LESSON PLAN FOR SUMMER SEMESTER(2021-22)

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: 14.03.2022 To: 18.06.2022** **No. of Weeks: 14 Total no. periods : 70 Theory + 14 Tuitorial**	
Week	**Class Day**	**Theory**	**Range**
1st	1st	***VECTOR ALGEBRA*** a) Introduction	14.03.2022 TO 20.03.2022
	2nd	Types of vectors (null vector, parallel vector , collinear vectors) (in component form)	
	3rd	Representation of vector	
	4th	Magnitude and direction of vectors	
	5th	Addition and subtraction of vectors	
	6th	*Tuitorial class*	
2nd	1st	Position vector	21.03.2022 TO 27.03.2022
	2nd	Scalar product of two vectors	
	3rd	Geometrical meaning of dot product	
	4th	Angle between two vectors	
	5th	Angle between two vectors	
	6th	*Tuitorial class*	
3rd	1st	Scalar and vector projection of two vectors	28.03.2022 TO 03.04.2022
	2nd	Scalar and vector projection of two vectors	
	3rd	Vector product and geometrical meaning	
	4th	Area of triangle and parallelogram	
	5th	Area of triangle and parallelogram	
	6th	*Tuitorial class*	
4th	1st	**LIMITS AND CONTINUITY** a) Definition of function, based on set theory	04.04.2022 TO 10.04.2022
	2nd	Types of functions i) Constant function ii) Identity function iii)Absolute value function iv)The Greatest integer function	
	3rd	Types of functions v) Trigonometric function vi) Exponential function vii) Logarithmic function	
	4th	Introduction of limit	
	5th	Introduction of limit	
	6th	*Tuitorial class*	
5th	1st	Existence of limit	11.04.2022 TO 17.04.2022
	2nd	Methods of evaluation of limit	
	3rd	Methods of evaluation of limit	
	4th	Methods of evaluation of limit	
	5th	Methods of evaluation of limit	
	6th	*Tuitorial class*	

6th	1st	Definition of continuity of a function at a point	18.04.2022 TO 24.04.2022
	2nd	Definition of continuity of a function at a point	
	3rd	**DERIVATIVES** Derivative of a function at a point	
	4th	Derivative of a function at a point	
	5th	Algebra of derivative	
	6th	*Tuitorial class*	
7th	1st	Algebra of derivative	25.04.2022 TO 01.05.2022
	2nd	Derivative of standard functions	
	3rd	Derivative of standard functions	
	4th	Derivative of standard functions	
	5th	Derivative of standard functions	
	6th	*Tuitorial class*	
8th	1st	Derivative of composite function (Chain Rule)	02.05.2022 TO 08.05.2022
	2nd	Derivative of composite function (Chain Rule)	
	3rd	Derivative of composite function (Chain Rule)	
	4th	Methods of differentiation of i) Parametric function	
	5th	Methods of differentiation of ii) Implicit function	
	6th	*Tuitorial class*	
9th	1st	Methods of differentiation of iii) Logarithmic function	09.05.2022 TO 15.05.2022
	2nd	Methods of differentiation of iv) a function with respect to another function	
	3rd	Applications of Derivative i) Successive Differentiation (up to second order)	
	4th	Applications of Derivative i) Successive Differentiation (up to second order)	
	5th	Applications of Derivative ii) Partial Differentiation (function of two variables up to second order)	
	6th	*Tuitorial class*	
10th	1st	Applications of Derivative ii) Partial Differentiation (function of two variables up to second order)	16.05.2022 TO 22.05.2022
	2nd	**INTEGRATION** a) Definition of integration as inverse of differentiation	
	3rd	Integrals of standard functions	
	4th	Integrals of standard functions	
	5th	Methods of integration i) Integration by substitution	
	6th	*Tuitorial class*	

11th	1st	Methods of integration	23.05.2022 TO 29.05.2022
	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*	
12th	1st	Definition of integral,	30.05.2022 TO 05.06.2022
	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 i) Area enclosed by a curve and X – axis	
	6th	*Tuitorial class*	
13th	1st	Application of integration ii) Area of a circle with centre at origin	06.06.2022 TO 12.06.2022
	2nd	**DIFFERENTIAL EQUATION** a) Order and degree of a differential equation	
	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	b) Solution of differential equation i) 1st order and 1st degree equation by the method of separation of variables	
	6th	*Tuitorial class*	
14th	1st	Solution of differential equation Linear equation $\frac{dy}{dx} + Py = Q$, where P,Q are functions of x	13.06.2022 TO 18.06.2022
	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	
	5th	Solution of differential equation Linear equation $\frac{dy}{dx} + Py = Q$, where P,Q are functions of x	
	6th	*Tuitorial class*	