2023/ 16/01/2023 And 19/12/2022 23/12/2022	28/12/2022 12/1/23 16/1/23
9	Practicals: Angle between two curves and radius of curvature.	L+D	BB	2	-	26/12/2022/3 0/12/2022 And	23/12/22 26/12/22

						31/12/2023 6/01/2023	31/12/22 6/1/23
MODULE 2							
10	Taylor's and Maclaurin's series expansions for one variable	L+D	BB	2	10	29/12/2022 31/12/2022	28/12/22 29/12/22
11	Indeterminate forms - L'Hospital's rule.	L+D	BB	1	11	02/01/2023	21/12/22
12	Assignment-1	---			28/12/2023	28/12/22
13	Partial differentiation; Total derivatives-differentiation of composite functions.	L+D	BB	2	13	03/01/2023 04/01/2023	02/1/23 03/1/23
14	Jacobian	L+D	BB	1	14	05/01/2023	04/1/23
15	Maxima and minima for a function of two Variables	L+D	BB	2	16	09/01/2023 10/01/2023	05/1/23 09/1/23
16	Tutorials: Problem Solving Self Study- Euler's Theorem and Problems, Method of Lagrange undetermined multipliers with Single Constraint	L+D	BB	2	-	11/01/2023 12/01/2023	10/1/23 11/1/23
17	Tutorials: Problem Solving Applications: Series expansion in computer programming, Computing errors and approximations	L+D	BB	2	-	19/01/2023 20/01/2023	12/1/23 19/1/23
18	Practical: Maclaurin's series expansion, L'Hospitals rule, Partial differentiation	L+D	BB, D	2	-	02/01/2023/1 3/01/2023 and 09/01/2023/ 20/01/2023	20/1/23 02/1/23 3/1/23
19	Practical: Jacobians	L+D	BB, D	1	-	23/01/2023/0 3/02/2023	9/1/23 23/1/23
MODULE 3							

20	Linear Algebra-Rank of a matrix-Echelon form	L+D	BB	1	17	23/01/2023	03/2/23
21	Consistency of System of linear equations	L+D	BB	1	18	24/01/2023	23/1/23
22	Solution of system of linear equations- Gauss elimination method	L+D	BB	1	19	25/01/2023	24/1/23
23	Gauss Jordan method	L+D	BB	1	20	28/01/2023	25/1/23
24	Approximate solution by Gauss Seidal method	L+D	BB	2	22	30/01/2023 31/01/2023	28/1/23 30/1/23
25	Eigen values and Eigen vectors method	L+D	BB	1	23	01/02/2023	31/1/23
26	Rayleigh's power method	L+D	BB	1	24	02/02/2023	01/2/23
27	Tutorials:Problem solving Self Study- Solution of System of equations by Gauss-Jacobi iterative method. Inverse of a square matrix by Cayley-Hmilton theorem.	L+D	BB	2	-	07/02/2023 08/02/2023	02/02/23 07/02/23
28	Tutorials:Applications	L+D	BB	2	-	09/02/2023 10/02/2023	08/02/23 09/02/23
29	Practical: Consistency of System of linear equations, Gauss Seidal method	L+D	BB	1	-	30/01/2023/ 10/02/2023	10/02/23 30/01/23
30	Practical: Rayleigh's power method	L+D	BB	1	-	13/02/2023/ 17/02/2023	13/02/23 17/2/23
31	Assignment-2				-	3/2/2023	3/2/23
MODULE 4							
32	Exact Differential Equations	L+D	BB	1	25	11/02/2023	3/2/23
33	Reducible to exact differential equations.	L+D	BB	1	26	13/02/2023	11/2/23
34	Bernoulli's Differential equations	L+D	BB	1	27	14/02/2023	13/2/23
35	Applications of ODE's-orthogonal trajectories.	L+D	BB	1	28	15/02/2023	14/2/23
36	L-R & C-R circuits. Problems	L+D	BB	1	29	16/02/2023	15/2/23
37	Nonlinear differential equations: Introduction to general and singular solutions ; Solvable for p only;	L+D	BB	1	30	23/02/2023	16/2/23 23/2/23

38	Clairaut's and reducible to Clairaut's equations only	L+D	BB	2	32	27/02/2023 28/02/2023	23/2/23 25/2/23
39	Tutorials: Problem Solving Self Study- Applications of ODE's -L-R circuits, Applications of ODE's- Solvable for X and Y	L+D	BB	2	-	01/03/2023/ 02/03/2023	28/2/23 01/03/23
40	Tutorials: Applications of ordinary differential equations: Rate of Growth or Decay, Conduction of heat,	L+D	BB	2	-	06/03/2023/ 07/03/2023	02/3/23 06/03/23
41	Practicals: Solutions of first order differential equations and plotting the curve	L+D	BB	1	-	27/02/2023/0 3/03/2023	07/3/23 27/02/23
42	Practicals: Solutions of first order differential equations and plotting the curve	L+D	BB	1	-	06/03/2023/ 10/03/2023	03/3/23 06/3/23
MODULE 5							
43	Introduction to Congruences ,Finding GCD using Euclid's Algorithm Congruences,	L+D	BB	1	33	08/03/2023	10/03/23 08/3/23
44	The Remainder theorem	L+D	BB	1	34	09/03/2023	08/3/23
45	Solving Polynomials			1	35	11/03/2023	9/3/23
46	Linear Diophantine Equation,	L+D	BB	1	36	13/03/2023	11/3/23 13/3/23
47	System of Linear Congruences, Solving linear congruences $ax \equiv b(\text{mod } m)$			1	37	14/03/2023	13/3/23 14/3/23
48	Euler's Theorem, Wilson Theorem and Fermat's little theorem.	L+D	BB	2	39	15/03/2023 16/03/2023	15/3/23 16/3/23
49	Applications of Congruences-RSA algorithm.			1	40	20/03/2023	15/3/23
50	Tutorials: Self Study- Divisibility, GCD, Properties of Prime Numbers, Fundamental theorem of Arithmetic, Applications: Cryptography, encoding and decoding, RSA applications in public key encryption.	L+D	BB	2	-	21/03/2023 27/03/2023	16/3/23 17/3/23
51	Practical: Finding GCD using Euclid's Algorithm	L+D	BB	1	-	11/03/2023/1 7/03/2023	13/03/23
52	Practical: Solve linear congruence of the form $ax \equiv b(\text{mod } m)$	L+D	BB	1	-	13/03/2023/ 17/03/2023	17/3/2023

	Mode of Assignments and Instructions	Date
Assignment 1	Problem solving(Written Assignment)	28/12/2023
Assignment 2	Problem solving and Model question paper solutions	3/02/2023

Total No. of Lecture Hours = 40

Total No. of Tutorial Hours = 18

Total no. of Practical Classes=13



Course In charge



Head of the Department

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