

# MATHEMATICS

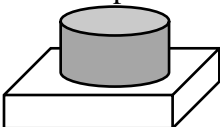
## Scheme of Work

### Form 2 Term 3

DATE	LESSON NUMBER	TEACHING POINTS	RESOURCES & METHODOLOGY
WEEK 1  MON 16/APR/18 TO FRI 20/APR/18	1	<b>REVIEW OF TERM II TEST PAPER</b>	<b>Term II test Paper &amp; Students' Scripts Questioning Peer Teaching</b>
	2	<b>REVIEW OF TERM II TEST PAPER</b>	
	3	<b>REVIEW OF TERM II TEST PAPER</b>	
	4	<b>REVIEW OF TERM II TEST PAPER</b>	
	5	<b>Line Symmetry</b> <ul style="list-style-type: none"> <li>• Definition of line symmetry.</li> <li>• Examples and non-examples of plane shapes that may have line symmetry. Square, Rectangle, Rhombus, Parallelogram and other n-sided regular polygons where <math>n \leq 8</math>.</li> </ul>	
WEEK 2  MON 23/APR/18 TO FRI 27/APR/18	6	<b>Transformations-Reflections</b> <ul style="list-style-type: none"> <li>• Lateral Inversion</li> <li>• Mirror line</li> <li>• Object distance = Image distance</li> <li>• Examples &amp; Non-examples of Reflections on the Cartesian Plane</li> </ul>	<b>Computer Graphics  Microsoft Word &amp; AutoCAD Images.</b>
	7	<b>Transformations-Reflections</b> <ul style="list-style-type: none"> <li>• Invariant points.</li> <li>• Constructing the mirror line when both image and object are given. Perpendicular bisector of <math>AA'</math>, OR Joining midpoints of <math>AA'</math> and <math>BB'</math>.</li> <li>• Properties of a reflection.</li> </ul>	
	8	<b>CIRCLES</b> <ul style="list-style-type: none"> <li>• Construction a circle.</li> <li>• Properties of a circle: -centre, radius, diameter, circumference, chord and arc. -Major &amp; minor sector</li> </ul>	

		<ul style="list-style-type: none"> <li>• <math>\pi \approx \frac{22}{7}</math>.</li> <li>• Length of Circumference <math>C = 2\pi r = d\pi</math></li> <li>• Length of arcs with angles of 30°, 45°, 60°, 90°, 120° and 150°. Arc length = <math>\frac{\text{angle}}{360^\circ} \times 2\pi r</math> Arc length = <math>\frac{\text{angle}}{360^\circ} \times d\pi</math></li> </ul> Perimeter of sectors & composite shapes.	
	<b>9</b>	<p style="text-align: center;"><b>CIRCLES</b></p> <ul style="list-style-type: none"> <li>• Area of a circle; <math>A = \pi r^2</math></li> <li>• Area of sector <math>Area = \frac{\text{angle}}{360^\circ} \times \pi r^2</math> <math>Area = \frac{\text{angle}}{360^\circ} \times \frac{\pi d^2}{4}</math> (with angles of 30°, 45°, 60°, 90°, 120° and 150°)</li> <li>• Area of composite shapes.</li> </ul>	
	<b>10</b>	<p style="text-align: center;"><b>CIRCLES</b></p> <p style="text-align: center;"><b>Worksheet/Exercises from text</b></p>	
<b>WEEK 3</b>  <b>MON</b> <b>30th/APR/18</b> <b>TO</b> <b>FRI</b> <b>4th/MAY/18</b>	<b>11</b>	<b>Transformations-Rotation</b> <ul style="list-style-type: none"> <li>• Plane shapes with rotational symmetry.</li> <li>• Order of rotational symmetry.</li> </ul>	<b>Computer Graphics</b>  <b>Microsoft Word &amp; AutoCAD Images.</b>  <b>Text book Exercises</b>  <b>Worksheets</b>
	<b>12</b>	<b>Transformations Rotation</b> <ul style="list-style-type: none"> <li>• Rotation of simple plane shapes (triangles) about any point on the Cartesian plane.</li> <li>• Properties of Object and Image</li> </ul>	
	<b>13</b>	<b>Transformations- Rotation</b> <ul style="list-style-type: none"> <li>• Location of centre of rotation by construction.</li> <li>• Determining the angle and direction of rotation by construction.</li> </ul>	
	<b>14</b>	<b>Transformations- Rotation</b> <ul style="list-style-type: none"> <li>• Practice questions -Draw image, given object. -Draw object given image. -Finding centre, angle &amp; direction of rotation, given Object &amp; Image.</li> </ul>	

		<ul style="list-style-type: none"> <li>Eg. <math>\Delta ABC</math> is mapped onto <math>\Delta A' B' C'</math> by a clockwise rotation, through an angle of <math>90^\circ</math>, about the point <math>(2, -1)</math>.</li> </ul>	
	15	<b>Transformations</b> <ul style="list-style-type: none"> <li>Determining the type of transformation and description when object and image are given. Type may be either Translation, Reflection, Enlargement or Rotation.</li> </ul>	
WEEK 4 MON 7th/MAY/18 TO FRI 11th/MAY/18	16	<b>1<sup>st</sup> COURSEWORK EXAMINATION (15 %)</b> <b>Circles, Symmetry &amp; Transformations</b>	Written Tests and/or Projects
	17	<b>TRAVEL GRAPHS</b> <ul style="list-style-type: none"> <li>Distance/Time graphs</li> <li>Scales/Unit fractions &amp; divisions</li> <li>Captions &amp; Labels Units – <math>kmh^{-1}</math> &amp; <math>ms^{-1}</math></li> </ul>	
	18	<b>TRAVEL GRAPHS</b> <ul style="list-style-type: none"> <li>Drawing a Distance/Time graph</li> <li>Graphing a journey for given data.</li> </ul>	Text book Exercises  Worksheets
	19	<b>TRAVEL GRAPHS</b> <ul style="list-style-type: none"> <li>Obtaining information from Distance/Time graphs;</li> <li>Distance covered for part or whole journey.</li> <li>Time taken to cover part or whole journey.</li> <li>Speed – calculation and conversion from <math>kmh^{-1}</math> to <math>ms^{-1}</math>.</li> </ul>	
	20	<b>TRAVEL GRAPHS</b> <ul style="list-style-type: none"> <li>Calculation of <b>Speed, Distance &amp; Time</b> using, <math display="block">Speed = \frac{Distance}{Time}</math></li> <li>Calculation of <b>Average Speed</b> using, <math display="block">Average\ Speed = \frac{Total\ Distance}{Total\ Time}</math></li> </ul> Journeys with different constant speeds.	
WEEK 5 MON 14 <sup>th</sup> /MAY/18 TO FRI	21	<b>TRAVEL GRAPHS</b> <ul style="list-style-type: none"> <li>Graphs of two or more different journeys on the same pair of axes.</li> <li>Distance between two vehicles at a given time.</li> </ul>	Real-life examples

18 <sup>th</sup> /MAY/18		<ul style="list-style-type: none"> <li>Time at which a vehicle is at a given position (distance).</li> </ul>	<b>Paper models &amp; Manipulates.</b>
	22	<b>Worksheet/Exercises from text</b>	
	23	<p><b>VOLUME</b></p> <ul style="list-style-type: none"> <li>Cubes, Cuboids; <math>V = s^3</math>, <math>V = l \times b \times h</math></li> </ul> Solids (Prisms) with a uniform (regular or irregular) cross-section;	
	24	<p><b>VOLUME</b></p> <ul style="list-style-type: none"> <li>Volume of compound solids. eg:</li> </ul> 	
	25	<p><b>VOLUME</b></p> Review Questions.(Text & Worksheet)	
<b>WEEK 6</b> <b>MON</b> <b>21<sup>st</sup> /MAY/18</b> <b>TO</b> <b>FRI</b> <b>25<sup>th</sup> MAY/18</b>	26	<p><b>SET THEORY</b></p> <ul style="list-style-type: none"> <li>Definition of a set.</li> <li>Set Notation; <math>\{ \quad \}, \{ \}, \phi, \in, \notin</math></li> <li>Universal Set, <math>\cup</math>.</li> <li>Finite sets, Infinite sets</li> <li>Equal sets, Equivalent sets.</li> <li>Empty set, Disjoint sets.</li> </ul> Complement of a set $A$ denoted by $A'$ .	<b>Real-life Examples.</b>
	27	<p><b>SET THEORY</b></p> <ul style="list-style-type: none"> <li>Venn Diagrams with two sets.</li> <li>Union of two sets. <math>A \cup B</math></li> <li>Intersection of two sets. <math>A \cap B</math></li> <li>Formulae; <math>n(A \cup B) = n(A) + n(B) - n(A \cap B)</math> <math>n(\cup) = n(A \cup B) + n(A \cap B)</math></li> </ul>	
	28	<p><b>SET THEORY</b></p> <ul style="list-style-type: none"> <li>Proper &amp; Improper Subsets. <math>\subset \supset \subseteq \supseteq</math></li> <li>Total number of subsets in a set <math>A</math>. If <math>n(A) = x</math>, then number of subsets in set <math>A = 2^x</math>.</li> </ul>	
	29	<p><b>SET THEORY</b></p> Review Questions.	
	30	<p><b>COORDINATE GEOMETRY</b></p> <ul style="list-style-type: none"> <li>The equation of a straight line.</li> </ul>	

		<ul style="list-style-type: none"> <li>Plotting the graph of a straight line.</li> <li>The gradient of a straight line.</li> </ul>	
<b>WEEK 7</b> <b>MON</b> <b>28<sup>th</sup>/MAY/18</b> <b>TO</b> <b>FRI</b> <b>1<sup>st</sup> JUNE/18</b>	<b>31</b>	<b>COORDINATE GEOMETRY</b> <ul style="list-style-type: none"> <li>Parallel lines; equal gradient.</li> <li>Equation of lines parallel to the axes.</li> <li>Parallel lines on the Cartesian Plane.</li> </ul>	
	<b>32</b>	<b>COORDINATE GEOMETRY</b> <ul style="list-style-type: none"> <li>Simultaneous Equations</li> <li>Solution of Simultaneous Equations by a graphical method.</li> </ul>	
	<b>33</b>	<b>HOLIDAY – INDIAN ARRIVAL DAY</b>	
	<b>34</b>	<b>HOLIDAY – CORPUS CHRISTI</b>	
	<b>35</b>	<b>COORDINATE GEOMETRY</b> <ul style="list-style-type: none"> <li>Review Questions (text an worksheet)</li> </ul>	
<b>WEEK 8</b> <b>MON</b> <b>4<sup>th</sup>/JUNE/18</b> <b>TO</b> <b>FRI</b> <b>8<sup>th</sup> JUNE/18</b>	<b>36</b>	<b>2<sup>nd</sup> COURSEWORK EXAMINATION</b> <b>(15 %)</b> <b>Travel Graphs, Volume &amp; Set Theory</b>	<b>Written Tests &amp; Projects.</b>  <b>Real – life Examples.</b>  <b>Outdoor Measurements.</b>
	<b>37</b>	<b>TRIGONOMETRY</b> <ul style="list-style-type: none"> <li>Investigating relationships between angles and ratios of sides of right-angled triangles.</li> <li>Tangent of an angle</li> <li>Using the tangent tables.</li> </ul>	
	<b>38</b>	<b>TRIGONOMETRY</b> <ul style="list-style-type: none"> <li>Using the tangent ratio to solve problems.</li> </ul>	
	<b>39</b>	<b>TRIGONOMETRY</b> <ul style="list-style-type: none"> <li>The Sine ratio.</li> <li>The Sine tables.</li> <li>Using the Sine ratio to solve problems</li> </ul>	
	<b>40</b>	<b>TRIGONOMETRY</b> <ul style="list-style-type: none"> <li>The Cosine ratio.</li> <li>The Cosine tables.</li> <li>Using the Cosine ratio to solve problems.</li> <li>Review Questions</li> </ul>	
<b>WEEK 9</b> <b>MON</b> <b>11<sup>th</sup>/JUNE/18</b> <b>TO</b> <b>FRI</b>	<b>41</b>	<b>INEQUALITIES</b> <ul style="list-style-type: none"> <li>Symbols <math>&lt;</math>, <math>\leq</math>, <math>&gt;</math>, <math>\geq</math></li> <li>Illustration of inequality on the number line.</li> </ul>	

15 <sup>th</sup> JUNE/18		Eg. $x < 4$ , $x \leq -3$ , $x > -2$ , $x \geq 5$ <ul style="list-style-type: none"> <li>Solving inequalities.  <math>2x + 5 &lt; 11</math>, <math>4 - 3x \geq 10</math></li> </ul>	
	42	<b>INEQUALITIES</b> <ul style="list-style-type: none"> <li>Solving pairs of inequalities.  <math>2x - 1 &lt; 3</math> and <math>2x + 1 \geq -5</math></li> <li>Solving combined inequalities.  <math>x - 2 &lt; 2x + 1 &lt; 3</math></li> </ul>	
	43	<ul style="list-style-type: none"> <li>Review questions (text &amp; Worksheet)</li> </ul>	
	44	END OF TERM EXAMINATIONS	
	45	END OF TERM EXAMINATIONS	
WEEK 10 MON 18 <sup>th</sup> JUNE/18 TO FRI 22 <sup>nd</sup> JUN/18	46	END OF TERM EXAMINATIONS	<b>Written Tests</b>
	47	<ul style="list-style-type: none"> <li><b>HOLIDAY - LABOUR DAY</b></li> </ul>	
	48	END OF TERM EXAMINATIONS	
	49	END OF TERM EXAMINATIONS	
	50	END OF TERM EXAMINATIONS	
WEEK 11 MON 25 <sup>th</sup> JUNE/18 TO FRI 29 <sup>th</sup> JUNE/18	51	END OF TERM EXAMINATIONS	<b>Written Tests</b>
	52	END OF TERM EXAMINATIONS	
	53	END OF TERM EXAMINATIONS	
	54	END OF TERM EXAMINATIONS	
	55	END OF TERM EXAMINATIONS	
WEEK 12 MON 2 <sup>nd</sup> JULY/18 TO FRI 6 <sup>th</sup> JULY/18	56	PREPARATION OF REPORTS	
	57	PREPARATION OF REPORTS	
	58	PREPARATION OF REPORTS	
	59	DISTRIBUTION OF REPORTS	
	60	END OF SCHOOL TERM	