2. GUIDE TO THE SYLLABUS

This syllabus, presented here in the form of a possible teaching scheme, provides an indication on how and to what depth the topics may be treated through its “Time Ratio”, “Notes on Teaching” and suggested examples and exercises.

The suggested time allocation for the course is 4 periods per 5-day week, it being assumed that there are 40 minutes in a period. However, schools may choose an equivalent or a slightly different time allocation to allow for their own situations.

There are ten units in the syllabus and they are presented in the following sequence:

	Units	**Time Ratio**	
1.	Principle of Mathematical Induction		8
2.	Binomial Theorem for Positive Indices		8
3.	Quadratic Equations and Quadratic Functions	8* +	8
4.	Trigonometry	16* +	8
5.	Limits and Differentiation		36
6.	Inequalities	3* +	9
7.	Coordinate-geometry	11* +	38
8.	Vectors in Two-dimensional Space		14
9.	Integration		28
10.	Complex Numbers		17
	Total:	38* +	190

Teachers should note that the sequence presented here is just an example and they are free to choose their own teaching sequences. This sequence, however, intends to be in line with the teaching sequence of Secondary 4-5 Mathematics as suggested in the Syllabus for Mathematics (Forms I-V) (1985).

Units 3, 4, 6 and 7 have been designed as a sequel to the relevant topics contained in the Syllabus for Mathematics. The elementary parts of Units 3, 4, 6 and 7 included in the Mathematics course are also listed as sub-units for completeness. They are marked with asterisks (*) and form pre-requisites for more advanced parts of Units 3, 4, 6 and 7. Teachers teaching Additional Mathematics but not teaching Mathematics to their classes are advised to ensure that these pre-requisite sub-units are taught or ample revision given before starting the more advanced parts of Units 3, 4, 6 and 7. It is this

arrangement of topics in relation to the Syllabus for Mathematics that renders it an advantage for the same teacher to teach a class both Mathematics and Additional Mathematics, although schools may find it sometimes administratively more convenient to have two separate teachers for the two subjects for the same class.

The other six units are completely new to the Mathematics syllabus. Although topics in these units are found in the sixth form mathematics syllabuses, their treatment in this course is restricted to an elementary level (as compared to the A-level Pure Mathematics) as indicated in the “Notes on Teaching”. Teachers should avoid treating the topics in these units at sixth form level.

For each unit specific objectives are given to provide a sharper focus, and under “Detailed Content”, the subject matter of the unit is broken down into sub-units to facilitate teaching/learning and achievement of the specific objectives.

The time ratio given in each unit is the numerator of a fraction whose denominator, 200, is related to the total time spent on teaching the subject during the two years. The total time of “200” excludes the time spent on class tests and school examinations. The remaining time of “10” is expected to be used for revision at the end of the course. It is intended that the time ratio will indicate the fraction of the total time to be spent on the units and sub-units in question.

The teaching methods suggested in the “Notes on Teaching” are not meant to be exhaustive. While providing an example of a way in which each unit/sub-unit may be taught the notes together with the suggested examples and exercises also try to indicate the type and depth of treatment required. In order to achieve the overall objectives and realize the spirit of the syllabus, teachers are advised to teach the syllabus as a connected body of mathematical knowledge as far as possible and encourage students to enquire, reason and communicate mathematically.

Finally, teachers should regard the syllabus, though presented here in the form of a suggested teaching scheme, as a guide rather than a rigid teaching plan that must be followed closely. They are encouraged to explore and discover their own teaching methods and schedules appropriate to the ability level of their students.