Lesson Plan

Name of Faculty- Kamlesh Rani
Subject: **Mathematics**

Branch: EE, ECE, CE, ME (Semester-1)
Deptt. Applied Science & Humanities

Week	Theory		Actual Lesson Plans Covered		
	Lecture Day	Topic (Including assignment / Test)	Dates	HOD Sign.	Director-Principal
1st	1.	Matrices, elementary transformations	14/11/22		
	2.	Elementary matrices, Rank of a matrix	15/11//22		
	3.	Inverse of a matrix by using elementary transformation	16/11/22		
2nd	4	Normal form of a matrix	21/11/22		
	5.	Consistency of a system of non-Homogenous linear equations	22/11/22		
	6.	Consistency of a system of Homogenous linear equations	23/11/22		
3rd	7.	Symmetric matrix, skew symmetric matrix, orthogonal matrix,	28/11/22		
	8.	Characteristic equation, Eigen values	29/11/22		
	9.	Eigen vectors, Eigen bases	30/11/22		
4th	10.	Properties of Eigen values	5/12/22		
	11.	Cayley Hamilton theorem and its application	6/12/22		
	12.	Diagonalization of matrices	7/12/22		
5th	13.	Convergence and divergence of a sequence	12/12/22		
	14.	Convergence of infinite series, p-test, Comparison test	13/12/22		
	15.	D 'Alembert ratio test, Cauchy root test,	14/12/22		
6th	16	Rabbe's test, logarithm test	19/12/22		
	17.	Cauchy Integral test	20/12/22		
	18.	Alternating series convergence	21/12/22		
		Assignment -1-Introduction			
7th		**Minor Test-1**			
8th	19	Absolute and conditional convergence	2/1/23		
	20	Partial derivative, total derivative	3/1/23		
	21	Homogenous function, Euler's theorem	4/1/23		

	22.	Jacobian, properties of Jacobian	9/1/23		
	23.	Composite function and its derivative	10/1/23		
	24.	Taylor theorem for a function of two variables	11/1/23		
	25.	Maclaurin theorem for a function of two variables	16/1/23		
10th	26.	Maxima and minima of two variables function	17/1/23		
	27	Lagrange method	18/1/23		
	28.	Improper integral convergence	23/1/23		
11th	29.	Comparison test for convergence of improper integral	24/1/23		
	30.	Beta and gamma function	25/1/23		
	31.	Relation between beta and gamma function	30/1/23		
12th	32.	Reduction formula for gamma function	31/1/23		
	33.	Reduction formulae for gamma function	1/2/23		
	34.	Indeterminate forms, L's hospital rule	6/2/23/		
13th	35.	Types of indeterminate forms.	7/2/23		
	36.	Roll's theorem and related sums	8/2/23		
		Assignment -1- Submit			
14th		Minor Test -2			
	37.	Lagrange mean value theorem and related sums	20/2/23		
15th	38.	Cauchy mean value theorem and related sums	21/2/23		
	39	Maxima and minima	22/2/23		

Lesson Plan

Name of Faculty- Kamlesh Rani
Subject: Mathematics

Branch: CSE (Semester-1)
Dept. Applied Science & Humanities

Week	Theory		Actual Lesson Plans Covered		
	Lecture Day	Topic (Including assignment / Test)	Dates	HOD Sign.	Director-Principal
1st	1.	Matrices, elementary transformations	14/11/22		
	2.	Elementary matrices, Rank of a matrix	15/11//22		
	3.	Inverse of a matrix by using elementary transformation	16/11/22		
2nd	4	Normal form of a matrix	21/11/22		
	5.	Consistency of a system of non-Homogenous linear equations	22/11/22		
	6.	Consistency of a system of Homogenous linear equations	23/11/22		
3rd	7.	Symmetric matrix, skew symmetric matrix, orthogonal matrix,	28/11/22		
	8.	Characteristic equation, Eigen values	29/11/22		
	9.	Eigen vectors, Eigen bases	30/11/22		
4th	10.	Properties of Eigen values	5/12/22		
	11.	Cayley Hamilton theorem and its application	6/12/22		
	12.	Diagonalization of matrices	7/12/22		
5th	13.	Orthogonal set, orthonormal set of vectors	12/12/22		
	14.	Cramer rule, matrix method	13/12/22		
	15.	Gauss elimination method	14/12/22		
6th	16	Gauss Jorden elimination method	19/12/22		
	17.	Linear dependence and independence vectors	20/12/22		
	18.	Linear transformation	21/12/22		
	.	**Assignment -1-Introduction**			
7th		**Minor Test-1**			
8th	19	Matrix associated with a linear map	2/1/23		
	20	Partial derivative, total derivative	3/1/23		
	21	Homogenous function, Euler's theorem	4/1/23		

	22.	Jacobian, properties of Jacobian	9/1/23		
	23.	Derivative of composite and implicit function	10/1/23		
	24..	Taylor theorem for a function of two variables	11/1/23		
	25.	Maclaurin theorem for a function of two variables	16/1/23		
10th	26.	Maxima, minima and saddle point of function two variables	17/1/23		
	27	Method of LaGrange multipliers	18/1/23		
	28.	Definition of definite integral and improper integral	23/1/23		
11th	29.	Comparison test for convergence of improper integral	24/1/23		
	30.	Beta and gamma function	25/1/23		
	31.	Relation between beta and gamma function	30/1/23		
	32.	Reduction formula for gamma function	31/1/23		
12th	33.	Reduction formulae for gamma function	1,/2/23		
	34.	Indeterminate forms, L 's hospital rule	6/2/23/		
	35.	Types of indeterminate forms.	7/2/23		
13h	36.	Roll's theorem	8/2/23		
		Assignment -1- Submit			
14th		Minor Test -2			
	37.	Lagrange mean value theorem	20/2/23		
15th	38.	Cauchy mean value theorem	21/2/23		
	39	Maxima and minima	22/2/23		