



Bhubanananda Orissa School of Engineering, Cuttack
Department of Mathematics and Science

LESSON PLAN
Academic Session: 2023-24 (winter)

Semester: 1st SEM

Branch: Civil Sec: B

Subject: Engineering Mathematics-I

Prepared by: BIKRAM SAHOO

Bikram
26/08/2023
H.O.D. (Maths & Sc.)

Discipline: Civil Engg. (Sec B)	Semester:1st	Name Of The Teaching Faculty: BIKRAM SAHOO (Faculty In Mathematics)
Subject: Engineering Mathematics –I	No. Of Days /Per Week Class Alloted:6p (5 lecturer + 1 Tutorial)	Semester From: Date:16/08/2023 to 11/12/2023
Week	Class Days & Dates	Theory Topics
1st	16.08.23	a) Introduction & Syllabus discussion
	16.08.23	<u>UNIT-1:MATRICES AND DETERMINANT (18P)</u> a) Types of matrices
	18.08.23	b) Algebra of matrices
	19..08.23	Problem based on previous class
2nd	21..08.23	c) Determinant
	22.08.23	d) Properties of determinant
	23.08.23	Properties of determinant cont..
	23.08.23	Problem based on previous class
	25.08.23	Book exercise practice
	26.08.23	Tutorial Class:
3rd	28.08.23	e) Inverse of a matrix (second and third order)
	29.08.23	Problem based on previous class
	01.09.23	f) Cramer's Rule (Question should be on two variables)
	02.09.23	Problem based on previous class
4th	04.09.23	Book exercise practice
	05.09.23	g) Solution of simultaneous equations by matrix inverse method
	08.09.23	Problem based on matrix inverse method on two variables
	09.09.23	Book exercise practice
5th	11.09.23	Book exercise practice
	12.09.23	Book exercise practice
	13.09.23	Monthly Test-1
	13.09.23	<u>UNIT-2:TRIGONOMETRY (15P)</u> a) Trigonometrical ratio

6 th	15.09.23	Trigonometric identities
	16.09.23	Problem based on previous class
	18.09.23	Trigonometric expression
	22.09.23	Tutorial class: doubt clearing class of trigonometry
	23.09.23	Problem based on previous class
7 th	25.09.23	Important trigonometry function value
	26.09.23	Problem based on previous class
	27.09.23	Compound angle formula
	27.09.23	Problem based on previous class
	30.09.23	1. Multiple and submultiple formula 2. Problem based on previous class
8 th	03.10.23	c) Define inverse circular functions and its property (No derivation)
	04.10.23	c) Define inverse circular functions and its property (No derivation)
	04.10.23	Problem based on previous class
	06.10.23	Book exercise practice
	07.10.23	Monthly Test-2
9 th	09.10.23	<u>UNIT-3: CO-ORDINATE GEOMETRY IN TWO DIMENSIONS (STRAIGHT LINE) (13P)</u> a) Introduction of geometry in two dimension b) Distance formulae, division formulae, area of triangle (Only formulae, No derivation)
	10.10.23	Problem based on previous class
	11.10.23	c) Define slope of a line, angle between two lines (only F)
	11.10.23	Problem based on previous class
	13.10.23	Condition of perpendicularity and parallelism
	14.10.23	Problem based on previous class

10 TH	16.10.23	d) Different forms of straight lines (Only formulae) i) One point form (ii) two point form
	17.10.23	Tutorial Class- DOUBT CLEARING CLASS OF CO-ORDINATE GEOMETRY
	18.10.23	Problem based on previous class
	18.10.23	iii) Slope form iv) intersect form v) perpendicular form
	20.10.23	Problem based on previous class
11 TH	30.10.23	e) Equation of a line passing through a point and i) parallel to a line ii) perpendicular to a line with example
	31.10.23	f) Equation of a line passing through the intersection of two lines g) Distance of a point from a line with example
	01.11.23	Book exercise practice
	01.11.23	UNIT-4 CIRCLE (7P) a) Equation of a circle i) center radius form
	03.11.23	Problem based on previous class
	04.11.23	ii) general equation of a circle
12 TH	06.11.23	Problem based on previous class
	07.11.23	Tutorial Class- DOUBT CLEARING CLASS OF CO-ORDINATE GEOMETRY
	08.11.23	iii) End point of diameter form
	08.11.23	Problem based on previous class
	10.11.23	Book exercise practice
	11.11.23	Monthly Test-3
13 th	13.11.23	<u>UNIT-5:CO-ORDINATE GEOMETRY IN THREE DIMENSIONS (15P)</u> a) Distance formula, section formula
	14.11.23	Tutorial Class- DOUBT CLEARING CLASS OF CO-ORDINATE GEOMETRY
	15.11.23	Problem based on previous class
	15.11.23	Direction ratio, direction cosine
	17.11.23	Problem based on previous class

	18.11.23	Angle between two lines (condition of parallelism and perpendicularity)
14 th	20.11.23	Problem based on previous class
	21.11.23	Tutorial Class- DOUBT CLEARING CLASS OF CO-ORDINATE GEOMETRY
	22.11.23	Problem based on previous class
	22.11.23	Book exercise practice
	24.11.23	b) Equation of a plane i) General form
	25.11.23	Problem based on previous class
15 th	28.11.23	Angle between two planes
	29.11.23	Tutorial Class- DOUBT CLEARING CLASS OF CO-ORDINATE GEOMETRY
	29.11.23	Problem based on previous class
	01.12.23	Perpendicular distance of a point from a plane, Equation of a plane passing through a point and i) parallel to a plane (ii) perpendicular to a plane
	02.12.23	• Problem based on previous class • Book exercise practice
16 th	04.12.23	<u>UNIT-6: SPHERE (7P)</u> a) Equation of a sphere i) center radius form Problem based on previous class
	05.12.23	ii) general form
	06.12.23	Problem based on previous class
	06.12.23	iii) two end points of a diameter form (only formulae and problems)
	08.12.23	Problem based on previous class
	09.12.23	Tutorial Class: Book Exercise Practice on sphere
17 th	11.12.23	VST for 1st Sem Exam