1. **Set Theory**: Understanding of sets, types of sets, operations on sets, and Venn diagrams.
2. **Relations and Functions**: Concepts of relations, types of relations, functions, and types of functions.
3. **Complex Numbers**: Understanding of complex numbers, their properties, and operations.
4. **Quadratic Equations**: Formulation and solutions of quadratic equations, nature of roots, and relation between roots and coefficients.
5. **Sequences and Series**: Understanding of arithmetic progression (AP), geometric progression (GP), and arithmetic geometric progression (AGP). Formulas for nth terms and sum of terms.
6. **Permutations and Combinations**: Fundamental principle of counting, arrangement and selection problems, and binomial theorem.
7. **Binomial Theorem**: Expansion of binomial expressions and coefficients.
8. **Matrices and Determinants**: Types of matrices, operations on matrices, determinants, and their properties.
9. **Probability**: Basic concepts in probability, conditional probability, Bayes’ theorem, and random variables.

**Videos**:

**Playlist**:

<https://youtube.com/playlist?list=PLbu_fGT0MPssNwsoy1gWwbQAsQM92o5__&feature=shared>

**one shot:**

<https://www.youtube.com/live/17mpppeDcvk?feature=shared>

NOTES:

<https://www.selfstudys.com/books/jee-maths/english/notes/9-vector/1-vector-theory/82903>

pyq:

<https://questions.examside.com/past-years/jee/jee-main/mathematics/vector-algebra>