

Session: 2018-2019

Course: B.Tech

Name of the Faculty	:	Brajesh Kumar Mishra
Discipline	:	CSE\EEE\ECE\CE\ME
Semester	:	1 ST sem
Subject	:	Mathematics -1
Lesson Plan Duration	:	15 Weeks (From August 2018 to November 30)
Work load (Lectures/Practical)		
Per week (in hours)	:	Lectures-06, Practicals-00

WEEK	THEORY		PRACTICAL	
	LECTURE DAY	TOPIC (including assignment /test)	PRACTICAL DAY	TOPIC
1 ST	1 st	Infinite series : Convergence and divergence	NO PRACTICALS	
	2 nd			
	3 rd	Comparison test, D' Alembert's test, integral test, Raabe's test.		
	4 th			
	5 th			
	2 ND	6 th		
7 th		Cauchy root tests, Gauss's test alternative series.		
8 th				
9 th				
10 th		Absolute and conditional convergence and its problems		
11 th				
12 th				
3 rd	13 th	Matrices and its, application : rank of Matrices, elementary transformations		
	14 th			
	15 th	Elementary matrices, inverse using elementary transformation ,normal form of matrices		
	16 th			
	17 th	Linear dependence and independence of vectors		
	18 th			
4 th	19 th	ASSIGNMENT DISCUSSION FOR THE SECTION (SECTION-A)		
	20 th	Consistency of linear system of equation ,linear and orthogonal transformations		
	21 st			
	22 nd	Eigen values and Eigen vectors ,properties of Eigen values		
	23 rd			

	24 th		
5 th	25 th	Cayley – Hamilton theorem and its applications and its problems	
	26 th		
	27 th		
	28 th	Diagonalization of the matrices, its problem	
	29 th		
6 th	30 th	similar matrices, quadratic forms and its problem	
	31 st		
	32 nd	Differential Calculus: Successive differentiation, Leibnitz theorem and its application	
	33 rd		
	34 th		
	7 th	35 th	Taylor's and Maclaurin's series , curvature , asymptotes and its problems
36 th			
37 th		SESSIONAL-I EXAMINATION	
38 th			
39 th			
40 th			
8 th	41 st	Curve tracing ,Function of two or more variables	
	42 nd		
	43 rd	Limit and continuity ,partial derivatives ,total differential and differentiability	
	44 th		
	45 th		
9 th	46 th	Derivative of composite and implicit functions, Jacobians .	
	47 th		
	48 th	Higher order partial derivatives homogeneous functions, Euler Theorem	
	49 th		
	50 th		
10 th	51 st	Euler Theorem applications, Taylor series for function of two variables	
	52 nd		
	53 rd	Maxima and minima of function of two variables and its problems	
	54 th		
	55 th		
11 th	56 th	Lagrange method of undetermined multipliers ,differentiation integral sign	
	57 th		
	58 th		
	59 th		
	60 th		
	61 st		

	62 nd	Integral calculus :beta function and its problems	
	63 rd		
	64 th	Gamma function and relationship between beta and gamma function	
	65 th		
	66 th		
12 th	67 th	Application of single integration to find volume of solids.	
	68 th		
	69 th		
	70 th		
	71 st		
	72 nd	Surface area of solids of revolution	
13 th	73 rd	Double integral and its problems	
	74 th		
	75 th		
	76 th	Change of order of integration ,Double integral in polar coordinate	
	77 th		
	78 th		
14 th	79 th	Application of double integral to find area enclosed by plane curve ,triple integral	
	80 th		
	81 st		
	82 nd		
	83 rd	Volume of solids Dirichlet's integral	
	84 th		
15 th	85 th	PRE-UNIVERSITY EXAMINATIONS	
	86 th		
	87 th		
	88 th		
	89 th		
	90 th		