

## SRI LANKAN SCHOOL - MUSCAT

SUBJECT : 12 Science - MATHEMATICS						TEACHER : Mr Kingsley Appuhamy	
WEEK& Date	NO OF PERIODS	UNIT	TOPICS/ DETAILS	ILO	DATE OF COMPLETION	REMARKS	
1 31st Aug 1st Sept	4	C1 - 1	Algebra and Functions	<b>To be able to:</b> Simplify expressions and collect like terms Apply the rules of indices Multiply out brackets Factorize expressions including quadratics Manipulate surds			
2 4th - 8th Sept	10	C1 - 2	Quadratic Functions	Solve Quadratic equation using factorization Complete the square of a quadratic function Solve Quadratic equation using formulae			
3	<b>11th - 15th October      Eid Al Hada</b>						
4 18th - 22nd Sept	10	C1-2  C1 - 3.1 C1 - 3.2  C1 - 3.3	Equations and Inequalities	Calculate the discriminant of a quadratic expressions Sketch the graph of Quadratic function Solve simultaneous equations by elimination Solve simultaneous equations by substitution  Solve simultaneous equations involving both linear and quadratic equations			
5 25th -29th Sept	10	C1 - 3.4 C1 - 3.5 C1 - 4.1 C1 - 4.2	Sketching Curves	Solve linear inequalities Solve quadratic inequalities Sketch cubic graphs			
6	8	<b>3rd-6th October      Revision &amp; Monthly Test</b>					
7 9th-13th Octo	10	C1 - 4.3 C1 - 4.4 C1 - 4.5 C1 - 4.6 C1 - 4.7		Sketch graphs with reciprocal function Find where curves intersect  Apply transformations to sketch graphs			
8 16th-20th Octo	10	C1 - 5	Coordinate Geometry	Find the gradient and intercept of a straight line Calculate the gradient of a line by joining a pair of points Find the equation of a line Find the equation of a line passing through a pair of points Determine the point where a pair of straight lines intersect Apply the rule concerning perpendicular gradients			

9 23rd - 27th Octo	10	C1 - 6.1 C1 - 6.3 C1 - 6.4 C1 - 6.5 C1 - 6.6 C1 - 6.7	Sequences and Series  Arithmetic series	Generate a sequence from the n'th term to form a recurrence relationship Apply n'th term formulae to find any term Find the n'th term of an arithmetic series  Find the sum of n terms of an arithmetic series Apply the summation notation together with arithmetic sequence formulae to solve problems		
10 30th Oct 3rd Nov	8	C1 - 7.1 C1 - 7.2 C1 - 7.3 C1 - 7.4 and 7.5	Differentiation	Estimate the gradient of a tangent Find the gradient of a function using the formulae for simple functions  Apply gradient formulae for functions where the powers are real		
11 6th-10th Nov	10	C1 - 7.6	Revision  Monthly test	Find Second order derivatives		
12 13th-17th Nov	10	C1 - 7.7 C1 - 7.8 C1 - 8.1 C1 - 8.2	Integration	Determine the rate of change of a function Find the equation of the tangent and normal to a curve at a specified point Integrate simple functions		
13 20th-24th Nov	10	C1 - 8.3 C1 - 8.4 C1 - 8.5		Integrate functions using the integral symbol Integrate complex functions by simplifying Find the constant of integration by substituting in a given point (x,y)		
14 27th Nov- 1st Dec	10	C2- 1.1 C2 - 1.2 C2 - 1.3 C2 - 1.4	Algebra and Functions	Simplify algebraic fractions by dividing Divide a polynomial Factorize a polynomial using factor theorem Apply the remainder theorem to find the remainder		
15 4th-8th Dec	<b>Revision &amp; first Term Test</b>					
16 11th - 15th Dec	<b>First Term Test &amp; Paper Correction</b>					
17 18th-22nd Dec	<b>Paper Correction &amp; PTI</b>					

<b>18</b> <b>25th-29th</b> <b>Dec</b>	<b>First Term Vacation</b>				
<b>19</b> <b>1st -5th</b> <b>Jan</b>	<b>First Term Vacation</b>				
<b>20</b> <b>8th-12th</b> <b>Jan</b>	10	C2 - 2.1 C2 - 2.2 C2 - 2.3	The sine and cosine rule	Apply sine rule to find a missing side Apply sine rule to find a missing angle	
<b>21</b> <b>15th-19th</b> <b>Jan</b>	10	C2 - 2.4 C2 - 2.5		Apply cosine rule to find a missing side Apply cosine rule to find a missing angle	
<b>22</b> <b>22nd-26th</b> <b>Jan</b>	10	C2 - 2.6  C2 - 2.7		Solve problem using combinations of the above and possible Pythagoras Theorem  Find the area of a triangle using an appropriate formula	
<b>23</b> <b>29th Jan</b> <b>2nd Feb</b>	10	C2 - 3.1 C2 - 3.2 C2 - 3.3 C2 - 3.4	Exponentials and Logarithms	Draw exponential graphs Write an expression in logarithmic form Calculate logarithms to the base 10 using calculators Apply laws of logarithms to solve problems	
<b>24</b> <b>5th-9th</b> <b>Feb</b>	10	C2 - 3.5 C2 - 3.6 C2 - 4.1 C2 - 4.2 C2 - 4.3 C2 - 5.1 C2 - 5.2	Coordinate Geometry  The binomial expansion	Solve equations in the form of Solve problems by changing the base of a logarithm Find the midpoint of a line Find the distance between a pair of points Find equation of a circle Expand expressions using Pascal's triangle Expand expressions using Factorial notation	
<b>25</b> <b>12th-16th</b> <b>Feb</b>	10	C2 - 5.3 C2 - 5.4 C2 - 6.1 C2 - 6.2 C2 - 6.3 C2 - 6.4 C2 - 7.1 C2 - 7.2	Radian measure and its application  Geometric sequences and series	Workout coefficients using binomial expansion Expand using the expansion of Convert between radians and degrees and vice versa Find the length of an arc using the formulae Find the area of a sector using the formulae Calculate the area of a segment Find common ratio of a geometric sequence Calculate the nth term of a geometric sequence	
<b>26</b>	10	C2 - 7.3		Find the sum of a geometric sequence	

19th -23rd Feb		C2 - 7.4 C2 - 7.5 C2 - 8.1, 8.2 and 8.3 C2 - 8.4 C2 - 8.5 C2 - 9.1 C2 - 9.2 C2 - 9.3	Graphs of trigonometric functions  Differentiation	Solve problems involving growth and decay Find the infinity of a sum to infinity of a convergent GP  Calculate the sine, cosine and tangent of any angle  Sketch the graphs of the sine, cosine and tangent functions Sketch simple transformations of these graphs Find Stationary points using differentiation Find minimum, maximum and point of inflexion Solve problems involving differentiation		
27 26th Feb- 2nd March	10	C2 -10.1  C2 - 10.2 C2 - 10.3 C2 - 10.4 C2 - 11.1 C2 - 11.2 and 11.3 C2 - 11.4 C2 - 11.5	Trigonometrical identities and Simple equations  Integration	Apply Trigonometric relationship to solve the problems  Solve simple trigonometrical equations of the form $\sin \theta = k$ Solve trigonometric equations of the form $\sin (n\theta + \alpha) = k$ , $\cos (n\theta + \alpha) = k$ or $\tan (n\theta + \alpha) = k$ Solve quadratic equations in $\sin \theta$ , $\cos \theta$ or $\tan \theta$ Integrate simple functions within defined limits Find area under the graph using integration Find area between a curve and a line Apply trapezium rule to approximate area under the graph		
28 5th-9th March	10  10	M1 -2.1 and 2.2 2.3  M1 -2.4  2.1	Kinematics of a particle moving in a straight line  Dynamics of a particle moving in a Straight line	Solve problems involving motion in a straight line with constant acceleration Solve problems involving particles moving freely under gravity  Solve problems involving distance -time, velocity-time or acceleration - time graphs  Solve problems involving force and acceleration using the formula $F=ma$		
29	10	M1 -3.2		Solve problems by drawing free body force diagrams		

<b>12th - 16th March</b>	3.3	Statistics of a particle	Resolve a force into its components		
	3.4		Solve problems involving friction using coefficient of friction		
	3.5		Solve problems involving planes inclined at an angle		
	3.6		Solve problems involving interconnected particles		
	3.7		Solve problems involving collisions between bodies		
	3.8		Apply impulse - momentum principles to solve problems involving collisions		
	4.1		Find unknown forces acting in a particle which remains at rest in equilibrium		
<b>30</b>	5.1				
	5.2				
	5.3		Calculate moment acting on a body		
	5.4		Find some of moments of a set of forces acting on a body		
	6.1	Moments	solve problems about bodies in equilibrium		
	6.2		solve problems about non uniform bodies		
	6.3				
	6.4	Vectors	Express displacements using vectors add vectors using line segments express vectors using notation		
	6.5		Solve problems with vectors using I and J notation		
	6.7		Solve problems involving velocity and Time using vectors		
	6.8		Solve problems above courses using vectors		
<b>30</b>	<b>19th-23rd March Revision and 2nd Term Test</b>				
<b>31</b>	<b>26th-30th March 2nd Term Test</b>				
<b>32</b>	<b>2nd - 6th April Paper correction and PTI</b>				
<b>33</b>	<b>9th - 13th April Vacation</b>				
<b>34</b>	<b>16th - 18th April Vacation</b>				
<b>35</b>	<b>Seminars</b>				
<b>36</b>	<b>GCE AS Exam</b>				
<b>37</b>	<b>GCE AS Exam</b>				
<b>38</b>	<b>GCE AS Exam</b>				
<b>39</b>	<b>GCE AS Exam</b>				
<b>41</b>	<b>GCE AS Exam</b>				
<b>42</b>	<b>GCE AS Exam</b>				
<b>43</b>	<b>GCE AS Exam</b>				
<b>44</b>	<b>GCE AS Exam</b>				
<b>45</b>	<b>PTI and Summer Vacation</b>				

**Prepared by :Kingsley Appuhamy**

**Approved by : Mrs. Geethanjali Rajakaruna HOD Mathematics**