The subjects included will be (1) Algebra, (2) Infinite sequences and series, (3) Trignometry, (4) Theory of equations, (5) Analytic Geometry of two and three dimension, (6) Analysis, and (7) Differential equation.

1. **Algebra** :- Sets, union, Inter-section difference and complementation properties, Venn Diagram, Properties of natural numbers, Real numbers and their representation by decimals. Complex number Argand, Diagram, Certecian Product Relation, mapping, Function as a mapping. Equivelance relation Groups Isomorphism groups, sub-groups normal sub-groups. Lagranages theorem, Frobenius theorem.

The definitions and illustrations of rings and field divisions of zero and Homomprohisms Vector-spaces.

Determinants, addition, substraction, multiplication and inversion of matrix, linear homogeneous and non-homogeneous equations, Calley Hamilton theorem.

Elementary number theory Fundamental theorem of arithmetic, Congruences. Theorm of format and Wilson, Inequalities, Arithmetical and Geometrical means. Inequalities of Cauchy, Sohxw Holder and minkeswsky.


5. **Analytic Geometry of two and three dimensions** :- Straight line, pair of straight lines, circle, system of circle, Elips, Parabola, Hyperbola Reduction of second degree equation to a standard form. Plane straight lines, sphere cone, concides their tangent and normal properties. (Vector methods will be permissible).


**PAPER-II**

**MATHEMATIC-APPLIED**

The subjects included will be (1) Vector Analysis. (2) Statics. (3) Dynamics and (4) Hydrostatics.


