YEAR 9 (A- F) – CHEMISTRY

WEEK 28 (7th March to 11th March)

Work Sent to the students through Group email/ Google classroom
Topic:– SC7a– Molecular Compounds

Resources: Text book, Worksheet, Boardworks, GCSE science free lesson video, powerpoint.

Date	Lesson	Topic	Mode of Teaching	
7th March Sunday **(girls)**	6	**Learning Objective :** Explain the properties of typical covalent, simple molecular compounds limited to: (a) low melting points and boiling points, in terms of forces between molecules (intermolecular forces) (b) poor conduction of electricity. **Success Criteria:** • Describe the general properties of covalent, simple molecular compounds • Explain why covalent, simple molecular compounds have low melting and boiling points. • Explain why covalent, simple molecular compounds are poor conductors of electricity.	**Zoom**	PPT / Video on Molecular compounds
8th March Monday **(boys)**	7			
8th March Monday **(girls)**	5	**Learning Objective :** **ASSESSMENT ON IONIC BONDS** **Success Criteria:** • Able to do questions related to ionic compounds and properties of ionic compounds.	**GC**	Question paper
8th March Monday **(boys)**	8			
8th March Monday **(girls)**	6	**Learning Objective :** Describe, using poly(ethene) as the example, that simple polymers consist of large molecules containing chains of carbon atoms. **Success Criteria:** • Describe the structure of a polymer. • Explain why polymers have a higher melting and boiling points than their monomers	**Zoom**	Worksheet SC7a
10th March Wednesday – **(boys)**	1			

YEAR 10 A/D/E–CHEMISTRY (girls)

WEEK 28 (7th March to 11th March)

Work Sent to the students through Google classroom
Topic: Ores
Resources: Text book, Worksheet, power point.

Date	Lesson	Topic	Mode of Teaching	
7/3/2021 Sunday	3	**Learning Objective:** 1.Recall that: a most metals are extracted from ores found in the Earth's crust b unreactive metals are found in the Earth's crust as the uncombined elements. 2. Recall that the extraction of metals involves reduction of ores. **Learning Outcome:** •Recall the meaning of the term 'ore'. • Recall some metals that are found uncombined in the Earth's crust.	**Zoom**	Teacher uses powerpoint presentation to explain the extraction of metals.
10/3/2021 Wednesday	3	**Learning Objective:** Explain why the method used to extract a metal from its ore is related to its position in the reactivity series and the cost of the extraction process, illustrated by: a heating with carbon (including iron) b electrolysis (including aluminium) **Learning Outcome:** • Explain how and why some metals are extracted from their ores by heating with carbon. • Explain how and why some metals are extracted by their ores by electrolysis.	**Zoom**	Teacher uses powerpoint presentat to explain the extraction of iron and aluminium
11/3/2021 Thursday	2 3	**Learning Objective:** Evaluate alternative biological methods of metal extraction (bacterial and phytoextraction). **Learning Outcome:** • Describe two biological methods of metal extraction. • Explain biological methods of metal extraction **Learning Objective:** To answer the questions, on ores, in the worksheet. **Learning outcome:** Students will be able to reinforce the concepts learned in the previous lesson by answering the questions in the worksheet.	**Zoom** **GC**	Teacher uses powerpoint presentation to explain biological methods of metal extraction Instruction will be given in the Google classroom to complete the Worksheet.

Home work: Solve S1and E1 question :SC11a(Pg89)

YEAR 10 B/C/F–CHEMISTRY (Boys)

WEEK 28 (7th March to 11th March)

Work Sent to the students through Google classroom

Topic: Ores

Resources: Text book, Worksheet, power point.

Date	Lesson	Topic	Mode of Teaching	
7/3/2021 Sunday	0	**Learning Objective:** 1.Recall that: a most metals are extracted from ores found in the Earth's crust b unreactive metals are found in the Earth's crust as the uncombined elements. 2. Recall that the extraction of metals involves reduction of ores. **Learning Outcome:** •Recall the meaning of the term 'ore'. • Recall some metals that are found uncombined in the Earth's crust.	**Google Meet**	Teacher uses powerpoint presentation to explain the extraction of metals.
8/3/2021 Monday	1&2	**Learning Objective:** 1.Explain why the method used to extract a metal from its ore is related to its position in the reactivity series and the cost of the extraction process, illustrated by: a heating with carbon (including iron) b electrolysis (including aluminium) 2. Evaluate alternative biological methods of metal extraction (bacterial and phytoextraction). **Learning Outcome:** • Explain how and why some metals are extracted from their ores by heating with carbon. •Explain how and why some metals are extracted by their ores by electrolysis. • Describe two biological methods of metal extraction. • Explain biological methods of metal extraction	**Google Meet**	Teacher uses powerpoint presentation to explain biological methods of metal extraction
10/3/2021 Wednesday	4	**Learning Objective:** To answer the questions, on ores, in the worksheet. **Learning outcome:** Students will be able to reinforce the concepts learned in the previous lesson by answering the questions in the worksheet.	**GC**	Instruction will be given in the Google classroom to complete the Worksheet.

Home work: Solve S1and E1 question : SC11a(Pg89)

YEAR 11 A/D/E – CHEMISTRY (Girls)

WEEK 28 (7th March to 11th March)

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

Topic:– Revision of Organic Chemistry

Resources: Text book, Worksheet, Board works power point

Date	Topic	
07.03.21 Sunday 8th period **Mode of Teaching**: GC	**Learning Objective:** To answer the questions based on organic chemistry in the past papers. **Learning outcome:** Students will be able to reinforce the concepts learned by answering the questions in the past papers.	Past paper assigned through GC.
08.03.21 Monday 4th period **Mode of Teaching:** Zoom	**Learning Objective:** Describe and explain the separation of crude oil into simpler, more useful mixtures by the process of fractional distillation Describe the complete combustion of hydrocarbon fuels **Learning outcome:** Explain the process of fractional distillation to separate the crude oil into useful fractions. Describe combustion as the reaction of fuels with oxygen forming oxides and releasing energy	Teacher uses past paper questions.
10.03.21 Wednesday 8th period **Mode of Teaching:** Zoom	**Learning Objective:** Explain how cracking involves the breaking down of larger, saturated hydrocarbon molecules (alkanes) into smaller, more useful ones, some of which are unsaturated (alkenes) Explain why cracking is necessary **Learning outcome:** Recall that heating large alkanes with a catalyst at high temperature decomposes the hydrocarbon to make smaller molecules. Know that cracking produces more useful molecules including alkenes and fuels.	Teacher uses past paper questions.
11.03.21 Thursday 6th Period **Mode of Teaching:** Zoom	**Learning Objective:** Describe how other addition polymers can be made by combining together other monomer molecules containing C=C Describe how a polyester is formed when a monomer molecule containing two carboxylic acid groups is reacted with a monomer molecule containing two alcohol groups **Learning outcome:** Write **few** equations for the polymerization of ethene and chloroethene (vinyl chloride) Write chemical equations for the formation of condensation polymers.	Teacher uses past paper questions.
11.03.21 Thursday 6th Period **Mode of Teaching:** GC	**Learning Objective:** Describe some problems associated with polymers Evaluate the advantages and disadvantages of recycling polymers **Learning outcome:** **Evaluate** the advantages and disadvantages of their disposal by landfill and incineration Discuss **few** advantages and disadvantages of recycling plastics.	Teacher uses past paper questions.

YEAR 11 B/C/F – CHEMISTRY (Boys)

WEEK 28 (7th March to 11th March)

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

Topic:– Revision of Organic Chemistry

Resources: Text book, Worksheet, Board works power point

Date	Topic	
07.03.21 Sunday 1st Period **Mode of Teaching:** Zoom	**Learning Objective:** Describe and explain the separation of crude oil into simpler, more useful mixtures by the process of fractional distillation Describe the complete combustion of hydrocarbon fuels **Learning outcome:** Explain the process of fractional distillation to separate the crude oil into useful fractions. Describe combustion as the reaction of fuels with oxygen forming oxides and releasing energy	Teacher uses past paper questions.
07.03.21 Sunday 2nd Period **Mode of Teaching:** Zoom	**Learning Objective:** Explain how cracking involves the breaking down of larger, saturated hydrocarbon molecules (alkanes) into smaller, more useful ones, some of which are unsaturated (alkenes) Explain why cracking is necessary **Learning outcome:** Recall that heating large alkanes with a catalyst at high temperature decomposes the hydrocarbon to make smaller molecules. Know that cracking produces more useful molecules including alkenes and fuels.	Teacher uses past paper questions.
08.03.21 Monday 3rd Period **Mode of Teaching:** Zoom	**Learning Objective:** Describe how other addition polymers can be made by combining together other monomer molecules containing C=C Describe how a polyester is formed when a monomer molecule containing two carboxylic acid groups is reacted with a monomer molecule containing two alcohol groups **Learning outcome:** Write **few** equations for the polymerization of ethene and chloroethene (vinyl chloride) Write chemical equations for the formation of condensation polymers.	Teacher uses past paper questions.
09.03.21 Tuesday 7th Period **Mode of Teaching:** Zoom	**Learning Objective:** Describe some problems associated with polymers Evaluate the advantages and disadvantages of recycling polymers **Learning outcome:** **Evaluate** the advantages and disadvantages of their disposal by landfill and incineration Discuss **few** advantages and disadvantages of recycling plastics.	Teacher uses past paper questions.
11.03.21 Thursday 4th Period **Mode of Teaching:** GC	**Learning Objective:** To answer the questions based on organic chemistry in the past papers. **Learning outcome:** Students will be able to reinforce the concepts learned by answering the questions in the past papers.	Past paper assigned through GC.

YEAR 11 G/H–CHEMISTRY (IGCSE)

WEEK 28 (7th March to 11th March)

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

Topic:– Revision of Organic chemistry
Resources: Text book, Worksheet, IGCSE science free lesson video, power point.

Date	Topic	
07.03.2021 Sunday 6th period **Mode of Teaching**: Zoom/ Google Meet	**Learning Objective:** Describe and explain the separation of crude oil into simpler, more useful mixtures by the process of fractional distillation Describe the complete combustion of hydrocarbon fuels **Learning outcome:** Explain the process of fractional distillation to separate the crude oil into useful fractions. Describe combustion as the reaction of fuels with oxygen forming oxides and releasing energy	Teacher uses past paper questions.
08.03.2021 Monday 5th period **Mode of Teaching**: Zoom/ Google Meet	**Learning Objective:** Explain how cracking involves the breaking down of larger, saturated hydrocarbon molecules (alkanes) into smaller, more useful ones, some of which are unsaturated (alkenes) Explain why cracking is necessary **Learning outcome:** Recall that heating large alkanes with a catalyst at high temperature decomposes the hydrocarbon to make smaller molecules. Know that cracking produces more useful molecules including alkenes and fuels.	Teacher uses past paper questions.
09.03.2021 Tuesday 1st period & 2nd period **Mode of Teaching**: Zoom/ Google Meet	**Learning Objective:** Describe how other addition polymers can be made by combining together other monomer molecules containing C=C Describe how a polyester is formed when a monomer molecule containing two carboxylic acid groups is reacted with a monomer molecule containing two alcohol groups **Learning outcome:** Write **few** equations for the polymerization of ethene and chloroethene (vinyl chloride) Write chemical equations for the formation of condensation polymers.	Teacher uses past paper questions.
	Learning Objective: Describe some problems associated with polymers Evaluate the advantages and disadvantages of recycling polymers **Learning outcome:** **Evaluate** the advantages and disadvantages of their disposal by landfill and incineration Discuss **few** advantages and disadvantages of recycling plastics.	Teacher uses past paper questions.

11.03.2021 Thursday 4th period **Mode of Teaching**: GC	**Learning Objective:** To answer the questions based on organic chemistry in the past papers. **Learning outcome:** Students will be able to reinforce the concepts learned by answering the questions in the past papers.	Past paper assigned through GC.

YEAR 12 D/G– CHEMISTRY

WEEK 28 (7th March to 11th March)

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

Topic 4 – CALCULATIONS

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

Date	Topic	
09.03,21 Tuesday 8 **12D** 08.03.21 Monday 6 **12G** **Mode of Teaching –** Zoom	**Learning Objective:** Overall calculations using exam style questions from text book. **Learning Outcome: students will be able to:** Comparison of atom economy for single step to multi step processes. Explain the need of high atom economy at industrial level. Calculations based on reactions of acid with metal Metal carbonate s and metal oxides.	Teacher uses power point to show various steps of calculations. Lesson will be developed with many examples.
08.03.21 Monday 7- **12G** 10.03.21 Wednesday 7- **12D** **Mode of Teaching –** ZOOM	**Learning Objective:** Overall calculations using exam style questions from text book. **Apply to large-scale industrial production – economic viability of process depends on cost and percentage yield of product.** **Learning Outcome: students will be able to:** Be able to use experimental data to calculate i) empirical formulae from combustion analysis ii) molecular formulae including the use of $pV = nRT$ for gases and volatile liquids iii) calculate mole ratio and apply to synthesis the empirical formula. *Reason* for incorrect empirical formula based on practical procedure and suggest improvements in the method followed.	Teacher uses power point presentation and videos to explain the concept of information analysis . Teacher uses worksheet that based on various types of calculations.

10.03.21 Wednesday **8- 12D** **1-12G** **Mode of Teaching –** zoom	**Learning Objective** Overall calculations using exam style questions from text book. **Learning Outcome: students will be able to:** Apply the cumulative concept of calculations , Select the correct steps to solve the given problems and suggest improvements in the lab procedure for various types of calculations. Identify problems and suggest the improvements.	Teacher uses questions from various past papers. Teacher uses worksheet that exam style questions from text book.

HOMEWORK: Solve exam style questions from text book.

YEAR 12 G /D – CHEMISTRY

WEEK 28 (7th March to 11th March)

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

Date	Topic	Mode of Teaching	
8.3.2021 Monday 3 **12D** 9.3.2021 Tuesday 1 **12G**	**Learning Objective:** To name compounds like alkanes, alkenes, halogenoalkanes, alcohols, aldehydes, ketones and carboxylic acids using IUPAC nomenclature. **Learning outcome:** ● Write the names of organic compounds with different functional groups based on the general rules. ● Represent molecules like alkanes ,alkenes, alcohols, halogenoalkanes using the different formulae.	Zoom	Teacher uses powerpoint presentation that contains the rules for naming organic compounds.
9.3.2021 Tuesday 2 **12G** 7 **12D**	**Learning Objective:** (ASSESSMENT) Apply the knowledge and understanding of the concepts of reaction rate, collision theory, activation energy, factors affecting reaction rate, Maxwell Boltzmann distribution curve, dynamic equilibrium, the effect of changes in conditions on equilibrium composition, equilibrium constant and reversible reactions in industry to answer the questions in the assessment. **Learning Outcome:** Students will be able to recall the concepts learned and apply their knowledge and understanding to answer the questions, in the assessment.	Zoom	Teacher will conduct the assessment through Google classroom and monitor the students on Zoom.
10.3.2021 Wednesday 2 **12G**	**Learning Objective:** 1.Explain what isomerism is and how it arises 2. Explain the difference between structural isomerism and stereoisomerism.	GC	Teacher uses powerpoint presentation to explain

11.3.2021 Thursday **7 12D**	3.Explain E-Z isomerism (geometric/cis-trans isomerism) in terms of restricted rotation around a C=C double bond and the nature of the substituents on the carbon atoms **Learning outcome:** •Explain the existence of structural isomers using alkanes (up to C_5) as examples. •Draw the structural formula for the cis, trans isomers of butene, pentene. •Predict the properties of cis, trans isomers.		structural and stereo isomerism.

HOMEWORK: Solve textbook questions (pg177)

YEAR 13 A /B –CHEMISTRY

WEEK 28 (7th March to 11th March)

Topic: further organic chemistry.

Topic 19B: Nuclear magnetic resonance (NMR) IR, MS and CHROMATOGRAPHY.

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

Resources: Text book, Worksheets, video, power point presentations.

Date	Topic	
7.03.2021 Sunday **1-13A** **4-13B** **Mode of Teaching –** Zoom	**Lesson Objective:** Reinforce the concept of Nuclear magnetic resonance (NMR) **Success Criteria: students will be able to:** Analyse the experimental data Synthesis the molecular formula based on NMR Lesson will be developed with the help of past paper problems.	Teacher uses power point presentation that contains interactive questions. Students solve the worksheet file questions.
Sunday 07.03.2021 **2-13 A** 09.03.2021 Tuesday **2-13B** **Mode of Teaching –** Zoom	**Lesson Objective:** Revise IR SPECTROSCOPY - number of peaks in the compound due to the different IR range. **Success Criteria: students will be able to:** be able to use data from IR spectroscopy to: i predict the different functional groups present in a molecule. ii justify the structure of organic compounds based on cumulated knowledge based on number of peaks present in a ^{13}C NMR spectrum, H NMR spectrum and IR spectrum.	Teacher uses power point presentation that contains interactive questions. Students solve the worksheet file questions.
Wednesday 10.03.21 **4- 13A** **2-13B**	**Lesson Objective:** Chromatography : different types and principle of TLC	Teacher uses ppt that contains interactive questions that

Mode of Teaching – Zoom	**Success Criteria: students will be able to:** know that chromatography separates components of a mixture between a mobile phase and a stationary phase be able to calculate R_f values from one-way chromatograms	helps to Rf value of amino acids.

Homework : Solve worksheet file questions and text book.

YEAR 13 A/B – CHEMISTRY

WEEK 28 (7th March to 11th March)

Work Sent to the students through Zoom Learning Platform / Google classroom
Topic:– Revision of transition metal compounds & Further kinetics
Resources: Text book, Worksheet, Video , Board works , power point

Date	**Topic**	
7.03.21 Sunday 5 ,8 **13B** 10.03.21 Wednesday 5 , 6 **13A** **Mode of Teaching –** Zoom	**Learning Objective:** Revise the topic transition metal compounds. **Learning Outcome:** • Write equations for different reactions. • Explain the reason for colour. • Reinforce the colour of the solutions and precipitates in different reactions. • Identify the type of reactions. • Explain catalysts.	Teacher and student uses past papers to reinforce the concept of transition metal compound reactions.
7.03.21 Sunday 3 1**3A** 9.03.21 Tuesday 1 **13B** **Mode of Teaching –** Zoom	**Learning Objective:** Revise the topic kinetics. **Learning Outcome:** Determine rate equation. Finding order with respect to reactants involved in a reaction. Draw graph for rate and concentration.	Teacher and student uses past papers to reinforce the concept of further kinetics.

HOMEWORK: Worksheet in GC