



**PAKISTAN URDU SCHOOL – KINGDOM OF BAHRAIN**  
**Curriculum Implementation Plan for Chemistry Grade XII**

No.	Month/Week	Starting Date	Topics from Textbook or Others (Specify Unit Titles and Numbers)	National Curriculum References (Competency, Standards, Themes)	Total Periods
1	3 <sup>rd</sup> and 4 <sup>th</sup> week of May	20-05-18	<b>UNIT No. 23 – ENVIRONMENTAL CHEMISTRY</b> <b>Introduction to chemistry of troposphere</b> <ul style="list-style-type: none"> <li>❖ Chemical reactions in the atmosphere</li> <li>❖ CO<sub>x</sub>, NO<sub>x</sub>, VOCs, Sox, O<sub>3</sub></li> <li>❖ Automobiles, pollutants and catalytic converter Industrial smog</li> <li>❖ Photochemical smog</li> <li>❖ Global warming</li> <li>❖ Acid rain</li> </ul>	<p>Students will demonstrate an understanding of the impact of science and technology on society and use science and technology to identify problems and creatively address them in their personal, social and professional lives. They will explain how scientists decide what constitutes scientific knowledge; how science is related to other ways of knowing and how people have contributed to and influenced developments in science.</p>	15
		27-05-18	<b>Chemistry of the stratosphere</b> Production and destruction of ozone <b>Water pollution and water treatment</b> <ul style="list-style-type: none"> <li>❖ Types of water pollutants</li> <li>❖ Suspended solids and sediments</li> <li>❖ Thermal pollution</li> <li>❖ Waste water treatment</li> </ul>		
2	1 <sup>st</sup> week of Jun	3-06-18	<b>Green chemistry and revision</b>		



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3	4 <sup>th</sup> week of Aug	28-08-18	<b>UNIT 22 No. 22 – INDUSTRIAL CHEMISTRY</b> <b>Introduction to the chemical process industry and raw materials used</b>	Students will display a sense of curiosity and wonder about the natural world and demonstrate an increasing awareness that this has led to new developments in science and technology. They will learn from books and other sources of information and reconstruct previously learned knowledge.	21
4	1 <sup>st</sup> week of Sep	02-08-18	<b>Safety considerations in process industries</b> <b>Dyes</b> <b>Pesticides</b>		
5	2 <sup>nd</sup> week of Sep	09-08-18	<b>Petrochemicals</b> <b>Synthetic polymers (PVC and nylon)</b> <b>Cosmetics, hair dyes and adhesives</b>		
6	3 <sup>rd</sup> week of Sep	16-08-18	<b>UNIT No. 15 – ORGANIC COMPOUNDS</b> <b>Introduction to sources of organic compounds</b> <ul style="list-style-type: none"> <li>❖ Fossil remains</li> <li>❖ Plants and natural products chemistry</li> <li>❖ Partial and total synthesis</li> <li>❖ Products of biotechnology</li> </ul> <b>Coal as a source of organic compounds</b>	Students will demonstrate an understanding of the impact of science and technology on society and use science and technology to identify problems and creatively address them in their personal, social and professional lives. They will explain how scientists decide what constitutes scientific knowledge; how science is related to other ways of knowing and how	6



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			<p>Destructive distillation of coal Conversion of coal to petroleum</p> <p><b>Characteristics of organic compounds</b> <b>Uses of organic compounds</b> <b>New allotrope of carbon- bucky ball</b> <b>Functional groups and homologous series</b> Detection of elements in organic compounds</p>	<p>people have contributed to and influenced developments in science.</p>	
7	4 <sup>th</sup> week of Sep	23-09-18	<p><b>UNIT No. 16 –HYDROCARBONS</b> <b>Types of hydrocarbons</b></p> <p><b>Alkanes and cycloalkanes</b></p> <ul style="list-style-type: none"> <li>❖ Nomenclature</li> <li>❖ Physical properties</li> <li>❖ Structure</li> <li>❖ Relative stability</li> <li>❖ reactivity</li> </ul> <p><b>Radical substitution reactions</b> Overview Reaction mechanism</p>	<p>Students will demonstrate an understanding of the impact of science and technology on society and use science and technology to identify problems and creatively address them in their personal, social and professional lives. They will explain how scientists decide what constitutes scientific knowledge; how science is related to other ways of knowing and how</p>	12



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8	1 <sup>st</sup> week of Oct	01-10-18	<b>Oxidation of organic compounds</b> <b>Alkenes</b> Nomenclature Stability Structure Preparation Reactivity Reactions Conjugation	people have contributed to and influenced developments in science.	
			<b>Isomerism</b> Chiral centre Carbon based chiral centres Optical activity Optical isomers Stereoisomerism Structural isomerism		
9	2 <sup>nd</sup> week of Oct	14-10-18	<b>Alkynes</b> ❖ Nomenclature ❖ Stability ❖ Structure ❖ Preparation ❖ Reactivity ❖ Reactions acidity of terminal alkynes ❖ Addition reactions of alkynes		
			<b>Benzene and substituted benzene</b> ❖ Nomenclature ❖ Stability		



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			<ul style="list-style-type: none"> <li>❖ Structure</li> <li>❖ Preparation</li> <li>❖ Reactivity and reactions</li> <li>❖ Addition reactions</li> <li>❖ Electrophillic aromatic substitution reactions</li> </ul>		
10	3 <sup>rd</sup> week of Oct	21-10-18	<b>UNIT No. 17 – ALKYL HALIDES AND AMINES</b> <b>Introduction to alkyl halides</b> <ul style="list-style-type: none"> <li>❖ Nomenclature</li> <li>❖ Stability</li> <li>❖ Structure</li> <li>❖ Preparation</li> <li>❖ Reactions with alcohols</li> <li>❖ Radical halogenations of alkanes</li> <li>❖ Nucleophilic substitution reactions</li> <li>❖ Elimination reactions</li> </ul>	Students will demonstrate an understanding of the impact of science and technology on society and use science and technology to identify problems and creatively address them in their personal, social and professional lives. They will explain how scientists decide what constitutes scientific knowledge; how science is related to other ways of knowing and how people have contributed to and influenced developments in science.	23
11	4 <sup>th</sup> week of Oct	28-10-18	<b>Organometallic compounds</b> <ul style="list-style-type: none"> <li>❖ Preparation</li> <li>❖ Reactivity</li> <li>❖ Reactions with esters and CO<sub>2</sub></li> </ul> <b>Amines</b> <ul style="list-style-type: none"> <li>❖ Nomenclature</li> <li>❖ Stability</li> </ul>		



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			<ul style="list-style-type: none"> <li>❖ Structure</li> <li>❖ Preparation</li> <li>❖ Basicity</li> <li>❖ Reactivity</li> <li>❖ Preparation of amides</li> <li>❖ Preparation of diazonium salts</li> </ul>		
12	1 <sup>st</sup> week of Nov	4-11-18	<b>UNIT No. 18 – ALCOHOLS, PHENOLS AND ETHERS</b> <b>Introduction to alcohols</b> <ul style="list-style-type: none"> <li>❖ Nomenclature</li> <li>❖ Stability</li> <li>❖ Structure</li> <li>❖ Preparation</li> <li>❖ Acidity</li> <li>❖ Sulpher analogs</li> </ul>	Students will display a sense of curiosity and wonder about the natural world and demonstrate an increasing awareness that this has led to new developments in science and technology. They will learn from books and other sources of information and reconstruct previously learned knowledge.	18
13	2 <sup>nd</sup> week of Nov	11-11-18	<b>Phenols</b> <ul style="list-style-type: none"> <li>❖ Nomenclature</li> <li>❖ Stability</li> <li>❖ Structure</li> <li>❖ Preparation</li> <li>❖ Acidity</li> <li>❖ Reactivity</li> <li>❖ Reactions of phenols</li> <li>❖ Difference between alcohols and phenols</li> </ul>		
			<b>Ethers</b> <ul style="list-style-type: none"> <li>❖ Nomenclature</li> </ul>		



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			<ul style="list-style-type: none"> <li>❖ Stability</li> <li>❖ Structure</li> <li>❖ Preparation</li> <li>❖ Chemical reactivity</li> </ul>		
14	3 <sup>rd</sup> week of Nov	18-11-18	<b>UNIT No. 19 – ALDEHYDES AND KETONES</b> <b>Introduction to aldehydes and ketones</b> <ul style="list-style-type: none"> <li>❖ Nomenclature</li> <li>❖ Stability</li> <li>❖ Structure</li> <li>❖ Preparation of aldehydes and ketones</li> <li>❖ Reactivity</li> </ul>	Students will display a sense of curiosity and wonder about the natural world and demonstrate an increasing awareness that this has led to new developments in science and technology. They will learn from books and other sources of information and reconstruct previously learned knowledge.	10
15	4 <sup>th</sup> week of Nov	25-11-18	<b>Reactions of aldehydes and ketones to hydrocarbons</b>		
16	1 <sup>st</sup> week of Dec	2-12-18	<b>Oxidation reactions</b>		
17	2 <sup>nd</sup> and 3 <sup>rd</sup> week of Dec	9-12-18	<b>REVISION</b>		
18	4 <sup>th</sup> week of Dec	30-12-18	<b>MID TERM EXAMINATION</b>		
19	1 <sup>st</sup> week of Jan	02-01-19	<b>UNIT No. 13 – S AND P BLOCK ELEMENTS</b> <b>Introduction to period 3</b> <ul style="list-style-type: none"> <li>❖ Physical and atomic properties</li> </ul>	Students will display a sense of curiosity and wonder about the natural world and demonstrate an increasing awareness that this has	20



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			<ul style="list-style-type: none"> <li>❖ Electronic structure</li> <li>❖ Reaction of period 3 elements</li> <li>❖ Physical properties of oxides</li> <li>❖ Chlorides of period 3</li> <li>❖ Hydroxides of period 3</li> </ul>	led to new developments in science and technology. They will learn from books and other sources of information and reconstruct previously learned knowledge.	
			<p><b>Group 1 elements</b></p> <ul style="list-style-type: none"> <li>❖ Atomic and physical properties</li> <li>❖ Trends in reaction with water</li> <li>❖ Reaction with oxygen</li> <li>❖ Reaction with chlorine</li> <li>❖ Effect of heat</li> <li>❖ Flame tests</li> </ul>		
20	2 <sup>nd</sup> week of Jan	13-01-19	<p><b>Group 2 elements</b></p> <ul style="list-style-type: none"> <li>❖ Atomic and physical properties</li> <li>❖ Trends in reaction with oxygen and nitrogen</li> <li>❖ Trends in thermal stability</li> <li>❖ How beryllium differs from its group</li> </ul>		
			<p><b>Group 4 elements</b></p> <ul style="list-style-type: none"> <li>❖ Atomic and physical properties</li> <li>❖ Trends in reaction with water</li> <li>❖ Possible oxidation states</li> </ul>		





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			<b>Group 7 elements</b> <ul style="list-style-type: none"> <li>❖ Atomic and physical properties</li> <li>❖ Trends in reaction with water</li> <li>❖ Reaction with oxygen</li> <li>❖ Halide ion as reducing agent</li> </ul>		
21	3 <sup>rd</sup> week of Jan	20-01-19	<b>CHAPTER No. 14 – D AND F BLOCK ELEMENTS</b> <b>General features of transition elements</b> <ul style="list-style-type: none"> <li>❖ Electronic structure</li> <li>❖ Binding energy</li> <li>❖ Magnetic behaviour</li> </ul>	Students will describe and explain common properties, forms and interactions between matter and energy; their transformation and application in biological, chemical and physical systems.	5
22	4 <sup>th</sup> week of Jan	27-01-19	<b>Coordination compounds</b> <ul style="list-style-type: none"> <li>❖ Complex ion</li> <li>❖ Nomenclature</li> <li>❖ Shapes of complexes</li> </ul> <b>Chemistry of some common transition compounds</b> <ul style="list-style-type: none"> <li>❖ Iron</li> <li>❖ Copper</li> </ul>		
23	1 <sup>st</sup> week of Feb	03-02-19	<b>UNIT No. 21 – BIOCHEMISTRY</b> <b>Introduction to carbohydrates</b> <b>Proteins</b> <b>Enzymes</b>	Students will demonstrate an understanding of the impact of science and technology on society and use science and technology to identify problems and creatively	5



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24	2 <sup>nd</sup> week of Feb	10-02-19	<b>Lipids</b> <b>Nucleic acids</b> <b>Minerals of biological significance</b>	address them in their personal, social and professional lives. They will explain how scientists decide what constitutes scientific knowledge; how science is related to other ways of knowing and how people have contributed to and influenced developments in science.	
25	3 <sup>rd</sup> week of Feb	17-02-19	<b>UNIT No. 20 –CARBOXYLIC ACIDS</b> <b>Introduction to carboxylic acids</b> <ul style="list-style-type: none"><li>❖ Physical properties</li><li>❖ structures</li><li>❖ <b>Acidity</b></li></ul>	Students will describe and explain common properties, forms and interactions between matter and energy; their transformation and application in biological, chemical and physical systems.	5



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			<ul style="list-style-type: none"> <li>❖ Preparation</li> <li>❖ Reactivity</li> <li>❖ Reactions of carboxylic acids with acyl halides</li> <li>❖ And amides</li> <li>❖ Interconversion and reduction</li> <li>❖ Decarboxylation</li> <li>❖ Reaction of carboxylic acid derivatives</li> </ul>		
26	4 <sup>th</sup> week of Feb and 1 <sup>st</sup> week of Mar	24-02-19	<p><b>CHAPTER No. 24 – ANALYTICAL CHEMISTRY</b></p> <p><b>Classical method of analysis</b> Combustion analysis</p> <hr/> <p><b>Modern method of analysis</b></p> <ul style="list-style-type: none"> <li>❖ Spectroscopy</li> <li>❖ IR</li> <li>❖ UV-VIS</li> <li>❖ Atomic emission</li> <li>❖ NMR</li> <li>❖ Mass spectroscopy</li> </ul>	Students will demonstrate an understanding of the impact of science and technology on society and use science and technology to identify problems and creatively address them in their personal, social and professional lives. They will explain how scientists decide what constitutes scientific knowledge; how science is related to other ways of knowing and how people have contributed to and influenced developments in science.	5
27	2 <sup>nd</sup> week of	10-03-19	<b>REVISION</b>		



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	Mar		
28	2 <sup>nd</sup> week of Mar	17-03-19	THIRD TERM EXAMINATION