iv. Mathematics

iv) Mathematics (30 Marks)

Content (24Marks)

I.Numbers :

Numbers – four fundamental operations (addition, subtraction, multiplication, division) -Knowing our Numbers & International system – Prime and composite numbers-Rounding of numbers - Whole Numbers-Playing with Numbers - Divisibility rules – Factors- Methods of prime factorization-Co-primes- twin primes- LCM-HCF- negative numbers- integers-Fractions-Decimals- Rational Numbers-Squares- Cubes- Square Roots and Cuberoots-Profit and Loss .

II.Mensuration :

Length -Weight -Capacity -Time -Money - Area and Perimeter of Triangle- Square-Rectangle- Rhombus-Circle- Trapezium- Parallelogram - The perimeter for square and rectangle through pattern - Surface area and volume of Cube and Cuboid

III.Geometry :

Naming of the given figures and Parts of 2D figures of Triangle, Square and Rectangle -Identification and counting of Edges- Corners- Faces (3D figures)-Introduction of Perimeter and Area of given shapes-Geometrical patterns (TANGRAM)-Introduction of circle- center, diameter and radius-Primary Geometry concepts (Point, straight line, line segments, ray)-Types of angles (Right, Obtuse & Acute angles)-Open & closed figures- Symmetry- line symmetry & rotation symmetry (1/2,1/4)- Picture patterns- Area and Perimeter- Lines and Angles,-Triangle and its properties - Congruency of Triangles-Quadrilaterals- Practical Geometry- Construction of Traingles-Construction of Quadrilaterals- Exploring Geometrical Figures.

IV.Data Handling:

Reading and interpreting the Data (Bar graphs, picto graphs)- Analysis of the data with tallymarks-Collection & organisation of data -Representation of Data .

V.Algebra:

Patterns – making rules-Introduction of variables - Expressions with variables & Rules-Number forms of even and odd(2n,2n+1)- Introduction to unknowns- Simple equations - Algebric expressions- Exponents & Powers- Linear Equations in one variable-Factorization.

VI.Arithmetic:

Comparing quantities using proportion -Concept and applications of Ratio-Proportion of equality ratios - Unitary method- Understanding ratios & Proportions - Direct and Inverse proportion.

Mathematics Methodology (D.El.Ed.) (06 Marks)

- Nature and Definitions of Mathematics
- Aims, values and instructional objectives of teaching Mathematics
- Methods of Teaching & Remedial measures in Mathematics
- Instructional Material, TLM and Resource Utilization in Mathematics
- Curriculum, Text Book & Instructional Planning.