

### Lesson Plan

<b>Name of the Faculty:</b>			
<b>Discipline:</b>		<b>B.TECH(All Branches)</b>	
<b>Semester:</b>		<b>2<sup>nd</sup></b>	
<b>Subject:</b>		<b>Mathematics-2 B24-BSC-108</b>	
<b>WorkLoad(Lecture/Practical) perweek(Inhours):</b>		<b>Lecture - 09</b>	
<b>S. No.</b>	<b>Lecture No.</b>	<b>Theory Topic(Including Assignment/Test/Quiz)</b>	<b>Pedagogy ( PPT&amp; Chalk-Board and Board/Video Recording /Activity/Case Study)</b>
1	L1	Introduction to matrices, types of matrices	White Board-Marker
2	L2	Matrix operations (addition, multiplication)	White Board-Marker
3	L3	Rank of a matrix (concept + examples)	White Board-Marker
4	L4	Elementary transformations & echelon form	White Board-Marker
5	L5	Elementary matrices & their applications	White Board-Marker
6	L6	Gauss-Jordan method (inverse of matrix)	White Board-Marker
7	L7	System of linear equations & consistency	White Board-Marker
8	L8	Linear dependence & independence of vectors	White Board-Marker
9		<b>Query session, &amp; Assignment-1</b>	
10	L9	Eigenvalues & eigenvectors	White Board-Marker
11	L10	Cayley–Hamilton theorem & applications	White Board-Marker
12	L11	Introduction to differential equations & order/degree	White Board-Marker
13	L12	Exact differential equations	White Board-Marker
14	L13	Linear differential equations	White Board-Marker
15	L14	Bernoulli's equation	White Board-Marker
16	L15	Euler's equation	White Board-Marker

		TEST	
17	L16	Equations solvable for p, y, and x	White Board-Marker
18	L17	Higher-order DEs & basic concepts	White Board-Marker
19		<b>Query Session</b>	
20	L18	Linear DE with constant coefficients (CF)	White Board-Marker
21	L19	Particular Integral (PI) methods	White Board-Marker
22	L20	Variation of parameters	White Board-Marker
23	L21	Cauchy's linear equations	White Board-Marker
24	L22	Legendre's linear equations	White Board-Marker
25	L23	Scalar & vector point functions	White Board-Marker
26	L24	Gradient & its properties	White Board-Marker
27	L25	Divergence & physical meaning	White Board-Marker
28	L26	Curl & properties	White Board-Marker
29	L27	Directional derivative	White Board-Marker
30	L28	Line integrals	White Board-Marker
31	L29	Surface integrals	White Board-Marker
32		<b>Query Session</b>	
33	L30	Volume integrals	White Board-Marker
34	L31	Green's theorem	White Board-Marker
		<b>TEST</b>	
35	L32	Gauss divergence theorem	White Board-Marker
36	L33	Stokes' theorem	White Board-Marker
37	L34	Applications of vector calculus	White Board-Marker
38	L35	Formation of PDEs	White Board-Marker
39	L36	Homogeneous linear PDEs	White Board-Marker
40		<b>Assignment 2</b>	On paper



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41	L37	Complementary function	White Board-Marker
42	L38	Particular integral	White Board-Marker
43	L39	Method of least squares (introduction)	White Board-Marker
44	L40	Fitting straight line & polynomial curves	White Board-Marker
45	L41	Fitting geometric (power) curves	White Board-Marker
46	L42	Fitting exponential curves & revision	White Board-Marker