

Course with Code: MATHEMATICS-II FOR CSE STREAM-BMATS201				Faculty:			Semester & Section: II	
Clas s No.	Date planned (DD/M M	Topics to be covered	TLP Planned	Clas s No.	Date of Conductio n (DD/MM)	Topics Covered	TLP Executed	Remarks if any deviation
MODULE-2 (Vector Calculus)								
11		Scalar and vector point, Gradient, Unit normal vector, Directional derivative.	Chalk and Talk					
12		Directional derivative, angle between the surface.	Chalk and Talk					
13		Introduction to divergence and curl F and physical interpretation .	Chalk and Talk					
14		Solenoidal and irrotational-Problems	Chalk and Talk					
15		Solenoidal and irrotational-Problems	Chalk and Talk					
16		Introduction to Curvilinear coordinates: Scale factors, base vectors	Chalk and Talk					
17		Cylindrical polar coordinates	Chalk and Talk					
18		Spherical polar coordinates	Chalk and Talk					
19		transformation between cartesian and curvilinear systems	Chalk and Talk					
20		transformation between cartesian and curvilinear systems	Chalk and Talk					

21		Orthogonality- Problems	Chalk and Talk					
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MODULE-3(Vector spaces)								
22		Definition and examples, subspace, linear span	Chalk and Talk					
23		Linearly independent and dependent sets	Chalk and Talk					
24		Basis and dimension	Chalk and Talk					
25		Linear transformations: Definition and examples	Chalk and Talk					
26		Algebra of transformations, Matrix of a linear transformation	Chalk and Talk					
27		Change of coordinates	Chalk and Talk					
28		Rank and nullity of a linear operator	Chalk and Talk					
29		rank-nullity theorem	Chalk and Talk					

30		Inner product spaces	Chalk and Talk					
31		Orthogonality, Problems	Chalk and Talk					
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MODULE-1(Integral Calculus)								
32		Multiple Integrals: Evaluation of double integral	Chalk and Talk					
33		Evaluation of double integrals by change of order of integration	Chalk and Talk					
34		Evaluation of double integrals by change of order of integration	Chalk and Talk					
35		Evaluation of double integrals by changing into polar coordinates	Chalk and Talk					
36		Evaluation of triple integral	Chalk and Talk					
37		Applications to find Area and Volume by a double integral.	Chalk and Talk					
38		Applications to find Area and Volume by a double integral.	Chalk and Talk					
39		Beta and Gamma functions: Definitions, properties, the relation between Beta and Gamma functions.	Chalk and Talk					
40		Problems on Beta and Gamma functions.	Chalk and Talk					
41		Problems on Beta and Gamma functions.	Chalk and Talk					

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MODULE-5 (Numerical methods-II)								
42		Numerical solution of ordinary differential equations of first order and first degree: Taylor's series method	Chalk and Talk					
43		Taylor's series method	Chalk and Talk					
44		Modified Euler's method	Chalk and Talk					
45		Modified Euler's method	Chalk and Talk					
46		Runge-Kutta method of fourth-order	Chalk and Talk					
47		Runge-Kutta method of fourth-order	Chalk and Talk					
48		Milne's predictor-corrector formula	Chalk and Talk					
49		Milne's predictor-corrector formula						
50								

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	Activity	Planned	Actual	Remarks
1	Theory Classes	49		
2	Assignments/ Quizzes/ Self-study	2 Assignments 5 quizzes		
3	Tutorials/ Extra classes	-		
4	Internal Assessments	3		
5	ICT based Teaching (% of usage in Curriculum)	-		
Planning			Execution	
Faculty Signature:			Faculty Signature:	
HoD Signature:			HoD Signature:	