Geometry:

1) Parallel lines.

2) Triangles- Properties of triangles, congruency, similarity, mid-point theorems, Pythagoras Theorem,etc. Proofs and applications.

3) Constructions.

4) Properties of rectilinear figures- Square, rectangle, parallelogram, rhombus, trapezium, n-sided polygons, etc.

5) Properties of circles.

6) Mensuration-Area and volume of basic shapes.

Set theory:

1) Operations on sets, venn diagram representation.

2) Relation, mapping and function- Their types. Equivalence relations, etc.

Arithmetic:

1) Number system- rational and irrational numbers, rationalizing surds, the number line.

2) Ratio and proportion.

3) Principle of mathematical induction.

Combinatorics: Basic counting techniques, number of non-negative integral solutions of an equation. The pigeonhole principle.

Algebra:

1) Expansion and simplifications- Eg: $(a+b)^2$, $(a+b)^3$, $(a+b+c)^2$, etc.

2) Factorisation

3) Solving equations.

4) Indices.

5) Logarithm.

6) Inequalities- Basic results like square of a real number is non-negative,etc. and the AM-GM-HM inequality.

7) Polynomials: Their properties, remainder theorem, factor theorem,etc.

Calculus:

1)Real numbers and functions of real variables.

2)Limits and continuity of functions

3)Differentiation

Logical reasoning: self explanatory