

## YEAR 12 G /D – CHEMISTRY

**WEEK 9 (25<sup>th</sup> October to 28<sup>th</sup> October)**

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

**Topic:**– Enthalpy of combustion and enthalpy of neutralization

**Resources:** Text book, Worksheet file, video, power point presentations.

Date	Topic	Mode of Teaching	
26.10.2020 Monday 3 <b>12D</b>  27.10.2020 Tuesday 1 <b>12G</b>	<p><b>Lesson Objective:</b></p> <p>understand experiments to measure enthalpy change of combustion in terms of:</p> <p>i) processing results using the expression:</p> <p>energy transferred = mass x specific heat capacity × temperature change (<math>Q=mc\Delta T</math>)</p> <p>ii) evaluating sources of error and assumptions made in the experiments</p> <p><b>Learning Outcome:</b></p> <ul style="list-style-type: none"> <li>• Defines specific heat capacity.</li> <li>• Calculates enthalpy changes from experimental data including the use of <math>E = mc\Delta T</math>;</li> <li>• Predict few possible errors that leads to a difference in the experimental and theoretical value.</li> <li>• Interpret that for some reactions the change in enthalpy cannot be measured directly.</li> <li>•</li> </ul>	Zoom	Teacher uses PowerPoint presentation to explain the experiment to calculate the enthalpy change of combustion.
27.10.2020 Tuesday 2 <b>12G</b>  7 <b>12D</b>	<p><b>Learning Objective:</b></p> <p>1. Understand experiments to measure enthalpy change of neutralization.</p> <p>2. Be able to calculate enthalpy change of neutralization in <math>\text{kJmol}^{-1}</math> from given experimental results.</p> <p><b>Learning Outcome:</b></p> <ul style="list-style-type: none"> <li>• Define enthalpy change of neutralization with balanced chemical equation</li> <li>• records the observations and calculates the enthalpy change of neutralization in <math>\text{kJmol}^{-1}</math></li> </ul>	Zoom	Teacher uses PowerPoint presentation to explain the experiment to calculate the enthalpy change of neutralization.

28.10.2020 Wednesday 2 12G	<p><b>Learning Objective:</b></p> <p>Reinforcement of concepts such as exothermic and endothermic reactions, energy profile diagrams, standard enthalpy changes of reaction, combustion and neutralization.</p> <p><b>Learning outcome:</b></p> <p>Students will be able to reinforce the concepts learned in the previous lesson by answering the questions in the worksheet.</p>	GC	Instruction will be given in the Google classroom to complete the Worksheet.
----------------------------------	--	----	--

**HOMEWORK:** Complete the textbook questions on page 238

## YEAR 12 D/G– CHEMISTRY

**WEEK 9 (25<sup>th</sup> Oct to 28<sup>th</sup> Oct)**

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

**Topic 2 – Redox reactions : oxidation and reduction in terms of loss /gain of electrons .**

**Resources:** Text book, Worksheet, Video , Board works , power point

Date	Topic	
27.10.20 Tuesday 8 12D	<p><b>Learning Objective:</b></p> <ul style="list-style-type: none"> <li>- oxidizing agents gain electrons</li> <li>- reducing agents lose electrons</li> <li>- indicate the oxidation number of an element in a compound or ion, using a Roman numeral</li> </ul>	Teacher uses power point to show rules to calculate oxidation number.
26.10.20 Monday 6 12G	<p>-Write the formulae of the compound by writing the oxidation number.</p> <p><b>Learning Outcome: students will be able to:</b></p> <ul style="list-style-type: none"> <li>-recall that oxidizing agents gain electrons</li> <li>-Site some examples of oxidizing agents</li> <li>- explain how reduction occurs using the changes in the oxidation number.</li> <li>- explain how oxidation occurs using the changes in the oxidation number.</li> <li>- indicate the oxidation number of an element in a compound or ion, using a Roman numeral</li> </ul> <p>Use the idea of oxidation numbers for Eg– iron (III) chloride</p>	Instructions will be given to complete chapter questions.
<b>Mode of Teaching –</b> Zoom		

	<p>etc.</p> <p><b>-Predict</b> the oxidation number of an element in a compound.</p> <p>-Write the formulae of the compound by writing the oxidation number as and when required.</p> <p>-Understand that metals, in general, form positive ions by loss of electrons with an increase in oxidation number</p> <p>-Understand that non-metals, in general, form negative ions by gain of electrons with a decrease in oxidation number</p>	
<p>26.10.20 Monday 7- 12G</p> <p>28.10.20 Wednesday 7- 12D</p> <p><b>Mode of Teaching –</b> ZOOM</p>	<p><b>Learning Objective:</b></p> <ul style="list-style-type: none"> <li>- writing balanced ionic half equations.</li> <li>- recall all steps in balancing ionic half equation.</li> <li>-identification of oxidant and reductant.</li> </ul> <p><b>Learning Outcome: students will be able to:</b></p> <ul style="list-style-type: none"> <li>-recall that oxidizing agents gain electrons</li> <li>-Site some examples of oxidizing agents</li> <li>- explain how reduction occurs using the changes in the oxidation number.</li> <li>-recall reducing agents lose electrons</li> <li>- Be able to write ionic half-equations and use them to construct full ionic equations.</li> </ul>	<p>Teacher uses power point presentation and videos to explain the concept of oxidation and reduction.</p> <p>Teacher uses worksheet that contains interactive questions, to explain redox concept based on OIL RIG</p>
<p>28.10.20 Wednesday 8- 12D 1-12G</p> <p><b>Mode of Teaching –</b> Zoom</p>	<p><b>Learning Objective:</b></p> <p>Know that oxidation number is a useful concept in terms of the classification of reactions as redox and as disproportionation</p> <p>Be able to write ionic half-equations and use them to construct full ionic equations.</p> <p><b>Predict</b> redox reactions in terms of oxidation numbers.</p> <p><b>Learning Outcome:</b></p> <p>Combine ionic equations to give balanced redox equations for the reactions of <math>\text{KMnO}_4</math>, <math>\text{K}_2\text{Cr}_2\text{O}_7</math> in acidified medium.</p>	<p>Worksheet assigned through GC.</p> <p>Instruction will be given in the GC to complete the worksheet.</p>

	Justify the given equation as an example of redox reaction. Solve <b>some</b> examples to construct half ionic equations with state symbols.eg-iron (II) sulphate with iodine	
--	--	--

**HOMEWORK:** Solve exam style questions from text book.