# Syllabus for subject specific teachers
## Mathematics

**Maximum Marks (120)**                                    **Time:- 2 Hours**

## Number System:

- Real Numbers
- Terminating and non-terminating decimals
- Graphical Representation of Rational numbers
- Law of Exponents with integral powers
- Rational exponents with positive bases.                    10 Marks

## Polynomials and Co-ordinate Geometry

- Types of polynomials in one variable
- Degree of polynomials, zero polynomials
- Linear, quadratic and cubic polynomials
- Factor theorem
- Cartesian plane, plotting points in the plane
- Slope of line and between two lines. Various forms of equations parallel to axis, point- slope form, slope-intercept form, two point form, intercepts forms and normal form. General equation of line                    10 Marks

## Lines and angles

- Introduction to Euclid's geometry
- There is only one line can drawn through two points
- If two lines intersects, the vertical opposite angles are equal
- The sums of angles of triangle is $180^\circ$
- Parallel lines with transversal                    10 Marks

## Triangles and circles

- Types of triangles
- Congruent triangles by using all axioms
- Angles opposite to equal sides of a triangle are equal
- Similar triangles
- Pythagoras theorem                    10 Marks

## Logarithm and mensuration

- Definition of logarithm and their properties for base 10. Also characteristics' and mantissa
- Use log to solve some problems
- Area of parallelogram, triangles, circles, cylinder etc.
- Volume of cube, sphere, cylinder and cone                    10 Marks