Statement of Syllabus Topics
Extension One Preliminary Course

Basic Arithmetic and Algebra

1.4E Other inequalities

Circle Geometry

2.6E Harder problems extending 2.4 and 2.5.

2.7E Definitions of terms related to circles.

2.8E Simple angle properties of a circle.

2.9E Derivation of further angle, chord and tangent results.

2.10E Applications of 2.2, 2.3, 2.7, 2.8 and 2.9 to numerical and theoretical problems requiring one or more steps of reasoning.

Trigonometric Ratios

5.6E Harder applications of 5.3, 5.4 and 5.5.

5.7E Trigonometric functions of sums and differences of angles.

5.8E Expressions for $\sin\theta$, $\cos\theta$ and $\tan\theta$ in terms of $\tan(\frac{\theta}{2})$.

5.9E Simple trigonometric identities and equations.
The general solution of trigonometric equations.

Linear Functions

6.6E The angle between two lines.

6.7E Internal and external division of an interval in a given ratio.

The Quadratic Polynomial and the Parabola

9.6E Parametric representation.

Applications to problems concerned with tangents, normals and other geometric properties.

Polynomials

16.1E Definitions of polynomial, degree, polynomial equation.
Graph of simple polynomials.

16.2E The remainder and factor theorems.

16.3E The roots and coefficients of a polynomial equation.

Permutations and Combinations

18.1E Systematic enumeration in a finite sample space.

Definitions of $^{n}P_{r}$, $^{n}C_{r}$ (also written $\binom{n}{r}$).