LESSON PLAN FOR SUMMER SEMESTER(2020-21)

Discipline : 2nd Semester(common)
Name of the Faculty: SAMIRA KUMAR PATHI (Lect. in Mathematics)

Subject: Engg. Mathematics-II	**5 therory & 1 tutorial classes per week**	**From: 28/04/2021 To: 10/07/2021 No. of Weeks: 11 Total no. periods : 54 Theory+ 10 Tutorial**	
Week	**Class Day**	**Theory**	**Range**
1st	1st	***VECTOR ALGEBRA*** a) Introduction	28.04.2021 to 04.05.2021
	2nd	Types of vectors (null vector, parallel vector , collinear vectors) (in component form)	
	3rd	Representation of vector	
	4th	Magnitude and direction of vectors, Addition and subtraction of vectors	
	5th	Position vector	
	6th	*Tuitorial class*	
2nd	1st	Scalar product of two vectors and Geometrical meaning of dot product	05.05.2021 to 11.05.2021
	2nd	Angle between two vectors	
	3rd	Scalar and vector projection of two vectors	
	4th	Vector product and geometrical meaning	
	5th	Area of triangle and parallelogram	
	6th	*Tuitorial class*	
3rd	1st	**LIMITS AND CONTINUITY** a) Definition of function, based on set theory	12.05.2021 to 18.05.2021
	2nd	Types of functions i) Constant function ii) Identity function iii)Absolute value function iv)The Greatest integer functionTypes of functions v) Trigonometric function vi) Exponential function vii) Logarithmic function	
	3rd	Introduction of limit	
	4th	Existence of limit	
	5th	Methods of evaluation of limit	
	6th	*Tuitorial class*	
4th	1st	Methods of evaluation of limit	19.05.2021 to 25.05.2021
	2nd	Definition of continuity of a function at a point	
	3rd	Definition of continuity of a function at a point	
	4th	**DERIVATIVES** Derivative of a function at a point	
	5th	Algebra of derivative	
	6th	*Tuitorial class*	

5th	1st	Derivative of standard functions	26.05.2021 to 01.06.2021
	2nd	Derivative of standard functions	
	3rd	Derivative of composite function (Chain Rule)	
	4th	Derivative of composite function (Chain Rule)	
	5th	Methods of differentiation of i) Parametric function	
	6th	*Tuitorial class*	
6th	1st	Methods of differentiation of ii) Implicit function	02.06.2021 to 08.06.2021
	2nd	Methods of differentiation of iii) Logarithmic function	
	3rd	Methods of differentiation of iv) a function with respect to another function	
	4th	Applications of Derivative i) Successive Differentiation (up to second order)	
	5th	Applications of Derivative i) Successive Differentiation (up to second order)	
	6th	*Tuitorial class*	
7th	1st	Applications of Derivative ii) Partial Differentiation (function of two variables up to second order)	09.06.2021 to 15.06.2021
	2nd	Applications of Derivative ii) Partial Differentiation (function of two variables up to second order)	
	3rd	**INTEGRATION** a) Definition of integration as inverse of differentiation	
	4th	Integrals of standard functions	
	5th	Methods of integration i) Integration by substitution	
	6th	*Tuitorial class*	
8th	1st	Methods of integration ii) Integration by parts	16.06.2021 to 22.06.2021
	2nd	Methods of integration ii) Integration by parts	
	3rd	Integration of the following forms i) $\int \frac{dx}{x^2+a^2}$ ii) $\int \frac{dx}{x^2-a^2}$ iii) $\int \frac{dx}{a^2-x^2}$	
	4th	Integration of the following forms iv) $\int \frac{dx}{\sqrt{x^2+a^2}}$ v) $\int \frac{dx}{\sqrt{x^2-a^2}}$ vi) $\int \frac{dx}{\sqrt{a^2-x^2}}$	
	5th	Integration of the following forms vii) $\int \frac{dx}{x\sqrt{x^2-a^2}}$ viii) $\int \sqrt{a^2-x^2}\,dx$ ix) $\int \sqrt{a^2+x^2}\,dx$ x) $\int \sqrt{x^2-a^2}\,dx$	
	6th	*Tuitorial class*	

9th	1st	Definition of definite integral,	23.06.2021 to 29.06.2021
	2nd	properties of definite integrals	
	3rd	properties of definite integrals	
	4th	Application of integration i) Area enclosed by a curve and X – axis	
	5th	Application of integration ii) Area of a circle with centre at origin	
	6th	*Tuitorial class*	
10th	1st	**DIFFERENTIAL EQUATION** a) Order and degree of a differential equation	30.06.2021 to 06.07.2021
	2nd	b) Solution of differential equation i) 1st order and 1st degree equation by the method of separation of variables	
	3rd	b) Solution of differential equation i) 1st order and 1st degree equation by the method of separation of variables	
	4th	b) Solution of differential equation i) 1st order and 1st degree equation by the method of separation of variables	
	5th	Solution of differential equation Linear equation $\frac{dy}{dx} + Py = Q$, where P,Q are functions of x	
	6th	*Tuitorial class*	
11th	1th	Solution of differential equation Linear equation $\frac{dy}{dx} + Py = Q$, where P,Q are functions of x	07.07.2021 to 10.07.2021
	2nd	Solution of differential equation Linear equation $\frac{dy}{dx} + Py = Q$, where P,Q are functions of x	
	3rd	Solution of differential equation Linear equation $\frac{dy}{dx} + Py = Q$, where P,Q are functions of x	
	4th	Solution of differential equation Linear equation $\frac{dy}{dx} + Py = Q$, where P,Q are functions of x	