**A2 Level Core 3**

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|  | **What You Need To Know** | pe03020_[1] | pe03018_[1] | pe03019_[1] |
| 1. Algebra and Functions | * Definition of a function including the notation * Domain and Range of a function * Composition of functions such as      * Inverse Functions and Their Graphs * The Modulus Function * Combinations of transformations of graphs |  |  |  |
| 1. Trigonometry | * Knowledge of functions. * Understanding of the graphs of inverse trig functions and their domains * Knowledge of secant, cosecant and cotangent. Their relationship to cos, sine and tan; and their domain and graphs. * Knowledge and the use of . and . |  |  |  |
| 1. Exponentials and Logarithms | * The function of and it’s graph |  |  |  |
| 1. Differentiation | * Differentiation of , and linear combinations of these functions * Differentiation using the product rule, quotient rule, the chain rule and by the use of |  |  |  |
| 1. Integration | * Integration of and , . * Simple cases of integration by inspection or substitution and integration by parts. * The methods as the reverse process of the product and chain rule. * Evaluation of a volume of revolution |  |  |  |
| 1. Numerical Methods | * Location of roots of by considering the changes of sign of is continuous. * Approximate solutions of equations using simple iterative methods, including recurrence relations of the form * Numerical integration of function using the mid-ordinate rule and Simpson’s Rule. |  |  |  |