

## YEAR 12 A/ B –PHYSICS

**WEEK 8 (18<sup>th</sup> October to 22<sup>th</sup> October) 3 lessons for both batches**

**Work sent to the students through:** Google classroom / Zoom Learning Platform

**Topic:** Electrical quantities

**Resources:** Student text book, worksheet file, interactive power point from Board works and Online animations

Date & class	Lesson	Lesson objectives & Learning outcomes	Mode of teaching	
18 <sup>th</sup> Oct Sunday- 12 A	8	<p><b>Learning objectives:</b> Differentiate between ac and dc.</p> <p>Define potential difference and; Use the expression <math>V = W/Q</math></p>	<b>Zoom</b>	<p>Teacher uses Google forms.</p> <p>Test will be assigned in GC to turn in the written work.</p>
20 <sup>th</sup> Oct Tuesday – 12 B	6	<p><b>Learning Outcomes :</b> Explain what is meant by conventional current and electron flow. Define e.m.f. in terms of the energy transferred by a source in driving unit charge round a complete circuit</p> <p>Use the expression <math>V = W/Q</math> to solve <b>a few</b> numerical problems</p> <p>Differentiate between emf and potential difference Define volt</p> <p>Recognize that voltmeters are connected in parallel to measure voltage across a conductor &amp; compare with use of ammeters</p>		
19 <sup>th</sup> Oct Monday – 12 A	1	<p><b>Learning objectives:</b> Derive an expression for the current flowing in terms of drift velocity and carrier density.</p> <p><b>Learning Outcomes :</b> Identify the factors on which current depends.</p>	<b>Zoom</b>	<p>Teacher uses interactive power point presentation and breakout sessions for students to</p>

<p><b>22<sup>th</sup> Oct</b> Thursday <b>-12 B</b></p>	<p>3</p>	<p>Demonstrate an understanding for the slow speed of ion movement during current flow.</p> <p>State what is meant by the term <i>mean drift velocity</i> of charge carriers.</p> <p><b>Identifies the relationship between drift velocity and current.</b></p> <p>Use the expression <math>I = Anev</math> and <math>I = \Delta Q / \Delta t</math> to solve problems</p>		<p>collaborate and attain the objectives.</p> <p>HW from worksheet file.</p>
<p><b>19<sup>th</sup> Oct</b> Monday <b>- 12 A</b></p> <p><b>22<sup>th</sup> Oct</b> Thursday <b>- 12 B</b></p>	<p>2</p> <p>4</p>	<p><b>Learning objectives:</b> Recap resistance and discuss ohmic conductors</p> <p><b>Learning Outcomes :</b> Use Ohm's law <math>V = I R</math></p> <p>Realise that the resistance of a component is a measure of its opposition to the flow of charge through it.</p> <p>Define the <i>ohm</i></p> <p>Realise that resistance remains constant only if temperature is constant.</p>	<p><b>Zoom</b></p>	<p>Teacher uses interactive power point presentation and breakout sessions for students to collaborate and attain the objectives.</p>

## YEAR 12 A/ B – PHYSICS

**WEEK 8 (18<sup>th</sup> Oct to 22<sup>nd</sup> Oct) - 3 lessons for both batches**

**Work sent to the students through:** Whatsapp group / Google classroom / Zoom Learning Platform

**Topic: 2.13/ 2.17 Adding forces and Resolving vectors**

**Resources:** Student text book, worksheet file, interactive power point from Board works and Online animations

Date & Class	Lesson	Lesson objectives & Learning outcomes	Mode of teaching	
18 <sup>th</sup> Oct Sunday - 12 B  20 <sup>th</sup> Oct Tuesday -12 A	6  4	<p><b>L.O</b> – Combine two or more vectors by drawing, and two perpendicular vectors by calculation.</p> <p><b>Learning outcomes-</b></p> <ul style="list-style-type: none"> <li>• Recall Pythagoras theorem.</li> <li>• Add two vectors by constructing an appropriate scale drawing.</li> <li>• Calculate the resultant of two perpendicular vectors such as displacement, velocity and force.</li> <li>• <b>Draw and use a vector triangle or parallelogram law to determine the resultant of two coplanar vectors such as displacement, velocity and force</b></li> </ul>	<b>Zoom</b>	Worksheet posted in GC.  Students should be able to add two vectors by constructing an appropriate scale drawing and calculate the resultant of two vectors.
18 <sup>th</sup> Oct Sunday - 12 B  22 <sup>nd</sup> Oct Thursday - 12 A	7  1	<p><b>L.O</b> – Explain that any vector can be split into two component at right angles to each other. Resolve a vector into two components at right angles to each other by drawing and by calculation</p> <p><b>Learning outcomes-</b></p> <ul style="list-style-type: none"> <li>• Resolve a vector such as displacement, velocity and force into two perpendicular components.</li> <li>• Use of scale drawing <b>or resolved forces</b> to solve problems.</li> <li>• Identify the need to consider components of vectors like velocity, force etc.</li> <li>• Use vector components to determine the resultant of two vectors at an angle.</li> </ul>	<b>Zoom</b>	Teacher present the idea of resolving a single vector into two components, as the opposite process to finding the resultant of two or more vectors. Ensure that the trigonometry of the process is well Revised.

		<ul style="list-style-type: none"> <li>• <b>Predict the variation in the magnitude of each component as the angle increases from zero to <math>90^{\circ}</math>.</b></li> </ul>		
<p><b>21<sup>st</sup> Oct</b> Wednesday - <b>12 B</b></p> <p><b>22<sup>nd</sup> Oct</b> Thursday - <b>12 A</b></p>	<p>3</p> <p>2</p>	<p><b>L.O :</b> Solve problems to calculate the perpendicular component of a number of vectors. Include displacements, velocities and forces.</p> <p><b>Learning outcomes-</b></p> <ul style="list-style-type: none"> <li>• Recall Pythagoras theorem.</li> <li>• Understand the triangle law and parallelogram law for combining vectors.</li> <li>• Practise calculations combining vectors using vector triangles.</li> <li>• Understand there are cases where both of two perpendicular components of a vector quantity serve a particular purpose and need to be considered separately. An example is the Earth's magnetic field.</li> </ul>	<b>GC</b>	<p>Worksheets prepared in two levels to practise using resolving of vectors and calculate the resultant vector.</p> <p>Teacher will post the worksheet in the GC.</p>