YEAR 12 G /D – CHEMISTRY

WEEK 6 (4th October to 8th October)

Work Sent to the students through Zoom Learning Platform / Google classroom
Topic:– Ionisation energies
Resources: Text book, Worksheet file, video, power point presentations.

Date	Topic	
05.10.2020 Monday 3 **12D** 06.10.2020 Tuesday 1 **12G** **Mode of Teaching:** Zoom	**Lesson Objective:** Be able to define the terms 'first ionisation energy' and 'successive ionization energies' Understand how ionisation energies are influenced by the number of protons, the electron shielding and the electron sub-shell from which the electron is removed **Learning Outcome:** Define 1st and 2nd ionization Energies. Write **few** equations with state symbols. Apply the factors affecting ionization energy to predict the trends across a period and down a group 965	Teacher uses PowerPoint presentation that contains interactive questions to explain the term 'ionisation energy' and the factors influencing the ionization energies.
06.10.2020 Tuesday 2 **12G** 7 **12D** **Mode of Teaching:** Zoom	**Lesson Objective:** Understand reasons for the general increase in first ionisation energy across a period Understand reasons for the decrease in first ionisation energy down a group **Learning Outcome:** Predict how nuclear charge, atomic size affects the increase in the ionization energy. Predict how electron shielding, atomic size affects the decrease in the ionization energy down a group.	Teacher uses PowerPoint presentation that contains interactive questions to explain the trends in the first ionization energies across a period and down a group.
07.10.2020 Wednesday 2 **12G** 08.10.2020 Thursday **7 12D** **Mode of Teaching:** Zoom	**Lesson Objective:** understand how ideas about electronic configuration developed from: i the fact that atomic emission spectra provide evidence for the existence of quantum shells ii the fact that successive ionisation energies provide evidence for the existence of quantum shells and the group to which the element belongs. iii the fact that the first ionisation energy of successive elements provides evidence for electron sub-shells. **Learning Outcome:** Predict factors affecting ionization energy – deduce trend in IE down group – distance from nucleus and shielding effect of shells. Predict IE across period – deduce trend.	Teacher uses PowerPoint presentation that contains interactive questions to explain the evidence provided by atomic emission spectra and ionisation energies for the existence of quantum shells and sub-shells.

	Draw a graph showing trend of IE across period – discuss Gp2 and 5 as exceptions.	

HOMEWORK: Complete the textbook questions Q1 – Q5, on page 23

YEAR 12 D/G– CHEMISTRY

WEEK 6 (4th October to 8th October)

Work Sent to the students through Zoom Learning Platform / Google classroom
Topic 2 – Inter molecular force of attraction .
Resources: Text book, Worksheet, Video , Board works , power point

Date	Topic	
06.10.20 Tuesday 8 **12D** 05.10.20 Monday 6 **12G** **Mode of Teaching –** Zoom	**Learning Objective:** understand that molecules with polar bonds may not be polar molecules and be Predict whether or not a given molecule is likely to be polar **Learning Outcome:** Recognize that polar bonds may or may not give rise to a molecule with permanent dipole, eg CO_2, H_2O.	Teacher uses power point and interactive animation to demonstrate the polarity in molecules. https://www.youtube.com/watch?v=9YwdeEDrfPI Instructions will be given to complete chapter questions.
05.10.20 Monday 7- **12G** 07.10.20 Wednesday 7- **12D** **Mode of Teaching –** ZOOM	**Learning Objective:** - Understand the nature of intermolecular forces resulting from the following interactions: i) London forces (instantaneous dipole – induced dipole) ii) permanent dipoles iii) hydrogen bonds **Learning Outcome:** Compare the difference between inter and intramolecular forces. Reviews that covalent bonds are between atoms in molecules, but how do molecules stay together. Introduce Van der Waal's forces,due to movement of electrons, partially positive and negative parts in attract molecules. Identify the nature of dispersion forces due to the oscillation of electrons causing temporary dipole	Teacher uses power point presentation and videos to explain the three types of forces. Teacher uses worksheet that contains interactive questions, to explain the shapes.

	in the molecule. **Relates** that dispersion forces increase with increasing molecular mass. Compare the solubility of non hydrogen bonding substances	
07.10.20 Wednesday **8- 12D** **1-12G** **Mode of Teaching –** Zoom	**Learning Objective:** Understand the interactions in molecules, such as H_2O, liquid NH_3 and liquid HF, which give rise to hydrogen bonding Understand the following anomalous properties of water resulting from hydrogen bonding: i) its relatively high melting temperature and boiling temperature. ii) the density of ice compared to that of water. **Learning Outcome:** Draw the hydrogen bonding between water molecules. Predict why ammonia is soluble in water by drawing the hydrogen bonding between ammonia and water molecules. Predict the anomalous properties of molecules because of hydrogen bonding. Draw the structure of ice and compares its structure with water. Reason out why the density of ice is less than density of water.	Teacher uses textbook and worksheet questions to explain the concept of intermolecular forces.

HOMEWORK: Solve the given work sheet.