

LESSON PLAN

SESSION July - Dec - 2024 - 25

SUBJECT: Applied Mathematics-I

SEMESTER: 1st

BRANCH: - CSE/Mechanical/ET &T

UNIT NUMBER	NAME OF THE TOPIC	NO OF CLASS REQUIRED	REMARK
Unit-1.0 Algebra	1.1 Determinants		
	1.11 Concept and properties of determinants	01	
	1.12 Solution of simultaneous equations in three unknowns by Cramer's rule	01	
	1.2 Matrices		
	1.21 Algebra of Matrices 1.22 Inverse of Matrices,	02	
	1.23 Solution of Simultaneous equations by matrix inversion method of order 3x3 Assignment Given Doubt Class, Quiz conduction Unit Test	02 1 1	
Unit-2.0 Differential Calculus	2.1 Basic Trigonometry		
	2.11 Multiple and sub multiple angles	01	
	2.2 Functions and Limits		
	2.21 Independent and dependent variables 2.22 Different types of functions 2.23 Concept of Limit and its evaluation	01	
	2.3 Differentiation of elementary functions		
	2.31 Differentiation of Algebraic, Trigonometric, Exponential and Logarithmic functions	02	
	2.32 Differentiation of sum, product, quotient of two functions, Assignment given Doubt Class, Quiz conduction Unit Test	02 1 1	
Unit-3.0 Applications of Differential Calculus	3.1 Second order derivatives- Second order derivatives (without examples)	02	
	3.2 Equation of Tangent and Normal		
	3.21 Equation of Tangent and Normal for functions of one variable only	02	
	3.3 Maxima and minima	02	
	3.31 Maxima and minima for functions of one variable only, Assignment Given	03	
	Doubt Class, Quiz conduction Unit Test	1 1	
Unit-4.0. Co-ordinate Geometry	4.1 Various forms of straight lines		
	4.11 Co-ordinate systems, slope point form, two point form 4.12 Distance between two points, division of a line segment 4.13 Two points intercepts form, general form	02	
	4.14 Perpendicular distance from a point on the line, perpendicular distance between two parallel lines	02	
	4.2 Conic sections		
	4.21 Definition, standard forms 4.22 General equation	02	
	4.23 Center and radius of a circle 4.24 Focus, axis, directrix, latus rectum and vertex of parabola and ellipse, Assignment Given	02	
	Doubt Class, Quiz conduction Unit Test	1 1	

UNIT 5. Fundamentals of Statistics	5.1 Frequency distribution and central tendency		
	5.11 Introduction, graphical representation of frequency distribution	02	
	5.12 Central tendency, mean, median, frequency distribution and mode		
	5.2 Dispersion and deviation		
	5.21 Measure of dispersion.	03	
	5.22 Range, quartile deviation.		
	5.23 Standard deviation, root mean square deviation	02	
	5.3 Variance and coefficient of variance		
5.31 Variance and coefficient of variance, Assignment Given	02		
Doubt Class, Quiz conduction	1		
Unit Test	1		
Total Class Required		48	

LESSON PLAN

SESSION Jan - June - 2024-25

SUBJECT: Applied Mathematics-II

SEMESTER: 2nd

BRANCH: - CSE/Mechanical/ET &T

UNIT NUMBER	NAME OF THE TOPIC	NO OF CLASS REQUIRED	REMARK
Unit-1.0 Integral Calculus	1.1 Simple Integration: Rules of integration and integration of standard functions.	01	
	1.2 Methods of Integration:		
	1.21 Integration by substitution.	01	
	1.22 Integration by parts	01	
	1.23 Integration by partial fractions, Assignment given	02	
	Doubt Class, Quiz conduction	1	
	Unit Test	1	
Unit-2.0 Applications of Integral Calculus	2.1 Definite Integration		
	2.11 Simple examples	02	
	2.12 Properties of definite integral (without proof) and simple examples.	02	
	2.2 Applications of integration		
	2.21 Area under the curve.	02	
	2.22 Area between two curves, Assignment given	03	
	Doubt Class, Quiz conduction	1	
	Unit Test	1	
Unit-3.0 Differential equations of first order and first degree	3.1 Concept of differential equation		
	3.2 Order, degree and formation of differential equation.	02	
	3.3 Solution of differential equation	02	
	3.31 Variable separable form.		
	3.32 Homogeneous Differential Equations	02	
	3.33 Linear differential equation, Assignment given	03	
	Doubt Class, Quiz conduction	1	
	Unit Test	1	
Unit-4 Numerical Solutions of Equations	Introduction of algebraic and transcendental equations	01	
	4.1 Bisection method	01	
	4.2 Regula Falsi method	01	
	4.3 Newton Raphson method, Assignment given	02	
	Doubt Class, Quiz conduction	1	
	Unit Test	1	
UNIT 5.0 Numerical Integration	Introduction to Numerical integration	02	
	5.1 Trapezoidal rule	02	
	5.2 Simpson's one third rule	03	
	5.3 Simpson's three eighth rule, Assignment given	03	
	Doubt Class, Quiz conduction	1	
	Unit Test	1	
Total Class Required		48	