Lesson Plan for Mathematics-II(Th-3)

Discipline	Semester:-2ⁿᵈ sem All branches	Name of the Teaching Faculty:- **Jajatendu Keshari Chand**
Subject:- Mathematics	No of days/per week class allotted	Semester from 09/01/2026 to 08/05/2026 No of weeks:- 15
Week	Class	Theory Topics
1st	1st	INTRODUCTION TO MATRICES, ORDER OF MATRICES & TYPE OF MATRICES AND OPERATIONS ON MATRICES.
	2nd	INTRODUCTION TO DETERMINANT AND EXPANSION OF DETERMINANTS. MINORS AND COFACTORS OF MATRICES AND DETERMINANTS.
	3rd	DISCUSSION ON PROPERTIES OF DETERMINANTS AND SOLVE PROBLEMS ON IT.
	4th	EXPANSION OF DETERMINANT USING PROPERTIES AND DOUBT CLEARING.
2nd	1st	EXPANSION OF DETERMINANT USING PROPERTIES
	2nd	FIND INVERSE OF MATRIX (2ND AND 3RD ORDER)
	3rd	FIND INVERSE OF MATRIX (2ND AND 3RD ORDER)
	4th	SOLVE SYSTEM OF LINEAR EQUATION BY CRAMER'S RULE.
3rd	1st	SOLVE SYSTEM OF LINEAR EQUATION BY CRAMER'S RULE.
	2nd	DOUBT CLEARING AND PRACTICE PROBLEMS
	3rd	SOLVE SYSTEM OF LINEAR EQUATION BY MATRIX METHOD
	4th	SOLVE SYSTEM OF LINEAR EQUATION BY MATRIX METHOD
4th	1st	DISSCUSSION OF PROBLEMS ON DETERMINANT AND MATRIX AND DOUBT CLEARING.
	2nd	CLASS TEST ON THIS TOPIC.
	3rd	DEFINE INTEGRATION OF FUNCTION AS REVERSE PROCESS OF DIFFERENTIATION. STATE INTEGRATION

			FORMULAS OF SOME STANDARD FUNCTIONS.
	4th		SOLVING INTEGRATION OF FUNCTIONS USING DIRECT FORMULAS. SUBSTITUION METHOD.
5th	1st		SOLVE PROBLEMS ON SUBSTITUTION METHOD
	2nd		DEFINE INTEGRATION BY PARTS RULE EXPLANATION WITH EXAMPLES
	3rd		INTEGRATION BY PARTS RULE AND SOLVE PROBLEMS BY THIS RULE.
	4th		SOLVING PROBLEMS OF INTEGRATION USING BY PARTS AND METHOD OF PARTIAL FRACTION
6th	1st		SOLVING INTEGRATION PROBLEMS USING PARTIAL FRACTION METHOD.
	2nd		INTRODUCE DEFINITE INTEGRAL AND STATE PROPERTIES OF DEFINITE INTEGRAL,
	3rd		SOLVING PROBLEMS OF PROBLEMS ON DEFINITE INTEGRAL.
	4th		SOLVING PROBLEMS OF PROBLEMS ON DEFINITE INTEGRAL. STATE WALLI'S FORMULA AND SOLVE PROBLEM ON IT.
7th	1st		APPLYING DEFINITE INTEGRAL CONCEPT TO FIND AREA BOUNDED BY A CURVE AND AXES.
	2nd		APPLYING DEFINITE INTEGRAL CONCEPT TO FIND VOLUME OF A SOLID FORMED BY REVOLUTION OF AN AREA ABOUT AXES.
	3rd		DISSCUSSION OF PROBLEMS ON INTEGRATION AND DOUBT CLEARING.
	4th		CLASS TEST ON THIS TOPIC.
8th	1st		INTRODUCTION OF GEOMETRY IN TWO DIMENSION.DEFINE POINTS AND QUADRANTS IN 2-D PLANE . STATE DISTANCE FORMULA.
	2nd		STATE SECTION FORMULAE, AREA OF A TRIANGLE AND CONDITION OF COLLINEARITY. SOLVING PROBLEMS ON THESE TOPICS.
	3rd		STATE ANGLE OF INCLINATION OF A LINE, SLOPE OF A LINE AND CONDITION OF PARALLELISM AND PERPENDICULARITY . SOLVING PROBLEMS ON THEM.
	4th		DEFINE LOCUS, EQUATION OF LOCUS , INTERCEPTS AND EQUATION OF LINE FOR DIFFERENT SET OF DATA. SOLVING PROBLEM ON THESE TOPICS.
9th	1st		STATE GENERAL EQUATION OF LINE AND DETERMINE SLOPE, INTERCEPTS FROM IT. CONDITION OF PARALLELISM AND PERPENDICULARITY FROM GENERAL EQUATION OF LINE. PROBLEMS ON IT.
	2nd		STATE RELATIONSHIP BETWEEN PARALLEL AND PERPENDICULAR LINES. DETERMINE EQUATION OF A

			LINE PARALLEL AND PERPENDICULAR TO A LINE PASSING THROUGH A POINT. STATE INTERSECTION OF TWO LINES
		3rd	SOLVING PROBLEMS OF EQUATION OF A LINE PASSSING THROUGH INTERSECTION OF TWO LINES AND i) PASSING THROUGH A POINT. ii) PARALLEL TO ANOTHER LINE iii) PERPENDICULAR TO ANOTHER LINE.
		4th	STATE FORMULA FOR PERPENDICULAR DISTANCE OF A POINT FROM A LINE AND DISTANCE BETWEEN TWO PARALLEL LINES. DETERMINE OF FOOT OF PERPENDICULAR FROM A POINT TO A LINE.
10th		1st	DISCUSSION OF PROBLEMS ON THIS TOPIC.
		2nd	INTRODUCE CIRCLE, EQUATION OF A CIRCLE WITH GIVEN CENTRE AND RADIUS. SOLVING PROBLEMS BASED ON DEFINITION.
		3rd	DETERMINE EQUATION OF CIRCLE WHEN END POINTS OF THE DIAMETER IS GIVEN. STATE GENERAL EQUATION OF CIRCLE AND DETERMINE CENTRE AND RADIUS FROM GENERAL EQUATION OF CIRCLE.
		4th	SOLVE EQUATION OF CIRCLE PASSING THROUGH 3 POINTS AND EQUATION OF CIRCLE PASSING THROUGH TWO POINTS AND CENTRE LIES ON A GIVEN LINE.
11th		1st	SOLVE EQUATION OF CIRCLE PASSING THROUGH 3 POINTS AND EQUATION OF CIRCLE PASSING THROUGH TWO POINTS AND CENTRE LIES ON A GIVEN LINE.
		2nd	INTRODUCE CONIC SECTION. STATE GENERAL EQUATION OF PARABOLA, ELLIPSE AND HYPERBOLA.
		3rd	SOLVING PROBLEMS ON DIRECTRIX AND FOCUS OF CONIC SECTIONS.
		4th	SOLVING PROBLEMS ON DIRECTRIX AND FOCUS OF CONIC SECTIONS. REVISION OF COORDINATE GEOMETRY. DOUBT CLEARING.
12th		1st	CLASS TEST ON THIS TOPIC.
		2nd	INTRODUCTION TO VECTOR AND TYPES OF VECTOR
		3rd	REPRESENTATION OF A VECTOR, MAGNITUDE AND DIRECTION OF A VECTOR, OPERATIONS ON VECTOR AND POSITION VECTOR.
		4th	RESOUTION OF VECTOR IN 2D AND 3D. OPERATIONS ON VECTORS IN COMPONENT FORM. UNIT VECTOR IN THE DIRECTION OF VECTOR. PROBLEMS ON DISCUSSED TOPICS.
13th		1st	FIND ANGLE BETWEEN THE VECTORS. DEFINE DOT PRODUCT OF TWO VECTORS. STATE GEOMETRICAL MEANING OF DOT PRODUCT AND PROPERTIES OF DOT PRODUCT. FIND ANGLE BETWEEN TWO NON ZERO VECTORS.

	2nd	SOLVING PROBLEMS ON DOT PRODUCT. DISCUSSION OF SIMPLE PROBLEMS ON WORK DONE BY A FORCE.
	3rd	STATE VECTOR PRODUCT AND GEOMETRICAL MEANING OF VECTOR PRODUCT.APPLY CROSS PRODUCT TO SOLVE PROBLEMS ON MOMENT AND ANGULAR VELOCITY.
	4th	STATE CONDITION OF COPLANARITY AND MISCELLANEOUS PROBLEMS ON VECTOR. FIND AREA OF TRIANGLE AND PARALLELOGRAM USING VECTOR PRODUCT.
14th	1st	CLASS TEST ON THIS TOPIC.
	2nd	DEFINE DIFFERENTIAL EQUATION. STATE ORDER AND DEGREE OF ODE. STATE LINEAR DIFFERENTIAL EQUATION.
	3rd	SOLVE DIFFERENTIAL EQUATION BY VARIABLE SEPARABLE METHOD.
	4th	SOLVE DIFFERENTIAL EQUATION BY VARIABLE SEPARABLE METHOD.
15th	1st	DISCUSSION OF PROBLEMS AND DOUBT CLEARING.
	2nd	CLASS TEST ON THIS TOPIC.
	3rd	SIMPLE INTRODUCTION TO MATLAB.
	4th	DISCUSSION OF IMPORTANT PROBLEMS AND DOUBT CLEARING.

Jaisatendu Keshari Chand

SIGNATURE OF THE FACULTY