LESSON PLAN WINTER(2022-23)

DISCIPLINE: Mathematics	**SEMESTER**: 1st	**NAME OF THE TEACHING FACULTY:** **Smt Mamata Nayak , Smt. Sanghamitra Nath, Smt Supriya Khatua , Miss Sashmita Sahoo**
Subject:Engineering Mathematics-I	**No. of Days/per week class allotted: 06classes**	**Semester From date:26.10.2022 to Date:31.01.2022**
		No. of Weeks: 15
Week	**Class Day**	**Theory/Practical Topics**
1st	1st	1. DETEMINANT:-.1.1 Determinant
	2nd	1.1. Determinant
	3rd	1.2.Minors
	4th	1.3. properties of determinant
2nd	1st	1.4 solution of simultaneous linear equations by Cramer's rule
	2nd	1.4 solution of simultaneous linear equations by Cramer's rule
	3rd	2. Matrix:- 2.1 matrix and it's order
	4th	2.2 types of matrices with examples
3rd	1st	2.2 types of matrices with examples
	2nd	2.3 equality of matrices
	3rd	2.4 multiplicative inverse of a matrix
	4th	2.5 Solution of simultaneous equations by matrix method
4th	1st	important questions of matrix and determinant.
	2nd	3. Trigonometry : - 3.1. Trigonometrical ratios.
	3rd	3.1. Trigonometrical ratios
	4th	3.2. problems on Compound angles
5th	1st	3.3.multiple angles
	2nd	3.3. problems on multiple angles
	3rd	3.4. Define inverse circular functions
	4th	3.5. Problems on inverse circular functions
6th	1st	3.6. properties of inverse circular functions
	2nd	4. Co-ordinate Geometry in Two Dimension : - 4.1. Introduction of Geometry in two dimension.
	3rd	4.2 . Distance formula and problems.
	4th	4.2 . Division formula and problems.
7th	1st	4.2 area of a triangle. 4.3 Define slope of a line
	2nd	4.3 angle between two lines , conditions of parallelism and perpendicularity
	3rd	4.4. Different forms of straight-lines :- (i) slope and intercept form (ii) slope and one point form (iii) two point form (iv) intercept form (v) perpendicular form and problems of all forms
	4th	4.5 . Equation of a line passing through a point and parallel to a line ,Equation of a line passing through a point and perpendicular to a line
8th	1st	4.6. Equation of a line passing through the intersection of two lines
	2nd	4.7. Distance of a point from a line and distance between two parallel lines
	3rd	5. Circle :-. 5.1. Equation of a circle (I) center radius from and problems

	4th	5.2. general equation of a circle
9th	1st	5.3.find center and radius of a circle
	2nd	5.4. end point of a diameter from
	3rd	5.5 equation of a circle passing through three given points.
	4th	6. CO-ORDINATE GEOMETRY IN THREE DIMENSION :- 6.1 analytical Geometry in three dimension.
10th	1st	6.2.distance formula, section formula
	2nd	6.3. direction cosines 6.4. relation between Direction cosines.
	3rd	6.5.Direction ratios
	4th	6.6. projections.
11th	1st	6.7. direction ratios and direction cosines of the line joining two points
	2nd	6.8. angle between two lines (conditions of parallelism and perpendicularity)
	3rd	6.10. Equation of a plane (I) general from
	4th	6.11. equation of a plane through three non-colliear points.
12th	1st	6.12. passing through a point and perpendicular to a plane.
	2nd	6.13.intercept form.
	3rd	6.14. planes parallel and perpendicular to co-ordinate axes.
	4th	6.15. normal form of equation of a plane .
13th	1st	6.16. transformation of the general equation of a plane to normal form
	2nd	6.17. planes parallel to co-ordinate axes.
	3rd	6.18.angle between two planes.
	4th	6.19. plane through the intersection of two planes
14th	1st	6.20. position of a pointwitg respect to a plane.
	2nd	6.21. perpendicular distance of a point from a plane
	3rd	6.22.bisector of the angles between two planes. Important Problems on planes.
	4th	7. SPHERE : - 7.1. Equation of a sphere (I) center and radius from
15th	1st	7.2. general equation of a sphere
	2nd	7.3. find center and radius of a sphere
	3rd	7.4. end point of a diameter from
	4th	7.5. equation of sphere passing through three non-collinear points.