GOVT. COLLEGE BAROTA

LESSON PLAN OF MATHEMATICS(2023-24)(EVEN SEM.)

Name of Assistant Professor: Ms. Nikita Goel

Class: B.A. & B.SC. (6th Sem.)

Subject: Linear Algebra

MONTH	WEEK	SYLLABUS
JANUARY	WEEK 1	Vector spaces, subspaces, Sum and Direct sum of subspaces.
	WEEK 2	Linear span, Linearly Independent and dependent subsets of a vector space. Finitely generated vector space, Existence theorem for basis of a finitely generated vactor space.
	WEEK 3	Finite dimensional vector spaces, Invariance of the number of elements of bases sets, Dimensions, Quotient space and its dimension, Test.
	WEEK 4	Homomorphism and isomorphism of vector spaces.
	WEEK 5	Linear transformations and linear forms on vector spaces, Vector space of all the linear transformations.
FEBRUARY	WEEK 1	Annihilator of subspaces of finite dimentional vactor spaces, Null Space.
	WEEK 2	Range space of a linear transformation, Rank and Nullity Theorem, Dual Spaces, Bidual spaces, Assignment.
	WEEK 3	Algebra of Liner Transformation, Minimal Polynomial of a linear transformation, Singular and non-singular linear transformations.
	WEEK 4	Matrix of a linear Transformation, Change of basis.
	WEEK 5	Eigen values and Eigen vectors of linear transformations, Test.
MARCH	WEEK 1	Inner product spaces.
	WEEK 2	Inner product spaces ctd., Cauchy-Schwarz inequality.
	WEEK 3	Orthogonal vectors, Orthogonal complements, Orthogonal sets and Basis.
APRIL	WEEK 1	Bessel's inequality for finite dimensional vector spaces, Gram-Schmidt, Orthogonalization process.
	WEEK 2	Adjoint of a linear transformation and its properties
	WEEK 3	Unitary linear transformations, Assignment.
	WEEK 4	Revision and Test
	WEEK 5	Revision and Test

Signature