

**GOVERNMENT POLYTECHNIC JAJPUR**

A/ P: Ragadi, Block: Korei, Dist.: Jajpur, Odisha- 755019

Website: <https://www.gpjajpur.org> E-mail: [principalgpjajpur@yahoo.co.in](mailto:principalgpjajpur@yahoo.co.in) Contact: 9437155107

**LESSON PLAN**

**2ND SEMESTER, MATH & SC**

DISCIPLINE	SEMESTER	NAME OF THE TEACHING FACULTY: Mukta Dash	
SUBJECT: ENGINEERING MATHEMATICS-II	NO.OF DAYS/PER WEEK	SEMESTER FROM DATE : 29/01/2024	TO DATE: 14/05/2024
WEEKS	CLASS DAY	NO.OF WEEKS: 15	
WEEKS	CLASS DAY	TOPIC	
1st	1st	Introduction of vector algebra	
	2nd	Types of vector	
	3rd	Representation of vector	
	4th	Magnitude and direction of vectors	
	5th	Addition and Subtraction of vector	
	6th	Tutorial Class	
2nd	1st	Discussion of problems on addition and subtraction of two vectors	
	2nd	Position vector	
	3rd	Scalar product of two vectors	
	4th	Geometrical meaning of dot Product	
	5th	Angle between two vectors	
	6th	Tutorial Class	
3rd	1st	Discussion of problems on dot product	
	2nd	Scalar and vector projection of two vectors	
	3rd	Vector product and geometrical meaning	
	4th	Area of triangle and parallelogram	
	5th	Discussion of problems on cross product	
	6th	Tutorial Class	
4th	1st	Class Test-1	
	2nd	Definition of function based on set theory	
	3rd	Types of function: constant function, identity function	
	4th	Absolute value function, greatest integer function	
	5th	Exponential function, logarithmic function with example	
	6th	Tutorial Class	
5th	1st	Introduction of limit, Existence of limit with examples	
	2nd	Methods of evaluation of limit	
	3rd	Limit of Trigonometric function	
	4th	Definition of continuity of a function at a point	
	5th	continuity test of a function	
	6th	Tutorial Class	
6th	1st	Discintinuity test of a function	
	2nd	Discuss exercise of Limit and continuity	
	3rd	Introduction of derivative with defination	
	4th	Importance of derivatives	
	5th	Derivative of a function at a point	
	6th	Tutorial Class	
	1st	Algebra of derivative	
	2nd	Derivative of standard functions	

7th	3rd	Discuss exercise of standard function
	4th	Derivative of composite function (Chain Rule )
	5th	Discuss exercise of composite function (chain rule)
	6th	Tutorial Class
8th	1st	Methods of differentiation of Parametric function
	2nd	Discuss exercise of parametric function
	3rd	Differentiation of Implicit function
	4th	Differentiation of inverse Trigonometry function
	5th	Differentiation of Logarithmic function
	6th	Tutorial Class
9th	1st	Derivative of a function with respect to another function
	2nd	Applications of Derivative
	3rd	Successive Differentiation (up to second order)
	4th	Discuss exercise of Successive Differentiation
	5th	Partial Differentiation
	6th	Tutorial Class
10th	1st	Discuss exercise of Partial Differentiation
	2nd	Discuss exercise of Derivatives
	3rd	Introduction of Integration
	4th	Definition of integration as inverse of differentiation
	5th	Some standard formulae of integration
	6th	Tutorial Class
11th	1st	Methods of integration
	2nd	Integration by using standard formulae
	3rd	Discuss exercise of standard formulae
	4th	Integration by substitution
	5th	Integration by substitution
	6th	Tutorial Class
12th	1st	Discuss exercise on Integration by substitution
	2nd	Integration by parts
	3rd	Discuss exercise of integration by parts
	4th	Discuss exercise of integration by parts
	5th	Definite integral
	6th	Tutorial Class
13th	1st	Properties of definite integrals
	2nd	Properties of definite integrals
	3rd	Area enclosed by a curve and X – axis
	4th	Discuss exercise of Area enclosed by a curve
	5th	Area of a circle with centre at origin
	6th	Tutorial Class
14th	1st	Class Test-II
	2nd	Introduction of Differential equation
	3rd	Order and degree of a differential equation
	4th	Solution of differential equation( General solution & Particular solution )
	5th	Solution of differential equation( 1st order & 1st degree)
	6th	Tutorial Class
15th	1st	Linear equation
	2nd	Solution of linear differential equation
	3rd	Solution of linear differential equation
	4th	Discussion of exercise of differential equation

5th	Discussion of exercise of differential equation
6th	Tutorial Class

### LERNING RESOURCES

SL.NO	AUTHOR	TITLE OF THE BOOK	PUBLISHER
1	CHITTARANJAN MALLICK & SUSMITA MALLICK	ENGINEERING MATHEMATICS PART -2	KALYANI
2	ODISHA STATE BUREAU EXPERTS	ELEMENTS MATHEMATICS - Vol.- 1 & 2	ODISHA STATE BUREAU
3	R.D SHARMA	MATHEMATICS PART- I & PART- II	NCERT PUBLICATION

*M. Dash*  
Signature of the Faculty