

**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: Pragyan Priyadarsini & Sarada Prasas	
SUBJECT: ENGINEERING MATHEMATICS-II	NO.OF DAYS/PER WEEK	SEMESTER FROM DATE : 14/03/2022	TO DATE:
WEEKS	CLASS DAY	NO.OF WEEKS: 15	
WEEKS	CLASS DAY	TOPIC	
1st	1st	i) Definition of function, based on set theorem	
	2nd	ii) Types of function	
		iii) Constant function	
		iv) Identity function	
	3rd	v) Absolute value function	
		vi) The Greatest integer function	
4th	vii) Exponential function		
	viii) Logarithmic function with examples		
5th	ix) Introduction of limit		
2nd	1st	i) Existence of limit with examples	
	2nd	ii) Methods of evaluation of limit	
	3rd	iii) Trigonometric function	
	4th	iv) Discontinuity test of a function	
	5th	v) Definition of continuity of a function at a point	
3rd	1st	i) continuity test of a function	
	2nd	ii) Discuss exercise of Limit and continuity	
	3rd	iii) Introduction of derivative with definition	
	4th	iv) Importance of derivatives	
	5th	v) Derivative of a function at a point	
4th	1st	i) Algebra of derivative	
	2nd	ii) Derivative of standard functions	
	3rd	iii) Discuss exercise of standard function	
	4th	iv) Derivative of composite function (Chain Rule )	
		v) Discuss exercise of composite function (chain rule)	
5th	vi) Class test-1		
5th	1st	vi) Methods of differentiation of	
	1st	i) Parametric function	
	2nd	ii) Discuss exercise of parametric function	
	3rd	iii) Differentiation of Implicit function	
	4th	iv) Differentiation of inverse Trigonometry function	
5th	v) Differentiation of Logarithmic function		
6th	1st	i) A function with respect to another function	
	2nd	ii) Applications of Derivative	
	3rd	iii) Successive Differentiation (up to second order)	
	4th	iv) Discuss exercise of Successive Differentiation	
	5th	v) Partial Differentiation	
	1st	i) Discuss exercise of Partial Differentiation	

7th	2nd	ii) Discuss exercise of Derivatives
	3rd	iii) Introduction of Integration
	4th	iv) Definition of integration as inverse of differentiation
	5th	v) Some standard formulae of integration
8th	1st	i) Methods of integration
	2nd	ii) Integration by using standard formulae
	3rd	iii) Discuss exercise of standard formulae
	4th	iv) Integration by substitution
9th	5th	v) Integration by parts
	1st	i) Discuss exercise of integration by parts
	2nd	ii) Integration by decomposition in to sum
	3rd	iii) Discuss exercise of Integration by decomposition
10th	4th	iv) Definite integral
	5th	v) Properties of definite integrals
	1st	i) Integration by using trigonometric identities
	2nd	ii) Application of integration
11th	3rd	iii) Area enclosed by a curve and X – axis
	4th	iv) Discuss exercise of Area enclosed by a curve
	5th	v) Area of a circle with centre at origin
	1st	i) Discuss exercise of Area of a circle with centre at origin
12th	2nd	ii) Discuss objective type questions with answer
	3rd	iii) Introduction of Differential equation
	4th	iv) Order and degree of a differential equation
	5th	v) Solution of differential equation vi) General solution
13th	1st	i) Particular solution ii) Defination of homogenous equation
	2nd	iii) Homogenous differential equation
	3rd	iv) Discuss exercise of homogenous differential equation
	4th	iv) Linear equation
14th	5th	v) Discuss exercise of Linear equation
	1st	i) Exact equation ii) class test-2
	2nd	ii) Discuss exercise of exact equation
	3rd	iii) Introduction of vector algebra
15th	4th	iv) Types of vectors
	5th	v) Representation of vector
	1st	i) Magnitude and direction of vectors
	2nd	ii) Addition and subtraction of vectors
16th	3rd	iii) Position vector
	4th	iv) Scalar product of two vectors
	5th	v) Geometrical meaning of dot product
	1st	i) Angle between two vectors
17th	2nd	ii) Scalar and vector projection of two vectors
	3rd	iii) Vector product and geometrical meaning
	4th	iv) Area of triangle and parallelogram
	5th	v) cross product and dot product of two vectors

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

\* Sarada Prasad Jena.

Pragyan Priyadarshini  
Signature of the Faculty