Mathematics-II

Discipline: B.Tech. Ist (All Branches)

Faculty: Dr Hawa Singh, Dr. Vikram

Semester:II

Subject:Mathematics-II

LessonPlanDuration:15weeks

**Work(Lecture)perweek(InHours):Lecture-03 Tute-01

WEEK	LECT	TOPIC
1st	1	Rank of Matrix, Elementary Transformations, Elementary
	2	Gauss Jordan Method to find Inverse using Elementary
	3	Normal form of matrix
2nd	4	Linear dependance and Independance of vectors
	5	Consistency of linear system of equation
	6	Linear and orthogonal Transformations
3rd	7	Eigen values and Eigen Vectors, Properties of eigen value
	8	cayley hamilton theorem and its applications
	9	First order partial differential eqs: Exact,linear and Bernoulli's
4th	10	Eulers equations
	11	Eq. not of first degree: eq. solvable for p,
	12	Eq. not of first degree: eq. solvable for y
5th	13	Eq. not of first degree: eq. solvable for x
	14	Second order linear differential eqs. With contant coefficients
	15	Method of variation of parameters
6th	16	Cauchy eqn.
	17	Legendre's linear differential eq.
	18	Vecor calculus differentiation: introduction
7th		Minor Test
8th	22	Scalar and vector point functions
	23	Gradient
	24	Divergence
9th	25	Curl and their properties
	26	Directional derivatives
	27	Vecor calculus integration : Line integral
10th	28	Surface integrals
	29	Volume integrals
	30	Green theorem
11th	31	Gauss and Stokes theorems
	32	Formation of partial differential equations
	33	Formation of partial differential equations
12th	34	Solution of homogeneous linear PDE by complementary function method
	35	Solution of homogeneous linear PDE by particular integral method
	36	Solution of homogeneous linear PDE by particular integral method
13th	37	Curve fitting by the method of least squares: introduction
	38	Fitting of a straight line
	39	Fitting of second degree curve
14th		Minor Test
15th	43	Fitting of a polynomial of degree m
	44	Fitting of a geometric or power curve of the form $y=ax^b$
	45	Fitting of a exponential curve of the form $y=ab^x$