

**GOVERNMENT POLYTECHNIC DEOGARH**

**LESSON PLAN**

<b>DISCIPLINE: ALL</b>	<b>SEMESTER:1ST W- 23</b>	<b>NAME OF THE TEACHING FACULTY:MS. SUCHANA SARANGI SR. LECT MATH &amp; SCIENCE (PHYSICS) &amp; SRI MRUTUNJAYA MAHANTA PTGF MATHEMATICS</b>
<b>SUBJECT:ENGG. MATHEMATICS-I</b>	<b>NO.OF DAYS / PER WEEK CLASS ALLOTTED:05</b>	<b>SEMESTER FROM DATE:16/08/23 TO DATE:11/12/2023</b>
<b>Weeks</b>	<b>ClassDay</b>	<b>Theory topic</b>
1st	1	1) MATRICES AND DETERMINANTS a) Types of matrices
	2	b) Algebra of matrices
	3	c) Determinant
	4	d) Properties of determinant
	5	e) Inverse of a matrix (second and third order)
2nd	1	f) Cramer's Rule (Question should be on two variables)
	2	g) Solution of simultaneous equations by matrix inverse method
	3	Solve Problems
	4	Solve Problems
	5	Solve Problems
3rd	1	Solve Problems
	2	Solve Problems
	3	Solve Problems
	4	Solve Problems
	5	Solve Problems
4th	1	Solve Problems
	2	Solve Problems
	3	Solve Problems
	4	2) TRIGONOMETRY a) Trigonometrical ratios
	5	a) Trigonometrical ratios
5th	1	b) Compound angles, multiple and sub-multiple angles (only formulae)
	2	Solve Problems
	3	Solve Problems
	4	Solve Problems
	5	Solve Problems
6th	1	Solve Problems
	2	c) Define inverse circular functions
	3	Properties of inverse circular functions
	4	Solve Problems
	5	Solve Problems
7th	1	Solve Problems
	2	Solve Problems
	3	Solve Problems
	4	3) CO-ORDINATE GEOMETRY IN TWO DIMENSIONS (Straight line) a) Introduction of geometry in two dimension
	5	b) Distance formulae

8th	1	division formulae
	2	area of a triangle
	3	c) Define slope of a line
	4	angle between two lines (only F)
	5	condition of perpendicularity and parallelism
9th	1	d) Different forms of straight lines (only formulae) i)
	2	(ii) two point form
	3	(iii) slope form
	4	(iv) intercept form
	5	(v) Perpendicular form
10th	1	e) Equation of a line passing through a point and (i) parallel to a line
	2	(ii) Perpendicular to a line
	3	f) Equation of a line passing through the intersection of two lines
	4	g) Distance of a point from a line
	5	4) CIRCLE a) Equation of a circle (i) center radius form
11th	1	(ii) general equation of a circle
	2	(iii) end point of diameter form
	3	5) CO-ORDINATE GEOMETRY IN THREE DIMENSIONS a) Distance formulae
	4	section formulae
	5	direction ratio, direction cosine
12th	1	angle between two lines (condition of parallelism and perpendicularity)
	2	Equation of a plane i) General form
	3	angle between two planes
	4	perpendicular distance of a point from a plane
	5	equation of a plane passing through a point and i) parallel to a plane
13th	1	(ii) perpendicular to a plane
	2	Solve Problems
	3	Solve Problems
	4	Solve Problems
	5	Solve Problems
14th	1	Solve Problems
	2	Solve Problems
	3	6) SPHERE a) Equation of a sphere i) center radius form
	4	ii) general form
	5	iii) two end points of a diameter form (only formulae and problems)
15th	1	REVISION
	2	REVISION
	3	REVISION
	4	REVISION
	5	REVISION

Mrutunjaya Mahanta  
16-08-2023

S. Sarangi  
16/08/23