2. Group Theory:

- ✓ Groups, subgroup, Abelian Groups,
- ✓ Non- abelian group, cyclic group, permutation group,
- ✓ Normal subgroup, Lagrange's Theorem for finite group,
- ✓ Group Homomorphism and basic concepts of quotient group.

Prescribed Books:

1. Contemporary Abstract Algebra: Joseph A. Gallian
2. Algebra (Volume I) (Volume Ii): Ramji Lal
3. Modern Algebra: Surjeet Singh Quzi Zameerruddin.

3. Linear Algebra:

- ✓ Vector Space
- ✓ Linear dependence of vector, basis , Dimensions
- ✓Linear transformation, matrix representation with respect to an ordered basis , Range space and null space, rank-nullity theorem,
- ✓ Eignvalues and eignvectors, Cayley-Hamilton theorem,
- ✓ Symmetric, skew-symmetric, Hermitian, skew- Hermitian, Orthogonal and Unitary Matrices.

Prescribed Books:

1. Linear Algebra: Vivek Sahai, Vikash Bist
2. Linear Algebra: Schaum Series
3. Linear Algebra: Stephen H. Friedberg Arnold
4. Matrices: J.N. Kapur and M.K. Singal
5. Matrix Analysis: Roger A. Horn Charles R. Jhonson

4. Vector Calculus:

✓ Scalars and Vector field, Gradient Divergent, curl and Laplacian

✓ Scalar line integrals and vector line integrals, scalar surface integrals and vector surface integrals,

✓ Green's theorem, Stokes and guass theorem and their applications

Prescribed Books:

1. Vector Calculus: Schaum Series
2. Vector Calculus: B.D. Sharma
3. Vector Calculus: Paul C. Matthews

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ABOUT ME

- UPENDRA YADAV
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