SING YIN SECONDARY SCHOOL
Syllabus for F.4 Mathematics (2016-2017)
Extended Part – Module 2

Textbook : New Progress in Senior Mathematics – Module 2 Book 1
W. M. Chu & H. M. Chan HK Educational Publishing Co.

Students are expected to develop the following attitudes:

- to love logical thinking
- to accept careful work as important
- to accept challenging work.

Chapter	Topics	Approx. No. of Period	Objectives
0	Foundation Mathematics	2	• To rationalize the denominators of expressions in the form $\frac{k}{\sqrt{a} \pm \sqrt{b}}$ • To recognize the notations of inverse and composite functions • To recognize the definitions of odd and even functions • To understand the concept of absolute values and the properties of C_r^n
1	Mathematical Induction	6	• To understand the principle of mathematical induction • To prove the propositions relating to summation of series
2	Binomial Theorem	4	• To expand binomials with positive integral indices using the Binomial Theorem • To expand trinomials
3	More about Trigonometric Functions	13	• To understand the concept of radian measure • To find arc lengths and areas of sectors using radian measure • To recognize the functions cosecant, secant and cotangent and their graphs • To understand the identities $1 + \tan^2 \theta = \sec^2 \theta$ and $1 + \cot^2 \theta = \operatorname{cosec}^2 \theta$ • To understand compound angle formulas, double angle formulas, the product-to-sum and sum-to-product formulas
4	Limits and Derivatives	8	• To understand the intuitive concept of the limit of a function • To find the limit of a function • To understand the concept of the derivative of a function
5	Differentiation (1)	9	• To understand the concept of the derivative of a function • To understand the addition rule, power rule, product rule, quotient rule and chain rule of differentiation • To find the derivatives by implicit differentiation

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Signature of Teacher In Charge : _____

Checked by : _____