

GOVERNMENT POLYTECHNIC JAJPUR

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LESSON PLAN

1ST SEMESTER, MATH & SC

DISCIPLINE	SEMESTER: 1ST	NAME OF THE TEACHING FACULTY: Mr. Pankaja Swain
SUBJECT: ENGG. MATHS-I	NO. OF DAYS/WEEKS CLASS ALLOTTED: 06	SEMESTER FROM DATE : 16/08/2023 TO DATE: 11/12/2023 NO. OF WEEKS: 16
WEEKS	CLASS DAY	TOPICS
1st	1st	i) Introduction of matrices
	2nd	ii) Types of matrices
	3rd	iii) Algebra of matrices (sum)
	4th	iv) Algebra of matrices (Difference)
	5th	v) Product of matrices
	6th	vi) Tutorial class
2nd	1st	i) Product of matrices
	2nd	ii) Product of matrix and a scalar
	3rd	iii) Equality of matrices
	4th	iv) Transpose of matrix
	5th	v) Minors and Co-factors
	6th	vi) Tutorial class
3rd	1st	i) Determinant of third order
	2nd	ii) Inverse of a matrix (Third order)
	3rd	iii) problems on Inverse of a matrix.
	4th	iv) Cramer's Rule two equations and two unknowns
	5th	v) Cramer's Rule three equations and three unknowns
	6th	vi) CLASS TEST-1
4th	1st	i) Trigonometrical ratios
	2nd	ii) relation between trigonometric ratios.
	3rd	iii) Compound angles with examples
	4th	iv) Multiple and sub-multiple angles with examples
	5th	v) Multiple and sub-multiple angles with examples
	6th	vi) Tutorial class
5th	1st	i) Discuss Exercise of Trigonometry
	2nd	ii) Discuss Exercise of Trigonometry
	3rd	iii) Discuss objective type questions with answer
	4th	iv) Introduction of Inverse Trigonometry function
	5th	v) Domain and Range of Inverse Trigonometry function
	6th	vi) Tutorial class
6th	1st	i) Properties of Inverse Trigonometry functions
	2nd	ii) Discuss Exercise of Trigonometry
	3rd	iii) Introduction of geometry in two dimension
	4th	iv) Area of a triangle
	5th	v) Define slope of a line
	6th	vi) Tutorial class
	1st	i) Angle between two lines
	2nd	ii) condition of perpendicularity and parallelism.

7th	3rd	iii) Discuss objective type questions with answer
	4th	iv) Discuss objective type questions with answer
	5th	iv) Different forms of straight lines
	6th	vi) Tutorial class
8th	1st	i) Distance formulae
	2nd	ii) Two point form
	3rd	iii) Centroid of Triangle
	4th	iv) Slope form
	5th	v) Intercept form
	6th	vi) Tutorial class
9th	1st	i) Parallel to a line & Perpendicular to a line
	2nd	ii) Parallel to a plane
	3rd	iii) Distance of a point from a line
	4th	iv) Discuss objective type questions with answer
	5th	v) Equation of a circle
	6th	vi) Tutorial class
10th	1st	i) center radius form
	2nd	ii) Center radius form
	3rd	iii) Equation of circle passing through three given points
	4th	iv) Equation of a circle with given end points of a diameter
	5th	v) Introduction of geometry in three dimension
	6th	vi) Tutorial class
11th	1st	i) Section formulae
	2nd	ii) Centroid of Triangle
	3rd	iii) Direction cosine
	4th	iv) Angle between two lines
	5th	v) Condition of parallelism and perpendicularity
	6th	vi) Tutorial class
12th	1st	i) Relation between direction ratios and direction cosines
	2nd	ii) Equation of a plane
	3rd	iii) General form
	4th	iv) Angle between two planes with examples
	5th	v) Perpendicular distance of a point from a plane
	6th	vi) CLASS TEST -2
13th	1st	i) Parallel to a plane
	2nd	ii) Perpendicular to a plane with examples
	3rd	iii) Equation of a plane passing through three non-collinear points
	4th	iv) Distance of a point from a plane
	5th	v) plane through the intersection of two given planes
	6th	vi) Tutorial class
14th	1st	i) introduction of a sphere
	2nd	ii) Equation of a sphere
	3rd	iii) Center radius form
	4th	iv) Important questions of find Radius and centre
	5th	iv) General equation of sphere
	6th	(vi) Tutorial class
	1st	i) some examples of general equation of sphere
	2nd	ii) Equation of sphere passing through four given points

15th	3rd	iii) Examples of Equation of sphere passing through four given points
	4th	iv) Two end points of a diameter form
	5th	v) Discuss Exercise of sphere
	6th	vi) Tutorial class
16th	1st	i) Revision class of Determinant and Matrices
	2nd	ii) Revision class of Trigonometry
	3rd	iii) Revision class of Inverse Trigonometry
	4th	iv) Revision class of 2D
	5th	v) Revision class of 2D
	6th	vi) Revision class of 3D

LEARNING RESOURCES

SL.NO	AUTHOR	TITLE OF THE BOOK	PUBLISHER
1	CHITTARANJAN MALLICK & SUSMITA MALLICK	ENGINEERING MATHEMATICS PART -1	KALYANI
2	ODISHA STATE BUREAU EXPERTS	ELEMENTS MATHEMATICS - Vol.- 1 & 2	ODISHA STATE BUREAU
3	R.D SHARMA	MATHEMATICS PART- I & PART- II	NCERT PUBLICATION

Panlegia Swarn
 Signature of Faculty 19/08/23