

## SCHEME OF WORK 2017-18

**Subject /Class : Chemistry / 9<sup>th</sup>**

Days	Learning Topics	SLOs	Strategy	Assessment	Home Work	Remarks
1	Fundamentals of chemistry Chapter # 1 Introduction	<u>Student will be able to</u> <ul style="list-style-type: none"> <li>➤ Define chemistry &amp; its origin.</li> <li>➤ Know about the foundations of chemistry.</li> <li>➤ Explain the matter.</li> <li>➤ Describe the things around them.</li> </ul>	<u>Teachers Should</u> <ul style="list-style-type: none"> <li>➤ Write the name of topic on black/white board.</li> <li>➤ Explain the topic by interaction tecturing.</li> <li>➤ Write some important periods of chemistry on board.</li> <li>➤ Use discussion methods with the help of students.</li> </ul>	<u>Teachers Should ask question like</u> Q1. When the period of alchemist started? Q2. What are the main aims of al chemist? Q3. Which terms is use for alchemists.	<u>Student Should</u> No Home work	
2	Muslim Period	<ul style="list-style-type: none"> <li>➤ Know about the famous Muslim Scientist from 600-1600 AD.</li> <li>➤ Be able to recognize the work of Muslim Scientist.</li> </ul>	--Do--	Q1. When did the Period of Jabir Ibn-hayyan start? Q2. Why is ibn seena famous for? Q3. Which scientist is known as the Aristotle of Muslim world?	Collect the pictures of Muslims Scientist and paste them in notebook.	
3	Branches of chemistry today	<ul style="list-style-type: none"> <li>➤ Be able to differentiate into between branches of chemistry.</li> <li>➤ Be able to know the importance of chemistry is daily life.</li> <li>➤ Be able to identify and provide example of different branches of chemistry.</li> </ul>	Explain the branches of chemistry by demonstration method.	Q1. Define organic & inorganic chemistry. Q2. Which branches are called the basic branch of chemistry? Q3. Why environmental chemistry is importance.	Q3 from text book	

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4	Basic definition & element	<ul style="list-style-type: none"> <li>➤ Be able to define matter.</li> <li>➤ Be able to recognize the things around them.</li> <li>➤ Know about the element</li> </ul>	➤ Explain with the help of audio video aids.	Q1. What is Matter? Q2. Define substance. Q3. Give example of elements.	Q4. From exercise. Q5. From text book.	
5	Compound and mixture	<ul style="list-style-type: none"> <li>➤ Define compound.</li> <li>➤ What is difference between compound and mixture</li> <li>➤ Be able to tell some common compound and their formulae are able to classify the types of mixture.</li> <li>➤ Be able to tell some common compound and their formulae.</li> </ul>	Explain the topic by lecture method with the help of audio aids visual.	Q1. Tell the name of one element which exist as liquid at room temperature. Q2. What is the kinds of mixture? Q3. Give example of heterogeneous mixture from your life.	S.Q# (iv) L.Q# 18 (vii)	
6	Atomic No and Atomic mass.	<ul style="list-style-type: none"> <li>➤ Define atomic No &amp; Atomic mass.</li> <li>➤ Be able to know difference between atomic No &amp; Atomic mass.</li> <li>➤ Be able to know why atomic no is represented by “Z”</li> </ul>	Explain with the help of example by using periodic table.	Q1. What is atomic no. Q2. Why atomic no is different from mass no. Q3. Where electrons are found in atom. Q4. Why atomic mass is represented by “A”	S.Q# (i)(ii) L.Q#5	

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7	Relative atomic mass, atomic mass unit (amu) gram atomic mass.	<ul style="list-style-type: none"> <li>➤ Define Atomic mass and atomic mass unit.</li> <li>➤ Define relative atomic mass on C-12 scale.</li> <li>➤ Define average atomic mass.</li> <li>➤ Be able to tell amu stand for.</li> <li>➤ Be able to define the standard mass.</li> <li>➤ Be able to find the average atomic mass by using formula.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Define and explain the topic.</li> <li>➤ Find average atomic mass of <math>\text{Cl}_2</math> on black board.</li> <li>➤ Make the groups to perform given activity in book page#12.</li> </ul>	Q1. What is atomic mass. Q2. What is meant by atomic mass unit. Q3. How many grams are equal to 1 amu. Q4. What is gram atomic mass?	S.Q#(ix)(x) L.Q#6 L.Q#9	
8	Chemical formula and its types	<ul style="list-style-type: none"> <li>➤ Be able to define chemical formula.</li> <li>➤ Be able to differentiate between molecular and empirical formula.</li> <li>➤ Define formula unit.</li> <li>➤ Be able to tell the formulae of things present around them.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Write the topic on board. Explain the topic with example.</li> <li>➤ Explain steps which Determine empirical molecular formula of compound with examples.</li> <li>➤ Solve the example 1.1 on board.</li> <li>➤ Make the group and assign them to given activity No 1.3</li> </ul>	Q1. What is a chemical formula? Q2. Write the formulae of hydrochloric acid, sulphuric acid, Sodium hydroxide on board. Q3. Why chemical compound is represented by chemical formula. Q4. What is meant by molecular formula.	S.Q#(vi)(vii) L.Q#7	
9	Molecular Mass and Formula Mass	<ul style="list-style-type: none"> <li>➤ Be able to know about molecular mass &amp; formula mass.</li> <li>➤ Be able to find molecular mass from a chemical formula of a compound.</li> <li>➤ Be able to differentiate among the terms. i-e</li> <li>➤ Molecular mass, formula mass, gram formula Mass,</li> <li>➤ Be able to convert the molecular mass into gram molecular mass.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain the topic with example by lecture method.</li> <li>➤ Solve the example 1.2 on board.</li> <li>➤ Give Q2(i) from exercise as an activity.</li> </ul>	Q1. What is molecular mass? Q2. What is Formula. Q3. What is molecular mass. Q4. What is formula mass of NaCl.	L.Q # 8 1.Q #14	

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10	Chemical species, ion, molecular ions, free radicals	<ul style="list-style-type: none"> <li>➤ Be able to distinguish between atom, ions,</li> <li>➤ Distinguish between ions and free radical.</li> <li>➤ Differentiate between molecule &amp; molecular ions.</li> <li>➤ Able to classify chemical species from given example.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Teach the topic by using demonstration method.</li> <li>➤ Explain the reactivity of ion &amp; free radical example.</li> </ul>	Q1. What is an ion? Q2. What is difference between ion and molecule ion. Q3. Why molecular ions are less than ions. Q4. How free radical are form. Q5. Tell the reaction of CH <sub>4</sub> with chlorine.	S.Q#(viii) L.Q18(iv)	
11	Molecule	<ul style="list-style-type: none"> <li>➤ Be able to define molecule.</li> <li>➤ Differentiate between mono atomic poly atomic, molecules.</li> <li>➤ Differentiate between homo atomic molecules and hetroatomic molecules.</li> <li>➤ Be able recognized molecule from surrounding.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain the topic with example by collaborative method.</li> <li>➤ Perform activity no 1.4 by making groups of the class.</li> </ul>	Q1. What is molecule? Q2. How many types of molecules. Q3. What is difference between homoatomic and hetero atomic molecule. Q4. What is macro molecule?	S.Q#(v) L.Q=(10)	
12	Mole and Avogadro's number.	<ul style="list-style-type: none"> <li>➤ Be able to define the mole.</li> <li>➤ Describe how NA is related to any substance.</li> <li>➤ Define NA.</li> <li>➤ Be able to know the value of Avogadro's number.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain the topic with example by lecture method.</li> <li>➤ Solve the Q12 from excise on board.</li> </ul>	Q1. What is mole? Q2. Define Avogadro's number. Q3. What is the value of Avogadro's number? Q4. What are macro molecules?	L.Q 11,12	

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13	Chemical calculation	<ul style="list-style-type: none"> <li>➤ Be able to calculate the no of moles from given mass</li> <li>➤ Be able to calculate the no of particles in given moles.</li> <li>➤ Be able to apply the formula of calculations.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Teach the topic with the help of example by lecture methods.</li> <li>➤ Solve the example 1-3. 1-5 on the board.</li> <li>➤ Give example no 1-4, 1-6 as an activity.</li> </ul>	Q1. What is formula of calculation of moles. Q2. What is meant by NA. Q3. What is the symbol of Avogadro's number. Q4. How many no of molecules in 4 gram of glucose.	L.Q#13,15, 16,17. L.Q#18(vi)	
14	practical TO separate the component of a given mixture by physical method.	<ul style="list-style-type: none"> <li>➤ Be able to handle the apparatus.</li> <li>➤ Know about the sensitivity of lab.</li> <li>➤ Able to work in lab.</li> <li>➤ Able to learn the importance of team work.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Perform the practical as an example for students.</li> <li>➤ Divide the students in group and ask them to perform given practical in their respective groups.</li> </ul>	Q1. Ask the name of different used apparatus Q2. Share the procedure of give practical.	Write the neat & clean on practical note book	
15	practical To separate the mixture of naphthalene from give mixture of sand	Do	Do	Do	Do	Do

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16	Q# 1 & 18 From exercise	<ul style="list-style-type: none"> <li>➤ Be able to give reasons of given questions in exercise.</li> <li>➤ Students are able to correct their concept.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Discussion method.</li> </ul>		Write on not book	
17	Test	<ul style="list-style-type: none"> <li>➤ Be able to prepare the chapter #1</li> </ul>	<ul style="list-style-type: none"> <li>➤ Its up to teacher to select the questions for test.</li> <li>➤ To maintain the record of students.</li> </ul>	Check their test and evaluate the performance.	No work	
18	Chapter # 2 structure of atom introduction.	<ul style="list-style-type: none"> <li>➤ Students should be able to define atom.</li> <li>➤ Know about the contributions of Dalton?</li> <li>➤ Can define Dalton's atomic theory.</li> <li>➤ Able to know about atom.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Write the name of topic on black/white board. Explain the topic by interactive lecturing.</li> </ul>	Q1. What is an atom? Q2. What are the main points of Dalton's atomic theory? Q3. What is the drawback of Dalton's Atomic theory?	No work	
19	Theories and experiments related to atomic structure. Rutherford atomic model.	<ul style="list-style-type: none"> <li>➤ Know about the contribution of Rutherford in chemistry.</li> <li>➤ Able to define nucleus is found in atom.</li> <li>➤ Able to explain discovery of nucleus.</li> <li>➤ Able to know where nucleus is found in atom.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain the topic by demonstration method using chart.</li> <li>➤ Explain main points of this model also defects of model.</li> </ul>	Q1. What is Rutherford model of atom? Q2. What kind of radiation used in Rutherford model. Q3. Where electrons are found in atom. Q4. Why $\alpha$ – <i>partical</i> dispersed. Q5. What are main points of Ruther model?	Short questions. (ii) & (iii) Long questions. 3, Q# 7 (I) (ii) (iii)	

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20	Neil Bohr's Atomic model	<ul style="list-style-type: none"> <li>➤ Able to know the contribution of Bohr.</li> <li>➤ Define shell.</li> <li>➤ Know where electrons are found.</li> <li>➤ Can explain how this model is different from Rutherford's Model.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Write the topic on board and also draw diagram on black/white board.</li> <li>➤ Explain the topic from diagram.</li> </ul>	<ol style="list-style-type: none"> <li>1. What is an orbit?</li> <li>2. What is an orbital?</li> <li>3. What is the equation of energy difference between orbits?</li> <li>4. What are postulates of Neil Bohr's model?</li> <li>5. What is angular momentum?</li> <li>6. Explain the <math>2n^2</math> rule.</li> </ol>	Short uestions(v) Long uestions 4 Q#7 (iii)	
21	Electronic configuration	<ul style="list-style-type: none"> <li>➤ Can define structure of atom</li> <li>➤ Able to know the position of electron proton and neutrons.</li> <li>➤ Know the arrangement of electrons.</li> <li>➤ Able to know chemical properties of elements.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain teach the topic by lecture.</li> <li>➤ Method and use the periodic table.</li> </ul>	<ol style="list-style-type: none"> <li>Q1. Explain the <math>2n^2</math> rule.</li> <li>Q2. How many electrons are found in 3<sup>rd</sup> shell?</li> <li>Q3. What is electronic configuration?</li> </ol>	S.Q # (iv) (vii) L.Q # 6	
22	Energy level + sub energy level	<ul style="list-style-type: none"> <li>➤ Define energy level.</li> <li>➤ Able to know why energy level is further divided.</li> <li>➤ Distinguish between shell &amp; sub shells.</li> <li>➤ Know the no of electrons in sub shell.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Teach the topic by lecture method.</li> <li>➤ Draw the diagram of sub shell s,p on the board.</li> <li>➤ Make the group of students and give example # 1.1 as an acitivity.</li> </ul>	<ol style="list-style-type: none"> <li>Q1. What is meant by energy level?</li> <li>Q2. Why energy level are further divided.</li> <li>Q3. How many electrons are there in s,p,d and f sub-shells.</li> </ol>	Short question (i) Long question #5,7 (iv)	

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23	Isotopes	<ul style="list-style-type: none"> <li>➤ Define Isotopes.</li> <li>➤ Compare isotopes of an atom.</li> <li>➤ Know about isotopic existence of elements.</li> <li>➤ Can discuss properties of isotopes of <math>H_2C, Cl_2</math></li> <li>Can draw the structure of different isotopes.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Write the name of topic on white/black board.</li> <li>➤ Explain the topic by interactive lecturing.</li> <li>➤ Draw the diagram of hydrogen carbon chlorine on board.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What are isotopes.</li> <li>➤ Why different atom of element have different physical properties.</li> <li>➤ Why mass number of different atoms of same element.</li> <li>➤ How many isotopes of hydrogen</li> <li>➤</li> </ul>	S.Q# (vii) (x) Q# 7(vi)	
24	Uses of isotopes	<ul style="list-style-type: none"> <li>➤ Able to know the importance of isotope.</li> <li>➤ Know the uses of isotopes in various field of life.</li> <li>➤ Able to know the medical importance of isotopes.</li> <li>➤ Define smoke detectors.</li> <li>➤ Aware about the use in electrical appliances.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Write the topic on board and deliver the lecture.</li> <li>➤ Make groups of students and discuss the isotopes.</li> </ul>	How isotope are used as tracer studies. Why isotope are used for cancer treatment.	S.Q# (ix)	
25	Test	<ul style="list-style-type: none"> <li>➤ After completion of chapter students will be to know about all aspects of structure of atom</li> </ul>	<ul style="list-style-type: none"> <li>➤ Students will be seated according to their roll number and provided with test, which are then submitted to teacher after completion.</li> </ul>	After marking the test teacher can assess the students.	No work	



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26	Chapter # 3 Periodic table and periodicity of properties. Introduction.	<ul style="list-style-type: none"> <li>➤ Can define classification of elements.</li> <li>➤ Know the importance of periodic table.</li> <li>➤ Tell the development of periodic table.</li> <li>➤ Know the contribution of Dobereiner, New lands lother meyer etc.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain your topic by lecture method by using periodic table.</li> <li>➤ Ask students to make periodic table.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What is periodic table?</li> <li>➤ How many elements were known up to 1800 year?</li> <li>➤ Who classified known the elements into triads.</li> <li>➤ Why new land classify the elements.</li> </ul>	No work	
27	The modern periodic table.	<ul style="list-style-type: none"> <li>➤ Define the periodic law.</li> <li>➤ Able to under the periodic table.</li> <li>➤ Able to know the periodicity of properties.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain by demonstration method.</li> <li>➤ Use modern periodic table.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What is modern periodic Law?</li> <li>➤ In modern periodic table upon what property elements are arranged.</li> <li>➤</li> </ul>	S.Q # (iv) Long Q # 3	
28	Periods & Groups	<ul style="list-style-type: none"> <li>➤ Can classify the elements with groups and periods.</li> <li>➤ Able to distinguish between a period and a group in the periodic table.</li> <li>➤ Know the changes occurring when move from top 2 bottom in group</li> <li>➤ Determine the demarcation of periodic table into an s,p,d,f block.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain your topic by demonstration method by using modern periodic table.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What is a group.</li> <li>➤ How many groups in modern periodic table.</li> <li>➤ What is a periods.</li> <li>➤ How many periods in a modern periodic table.</li> <li>➤ On what basis elements are classify into group and periods.</li> </ul>	S.Q# (i)(ii)(iii) (v)(vii) Long Q=9 (i) (ii)	

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29	Periodicity of properties, atomic size	<ul style="list-style-type: none"> <li>➤ Define periodicity of properties.</li> <li>➤ Know the relation found by the periodicity of properties.</li> <li>➤ Tell the importance of periodicity of properties.</li> <li>➤ Define atomic radius.</li> <li>➤ Able to know how it is measured.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Write the topic on board.</li> <li>➤ Deliver a lecture on periodicity of properties by using periodic table.</li> <li>➤ Draw diagram on board for atomic size radius.</li> <li>➤ Define and explain atomic radius.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What is atomic radius?</li> <li>➤ How it is measured.</li> <li>➤ What is meant by periodicity of properties?</li> <li>➤ What is trend in periodic table of atomic radius?</li> </ul>	S.Q# (viii), (iv)  Long Q # 4	
30	Ionization energy	<ul style="list-style-type: none"> <li>➤ Can define ionization energy.</li> <li>➤ Know the importance of ionization energy.</li> <li>➤ Tell the trend in periodic table of ionization energy.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Write the topic on board.</li> <li>➤ Explain the topic through both lecture and demonstration method by using periodic table.</li> </ul>	<ul style="list-style-type: none"> <li>➤ .</li> <li>➤ What is ionization energy?</li> <li>➤ How it measured.</li> <li>➤ What are the units of ionization energy?</li> <li>➤ What are the types of ionization energy?</li> </ul>	Long Q # 5 Q # 9 (v) & (vii)	
31	Electron affinity	<ul style="list-style-type: none"> <li>➤ Can define electron affinity.</li> <li>➤ Able to know the topic from book.</li> <li>➤ Tell the factors affecting electron affinity.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Write the topic name on board.</li> <li>➤ Explain the topic from book.</li> <li>➤ Demonstrate the topic from periodic table.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What is trend of E-A in periodic table?</li> <li>➤ What is electron affinity?</li> <li>➤ What are the units of electron affinity?</li> <li>➤ What is the type of electron affinity?</li> <li>➤ What is trend of electron affinity in periodic table?</li> </ul>	Long Questions 6	

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32	Shielding effect	<ul style="list-style-type: none"> <li>➤ Know about shielding effect.</li> <li>➤ Able to know the factors effecting shielding effects.</li> <li>➤ Can explain how shielding effect influences periodic trends.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Write the name of topic on the board.</li> <li>➤ Explain the topic by lecture method.</li> <li>➤ Draw the diagram to explain the shielding effect.</li> <li>➤ Perform the activity 3.1 in the class.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What is shielding effect?</li> <li>➤ How it is measured?</li> <li>➤ What is the trend of shielding effect in periodic table?</li> <li>➤</li> </ul>	Long Questions 7	
33	Electro-negativity.	<ul style="list-style-type: none"> <li>➤ Define electronegativity.</li> <li>➤ Tell the change of electronegativity in periodic table.</li> <li>➤ Know the most elect negativity element in periodic table.</li> <li>➤ Able to know the factors effecting electronegativity.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain the topic by lecture and demonstration method by using periodic table.</li> <li>➤ Perform the activity No 3.2 in the class.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What is electronegativity?</li> <li>➤ What are the factors effecting E,N.</li> <li>➤ How it is measured.</li> <li>➤ What are the units of E.N</li> <li>➤ What is trend of E.N in periodic table?</li> </ul>	Long question #8 Q # 9 (iv) (vi) (viii)	
34	Test	<ul style="list-style-type: none"> <li>➤ At the completion of chapter student will able to know about periodic table.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Make the group of students and provide them test of different topic.</li> <li>➤ Provide a periodic table to each group and discuss orally to check the concept.</li> </ul>	<ul style="list-style-type: none"> <li>➤ After observing &amp; checking the test a teacher will be able to known what extend students has learned about periodic table.</li> </ul>	No work	

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35	Chapter # 4 Structure of molecules introduction	<ul style="list-style-type: none"> <li>➤ Be able to know the structure of molecules.</li> <li>➤ Can define the molecules.</li> <li>➤ Know about the solubility of molecules.</li> <li>➤ Can tell the properties of compounds.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Write the topic on the board.</li> <li>➤ Explain the topic in detail by using examples from surrounding.</li> <li>➤ Write the formulae of molecules on board.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What is meant by structure?</li> <li>➤ How physical properties are related to structure.</li> <li>➤ How many types of molecules.</li> <li>➤ Why molecule exist independently.</li> </ul>	No work	
36	Why do atoms form chemical bond?	<ul style="list-style-type: none"> <li>➤ Can find the no of electrons in valance shell.</li> <li>➤ Define atom.</li> <li>➤ Able to define chemical bond.</li> <li>➤ Can tell the nature of element.</li> <li>➤ Know about octet rule.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Write the topic on board.</li> <li>➤ explain your topic by lecture and discussion method.</li> <li>➤ Draw the diagram of formation of bond on board.</li> <li>➤ Explain with example.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What is a chemical bond?</li> <li>➤ How we can define octet rule?</li> <li>➤ What is rule of duplet?</li> <li>➤ What are valance electrons?</li> </ul>	S .Q # (ii) (vii)	
37	Chemical bond and ionic bond.	<ul style="list-style-type: none"> <li>➤ Able to define ionic bond.</li> <li>➤ Can explain how element attain stability.</li> <li>➤ Can describe the ways in which bond may be formed.</li> <li>➤ Can describe the transfer of electron from one atom to another.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Write the topic on board.</li> <li>➤ Explain the topic by the demonstration method by the help of using chart.</li> <li>➤ Explain the example formation "NaCl" in detail.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What is ionic bond?</li> <li>➤ Why sodium donate electron.</li> <li>➤ Why chlorine can gain electron.</li> <li>➤ Why elements form ionic bond</li> </ul>	Long question 4 & 6 Q # 9 (i)	

Days	Learning Topics	SLOs	Strategy	Assessment	Home Work	Remarks
38	Covalent bond.	<ul style="list-style-type: none"> <li>➤ Can recognize a compound having covalent bond.</li> <li>➤ Able to define covalent bond.</li> <li>➤ Can describe the type of covalent bond.</li> <li>➤ Know why elements form covalent bond.</li> <li>➤ Can described with example the single, double, triple covalent bond.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Write the topic on board.</li> <li>➤ Explain the topic by lecture method.</li> <li>➤ Draw Lewis structure of molecule showing covalent bond on board.</li> <li>➤ Discuss important examples.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What is a covalent bond?</li> <li>➤ How many types of covalent bond.</li> <li>➤ Why elements form covalent bond.</li> <li>➤ What kind bond exist in H<sub>2</sub>O,</li> <li>➤ What is meant by Lewis structure?</li> <li>➤</li> </ul>	Long Question # 5,8 Q #9 (v) Short Q V	
39	Polar and non polar bonds.	<ul style="list-style-type: none"> <li>➤ Know about polarity of molecule.</li> <li>➤ Can describe the non polar behavior of compound.</li> <li>➤ Able to tell the solubility of polar &amp; non polar compounds.</li> <li>➤ Able to discuss the nature of substance.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain the topic by interactive lecture method.</li> <li>➤ Discuss by drawing the diagram of H<sub>2</sub>O &amp; Hcl on board.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What is polar covalent bond?</li> <li>➤ Why covalent bond exist in polar nature.</li> <li>➤ What is meant by electro negativity difference?</li> </ul>	S .Q# (iii) Long Q # 3 Q#9 (ii)	
40	Co ordinate covalent bond.	<ul style="list-style-type: none"> <li>➤ Recognize the compounds having co ordinate covalent compounds.</li> <li>➤ Can define co ordinate covalent bond.</li> <li>➤ Can define donor atom.</li> <li>➤ Able to discuss the formation of NH<sup>+</sup><sub>4</sub> ion.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain the topic by lecture method.</li> <li>➤ Demonstrate the formation of ammonium ion (NH<sub>4</sub><sup>+</sup>)</li> <li>➤ And (H<sub>3</sub>O<sup>+</sup>) ion by the help of chart.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What is co ordinate covalent bond?</li> <li>➤ Why it is also known as dative bond.</li> <li>➤ How it is represented.</li> <li>➤ How you can define acceptor atom.</li> </ul>	Short Q # (i) L.Q # 9 (iv)	

Days	Learning Topics	SLOs	Strategy	Assessment	Home Work	Remarks
41	Metallic bond.	<ul style="list-style-type: none"> <li>➤ Able to discuss the nature of bond.</li> <li>➤ Be able to define the metallic bond.</li> <li>➤ Can describe why metals can convert into sheets</li> <li>➤ Able to discuss the properties of metals.</li> <li>➤ Know about the metallic luster.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain the topic by lecture method.</li> <li>➤ Draw the diagram showing metallic bond on board.</li> <li>➤ Give examples.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What is metallic bond?</li> <li>➤ What it is so hard.</li> <li>➤ Why metals are electropositive.</li> <li>➤ Why metals are good conductor of electricity.</li> </ul>	S.Q.(iv)	
42	Shape of Molecules.	<ul style="list-style-type: none"> <li>➤ Can define the structure.</li> <li>➤ Able to discuss the shape of molecule in daily life.</li> <li>➤ Know the importance of geometric shape.</li> <li>➤ Able to describe the different geometric shapes.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain the topic by lecture method and demonstration method by the help of chart.</li> <li>➤ Divide students into groups and give them different shape of molecules to draw on note book.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What is geometric shape?</li> <li>➤ Why molecules have specific geometric shape?</li> <li>➤ What is the geometric shape of H<sub>2</sub>O?</li> <li>➤ Why CH<sub>4</sub> has tetrahedral geometric shape.</li> </ul>	No work.	
43	Intermolecular forces.	<ul style="list-style-type: none"> <li>➤ Define the intermolecular force.</li> <li>➤ Able to understand the strength of forces.</li> <li>➤ Recognized their forces in compounds in their surrounding.</li> <li>➤ Discuss the boiling points of molecules on the basis of strength of these forces.</li> <li>➤ Define dipole-dipole force.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain the topic by lecture method and also discussion method.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What are intermolecular forces of attraction?</li> <li>➤ How we can define dipole- dipole force.</li> <li>➤ Why hydrogen bonding are more strong as compare to dipole-dipole.</li> </ul>	Q#(vi) Long Q#9(iii)	

Days	Learning Topics	SLOs	Strategy	Assessment	Home Work	Remarks
44	Nature of bonding and properties.	<ul style="list-style-type: none"> <li>➤ Able to discuss properties.</li> <li>➤ Recognize the nature of compound.</li> <li>➤ Able to define characteristic of ionic &amp; covalent compounds.</li> <li>➤ Identify the ionic &amp; covalent compounds from their surroundings.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain the topic by interactive lecture.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Why ionic compounds are hard.</li> <li>➤ Why ionic compounds are good conductors.</li> <li>➤ Why covalent compound found in three states solid, liquid and gas.</li> <li>➤ Why the reactions of covalent compound are slow.</li> </ul>	No work.	
45	Properties of metals.	<ul style="list-style-type: none"> <li>➤ Be able to recognize the metals from non metals.</li> <li>➤ Able to discuss the properties of metals.</li> <li>➤ Describe the electro positive nature of metals.</li> <li>➤ Discuss the nature of bond in metals.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain your topic by lecture and demonstration method.</li> <li>➤ Built the concept of student by showing them few pieces of metals like bell, wires.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What are metals?</li> <li>➤ What kind of bond exists in metals?</li> <li>➤ Why metals produce sound.</li> <li>➤ Why metals are good conductors.</li> <li>➤</li> </ul>	L.Q#7	
46	Practical To demonstrate that two elements combine to form any compound $\text{Fe} + \text{s} \rightarrow \text{fes}$	<ul style="list-style-type: none"> <li>➤ Able to know we can prepare a compound from elements.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Write the name of practical on board.</li> <li>➤ Demonstrate the practical and perform in front of students.</li> <li>➤ Divide the students into groups to perform practical and help them.</li> </ul>	<ul style="list-style-type: none"> <li>➤ The teacher will check the procedure.</li> <li>➤ Ask some relevant question to the students.</li> <li>➤ Ask students to tell the name of apparatus.</li> </ul>	Students will write the practical in practical notebook.	

Days	Learning Topics	SLOs	Strategy	Assessment	Home Work	Remarks
47	Test	➤ After completion of chapter students will be able to build all concepts in the chapter.	<ul style="list-style-type: none"> <li>➤ Students will be seated according to their roll no and provided with test.</li> <li>➤ After completion test will be submitted to teacher within given time.</li> </ul>	➤ After marking the teacher will come to know that up to what extent students have learned.	No work.	
48	Chapter # 5 Physical states of matter. Introduction + intermolecular attractive forces.	<ul style="list-style-type: none"> <li>➤ Able to define matter.</li> <li>➤ Recognize the states of matter.</li> <li>➤ Able to discuss the matter in their surroundings.</li> <li>➤ Know about the inter conversion of states of matter.</li> <li>➤ Define the force of attraction.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain the topic by interactive lecture and discussion method.</li> <li>➤ Explain the properties of compounds used in daily life with respect to forces of attraction i.e H<sub>2</sub>O, Petrol, Diesel and alcohol etc.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What are forces of attraction?</li> <li>➤ What are van der Waals forces?</li> <li>➤ What is matter?</li> <li>➤ What are different states of matter?</li> <li>➤ What is effect of temperature and pressure on states of matter?</li> </ul>		
49	Gaseous State.	<ul style="list-style-type: none"> <li>➤ Able to define gaseous state of matter.</li> <li>➤ Recognize the gases in air.</li> <li>➤ Discuss the properties of gases.</li> <li>➤ Identify the role of gases in environment.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain the topic by lecture method.</li> <li>➤ Divide the students into groups and give them activity No. 5.1 &amp; 5.2 from text book.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What is gaseous state?</li> <li>➤ What is diffusion of gases?</li> <li>➤ How gases effuse.</li> <li>➤ Why gases move always upward.</li> <li>➤ What is effect of pressure on gases.</li> </ul>	L.Q# 8 L.Q#9(I,ii) Vi, vii, viii.	
50	Laws related to gases. Boyle's Law.	<ul style="list-style-type: none"> <li>➤ Able to define Boyle's Law.</li> <li>➤ Recognize the effect of pressure on gas.</li> <li>➤ Know to verify the Boyle's Law.</li> <li>➤ Able to know the practical application of Boyle's Law.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain the topic by lecture method.</li> <li>➤ Derive the equation for Boyle's Law on board.</li> <li>➤ Solve the example # 5.1 on board.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What is Boyle's Law?</li> <li>➤ What is the mathematical form of Boyle's Law?</li> </ul>	S.Q# (i) (ii)	



Days	Learning Topics	SLOs	Strategy	Assessment	Home Work	Remarks
51	Charle's Law	<ul style="list-style-type: none"> <li>➤ Able to define Charle's Law.</li> <li>➤ Know about the practical application of Charles's Law.</li> <li>➤ Account for temperature volume changes using Charle's Law.</li> <li>➤ Able to verify the Charle's Law.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain the topic by lecture method.</li> <li>➤ Derive the mathematical form of Charle's Law on board.</li> <li>➤ Solve the example # 5.2 on board to verify the Charle's Law.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What is charl's Law?</li> <li>➤ Why the volume of gases increase by increase temperature?</li> <li>➤ What is mathematical form of Charle's Law?</li> </ul>	S.Q # iii, iv, L.Q # 9 (ix)	
52	Liquid State.	<ul style="list-style-type: none"> <li>➤ Able to under the liquid state of matter.</li> <li>➤ Able to define the liquid state.</li> <li>➤ Recognize the properties of liquid in their surroundings.</li> <li>➤ Know about boiling point, freezing point of liquid.</li> <li>➤ Able to discuss the evaporation and its applications.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain the topic by lecture and discussion method.</li> <li>➤ Perform the activity #5.3 in class.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What is boiling point?</li> <li>➤ What is evaporation?</li> <li>➤ Why the vapour pressure of ethyl alcohol is greater than H<sub>2</sub>O.</li> <li>➤ What is liquid state?</li> </ul>	L.Q# 3,4,5 Q#9(iii,x (iv)	
53	Practical To determine the boiling point of acetone.	<ul style="list-style-type: none"> <li>➤ To know we can measure the B.P of a liquid.</li> <li>➤ Able to check the purity of a compound.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Demonstrate the procedure and</li> <li>➤ Perform the practical in front of students.</li> <li>➤ Divide the students into groups to perform the practical and help the student.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What are the apparatus used in practical?</li> <li>➤ Why we measure the boiling point of a liquid.</li> <li>➤ Repeat the procedure.</li> </ul>	The students will write the practical in practical notebook.	

Days	Learning Topics	SLOs	Strategy	Assessment	Home Work	Remarks
54	Practical To determine the boiling point of ethyl alcohol.	Do	Do	Do	Do	
55	Solid state Properties	<ul style="list-style-type: none"> <li>➤ Define solid state.</li> <li>➤ Able to discuss the properties of solid state.</li> <li>➤ Know the practical uses of solids.</li> <li>➤ Describe the physical properties of solids.</li> <li>➤ Able to define melting point.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain the topic by interactive lecture.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What is solid state of matter?</li> <li>➤ What is melting point?</li> <li>➤ What is meant by rigidity?</li> <li>➤ Solid have definite shape why?</li> </ul>	No Work	
56	Practical to determine the melting point of naphthalene	<ul style="list-style-type: none"> <li>➤ Able to measure the melting point of a solid</li> <li>➤ Able to check the purity of a solid.</li> <li>➤ Know the apparatus used.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Demonstrate the procedure and perform the practical in front of students</li> </ul>	<ul style="list-style-type: none"> <li>➤ What is melting point?</li> <li>➤ Name the apparatus used in practical.</li> <li>➤ What is meant by purity of solid?</li> </ul>	Write the practical on practical notebook.	
57	Types of solids	<ul style="list-style-type: none"> <li>➤ Able to define the solids.</li> <li>➤ Know the types of solids.</li> <li>➤ Recognize the crystalline solids.</li> <li>➤ Differentiate between amorphous &amp; crystalline solids.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain the topic by lecture method.</li> <li>➤ Draw the diagram of crystalline solids on board.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What are solids?</li> <li>➤ How many types of solids?</li> <li>➤ What are crystalline solids?</li> <li>➤ Why amorphous solids have low melting points?</li> </ul>	L.Q # 6	

Days	Learning Topics	SLOs	Strategy	Assessment	Home Work	Remarks
58	Allotropy	<ul style="list-style-type: none"> <li>➤ able to explain the allotropic form of element.</li> <li>➤ Able to define the allotropy.</li> <li>➤ Be able to discuss the properties and uses of allotropic forms of carbon.</li> <li>➤ Know about the transition temperature.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain the topic by interactive lecture method.</li> <li>➤ Explain the structure of diamond, graphite Bucky balls.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What is allotropy?</li> <li>➤ Why element exist in allotropic form.</li> <li>➤ How many allotropic forms of carbon?</li> <li>➤ What is rhombic sulphur.</li> <li>➤ Why graphite is good conductor but diamond is not.</li> </ul>	Long Question #7	
59	Test	<ul style="list-style-type: none"> <li>➤ After completion of chapter students will be able to know the all aspects of states of matter.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Divide the students into groups for different topic.</li> <li>➤ Check their test and evaluate.</li> </ul>	<ul style="list-style-type: none"> <li>➤ After marking the test, the teacher can evaluate.</li> </ul>	No work	
60	Chapter#6 solutions introduction	<ul style="list-style-type: none"> <li>➤ Able to define solution.</li> <li>➤ Know the importance of solution in daily life.</li> <li>➤ Recognize the aqueous and non aqueous solution.</li> <li>➤ Explain the term solute &amp; solvent.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain the topic by lecture method.</li> <li>➤ Prepare solution of sugar / NaCl in class.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What is a solution?</li> <li>➤ What are components of solution?</li> <li>➤ What is aqueous solution</li> <li>➤ Why water is universal solvent.</li> </ul>	S.Q# (i)	
61	Saturated unsaturated and supersaturated solution.	<ul style="list-style-type: none"> <li>➤ Differentiate between saturated unsaturated and super saturated solutions.</li> <li>➤ Able to identify the solutions in surrounding.</li> <li>➤ Know making of solutions.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain the topic by lecture and discussion method.</li> <li>➤ Perform activity # 6.1.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What is solution?</li> <li>➤ What are saturated solutions?</li> <li>➤ How we can prepare the super saturated solution.</li> </ul>	S.Q#(ii)	

Days	Learning Topics	SLOs	Strategy	Assessment	Home Work	Remarks
62	Practical To prepare the crystals of copper sulphate from the given impure sample	<ul style="list-style-type: none"> <li>➤ Able to make the crystals of <math>\text{CuSO}_4</math>.</li> <li>➤ Able to perform experiment.</li> <li>➤ Aware about apparatus in lab.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Demonstrate the procedure and perform practical in first of students.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What is a crystal?</li> <li>➤ What is meant by purification?</li> <li>➤ What is formula of copper sulphate?</li> <li>➤ Ask students to write precautions of this practical.</li> </ul>	Write the practical in practical notebook	
63	Types of solution on the basis of physical states.	<ul style="list-style-type: none"> <li>➤ Able to define solutions.</li> <li>➤ Recognize the gaseous solution.</li> <li>➤ Identify the liquid solution.</li> <li>➤ Explain the different solution formation.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain the topic by lecture method and discussion method.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What is a solution?</li> <li>➤ What are the components of a solution?</li> <li>➤ What is practical application of solution?</li> </ul>	No work	
64	Concentration units of solution percentage composition of solution.	<ul style="list-style-type: none"> <li>➤ Explain the concentration units of solution.</li> <li>➤ Able to define concentration of solution.</li> <li>➤ Define standard solution.</li> <li>➤ Able to discuss the weight-volume relationship.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain the topic by lecture method.</li> <li>➤ Solve the example#6.1 on board.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What is standard solution?</li> <li>➤ What is concentration of a solution?</li> <li>➤ What is percentage composition?</li> </ul>	S.Q#(iii) L.Q# 3,	
65	Molarity of solution.	<ul style="list-style-type: none"> <li>➤ Be able to define molarity.</li> <li>➤ Know the formula of molarity.</li> <li>➤ Learnt the practical application of molarity.</li> <li>➤ Apply this concept in lab work.</li> <li>➤ Solve the problems by using formula of molarity.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain the topic by interactive lecture method.</li> <li>➤ Solve the example #6.2 on board.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What is molarity.</li> <li>➤ What is formula of molarity?</li> <li>➤ Why we prepare molar solution.</li> <li>➤ What is mole?</li> <li>➤ What is the symbol of molarity.</li> </ul>	S.Q# (iii) L.Q #4,5,6	

Days	Learning Topics	SLOs	Strategy	Assessment	Home Work	Remarks
66	Practical To prepare 100cm <sup>3</sup> of 0.1M NaOH solution.	<ul style="list-style-type: none"> <li>➤ Able to prepare the solution.</li> <li>➤ Able to work in team.</li> <li>➤ Learnt solution &amp; morality practically.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Prepare the solution in front of students.</li> <li>➤ Divide the students into groups and ask to perform practical carefully.</li> <li>➤ Help the students.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What is solution?</li> <li>➤ What is importance of solution?</li> <li>➤ What is molarity?</li> <li>➤ What is standard solution.</li> </ul>	Write this practical on nootbook	
67	Practical To prepare 100cm <sup>3</sup> of 0.1M Na <sub>2</sub> CO <sub>3</sub> solution.	Do	Do	Do	Do	
68	Practical To prepare 100cm <sup>3</sup> of 0.1 M NaOH solution from the given 1M solution.	Do	Do	Do	Do	
69	To prepare 100cm <sup>3</sup> of 0.01m Na <sub>2</sub> Co <sub>3</sub> from the given solution of 0.1 m solution.	Do	Do	Do	Do	
70	To prepare 100cm <sup>3</sup> of 0.01m Hcl solution from given solution 0.1m Hcl.	Do	Do	Do	Do	
71	To prepare 250cm <sup>3</sup> solution of 0.1M oxalic acid solution.	Do	Do	Do	Do	

Days	Learning Topics	SLOs	Strategy	Assessment	Home Work	Remarks
72	Solubility and its factors affecting solubility.	<ul style="list-style-type: none"> <li>➤ Able to define solubility.</li> <li>➤ Recognize the solubility of things in daily life</li> <li>➤ Know the effect of temperature on solubility.</li> <li>➤ Use the rule like dissolve like.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain the topic by interactive lecture method.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What is solubility?</li> <li>➤ What is effect of pressure on solubility of gas?</li> <li>➤ What is effect of temperature on solubility?</li> <li>➤ What is the rule of solubility?</li> </ul>	Long Question#7	
73	Solute solvent interaction	<ul style="list-style-type: none"> <li>➤ Explain the solute solvent interaction.</li> <li>➤ Understand the attraction between solute and solvent.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain the topic by lecture method.</li> <li>➤ Perform the activity #6.3 in class.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What is solvent attraction?</li> <li>➤ What is solute solvent attraction?</li> <li>➤ What is the strength of polar solute non polar solvent attraction?</li> </ul>	Q#9(ii)(iii)(iv)	
74	Solution formation	<ul style="list-style-type: none"> <li>➤ Able to define solution.</li> <li>➤ Able to define hydration.</li> <li>➤ Explain the hydrogen bonding.</li> <li>➤ Understand the phenol water system.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Write the topic on board.</li> <li>➤ Explain the topic by lecture method.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What is solution?</li> <li>➤ What are miscible liquids?</li> <li>➤ What is hydration?</li> <li>➤ What is hydrogen bonding?</li> </ul>	S.Q#(v) L.Q#9(i)	
75	Comparison of solution, suspension and colloids.	<ul style="list-style-type: none"> <li>➤ Able to define the solution, suspension &amp; colloid.</li> <li>➤ Differentiate between solution &amp; suspension.</li> <li>➤ Explain the practical application of suspension colloid.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain the topic by lecture method.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What is solution?</li> <li>➤ What is suspension?</li> <li>➤ What is colloid solution?</li> <li>➤ What is meant by heterogeneous?</li> </ul>	Long Question #8	

Days	Learning Topics	SLOs	Strategy	Assessment	Home Work	Remarks
76	Practical To determine that temperature effects solubility.	<ul style="list-style-type: none"> <li>➤ Able to perform practical.</li> <li>➤ Able to work in team.</li> <li>➤ Learn about the solubility.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Perform the practical in front of students.</li> <li>➤ Make groups of students to perform practical.</li> <li>➤ Help the students.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Ask the name of apparatus from students.</li> <li>➤ Students repeat the procedure of practical.</li> </ul>	Write on practical notebook.	
77	Test	<ul style="list-style-type: none"> <li>➤ Able to prepare chapter#6 orally and also practically.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Divide the students in group for different topics.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Check their test and evaluate.</li> </ul>	NO work	
78	Chapter # 7 Electro chemistry introduction + oxidation and reduction.	<ul style="list-style-type: none"> <li>➤ Able to define elector-chemistry.</li> <li>➤ Explain oxidation in terms of addition of oxygen.</li> <li>➤ Understand oxidation in term of loss of electrons.</li> <li>➤ Explain reduction in term of removal oxygen.</li> <li>➤ Know about reduction in term of addition of electron.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Write the topic on board.</li> <li>➤ Explain the topic in detail.</li> <li>➤ Write the important reactions of oxidation reduction on board.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What is electro chemistry?</li> <li>➤ What is oxidation?</li> <li>➤ How we can define reduction.</li> </ul>	S.Q# (iv)	
79	Oxidation state.	<ul style="list-style-type: none"> <li>➤ Able to define oxidation state.</li> <li>➤ Explain the increase in oxidation state by removal of electron.</li> <li>➤ Determine the oxidation number of and atom in a compound.</li> <li>➤ Able to tell the rule of assigning of oxidation number.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Write the topic in board.</li> <li>➤ Explain the topic by lecture method.</li> <li>➤ Write the assigning rules on board.</li> <li>➤ Solve the examples 7.1, 7.2, 7.3 on board.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What is oxidation?</li> <li>➤ What oxidation number?</li> <li>➤ How the oxidation no measure.</li> </ul>	S.Q (i) (ii) L.Q No 9	

Days	Learning Topics	SLOs	Strategy	Assessment	Home Work	Remarks
80	Oxidizing & reducing agent + oxidation reduction reactions.	<ul style="list-style-type: none"> <li>➤ Able to define oxidizing &amp; reducing agent.</li> <li>➤ Explain the redox reactions.</li> <li>➤ Differentiate between the oxidizing &amp; reducing agent.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain the topic by lecture method.</li> <li>➤ Solve the examples # 7.4, 7.5, 7.6 on board.</li> <li>➤ Write important reaction on board.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What is oxidizing agent?</li> <li>➤ What is reducing agent?</li> <li>➤ What are redox reactions?</li> <li>➤ What are uses of oxidizing &amp; reducing agent?</li> </ul>	L.Q# 5 & 7	
81	Electro chemical cells electrolytic cell.	<ul style="list-style-type: none"> <li>➤ Able to describe the electrochemical processes.</li> <li>➤ Able to sketch the electrochemical cell.</li> <li>➤ Know the function of electrodes.</li> <li>➤ Understand the concept of electrolytes.</li> <li>➤ Explain the term electrolysis.</li> <li>➤ List uses of cell.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain the topic by lecture methods.</li> <li>➤ Demonstration method by using chart.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What is electrolytic cell?</li> <li>➤ What are electrodes?</li> <li>➤ What is electrolysis?</li> <li>➤ How you can define electrolysis.</li> <li>➤ What is spontaneous change?</li> </ul>	S.Q # (iii) L.Q # 3 L.Q 9(i)(ii) (iv)	
82	Practical To demonstrate the conduction of different given solution.	<ul style="list-style-type: none"> <li>➤ Able to perform the practical.</li> <li>➤ Explain the concept of conductivity.</li> <li>➤ Know about ionic conductors.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Perform the practical in front of student.</li> <li>➤ Divide the students into groups and ask to perform practical.</li> <li>➤ Help the students.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Ask the students to tell the names of apparatus.</li> <li>➤ What is conductivity?</li> <li>➤ What are electrolytes?</li> </ul>	Practical on notebook.	
83	Galvanic or voltaic cell.	<ul style="list-style-type: none"> <li>➤ Able to differentiate between electrolytic cell and voltaic cell.</li> <li>➤ Know about salt bridge.</li> <li>➤ Explain the half cell reaction at anode &amp; half cell reaction at cathode.</li> <li>➤ Know about spontaneous change.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain the topic by demonstration method by using chart of voltaic cell.</li> <li>➤ You may draw the diagram on board of voltaic cell.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What is voltaic cell?</li> <li>➤ What is salt bridge?</li> <li>➤ What are spontaneous changes?</li> <li>➤ What are electrolytes?</li> </ul>	L.Q # 6 Q#9 (ii)	



Days	Learning Topics	SLOs	Strategy	Assessment	Home Work	Remarks
84	Electro chemical industries & electrolysis of fused NaCl.	<ul style="list-style-type: none"> <li>➤ Know about electro chemical processes.</li> <li>➤ Able to define electrolysis.</li> <li>➤ Explain the products of few industries.</li> <li>➤ Know about electro chemical batteries.</li> <li>➤ Identify the product of fused NaCl during electrolysis.</li> <li>➤ Sketch the diagram of down's cell.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain the topic by demonstration method by using chart or diagram on board of down cell.</li> <li>➤ Write important cell reactions on board.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What is electrolysis?</li> <li>➤ What is down's cell?</li> <li>➤ What are electrochemical processes?</li> <li>➤ What are batteries?</li> <li>➤ How you can define anodic half reaction?</li> </ul>	L.Q#4	
85	Electrolysis of aqueous solution of NaCl.	<ul style="list-style-type: none"> <li>➤ Able to define electrolysis.</li> <li>➤ Know about Nelson's cell.</li> <li>➤ Explain the electrolytes.</li> <li>➤ Uses of electrolytes.</li> <li>➤ Describe the formation of sodium from NaCl.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain the topic by demonstration Method by using chart or diagram on board of Nelson's cell.</li> <li>➤ Write the reactions occur on anode &amp; cathode on board.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What is electrolysis?</li> <li>➤ What is nelson's cell?</li> <li>➤ Draw diagram of Nelson's cell.</li> </ul>	No work	
86	Corrosion and its prevention + rusting of iron.	<ul style="list-style-type: none"> <li>➤ Define corrosion.</li> <li>➤ Know about its prevention.</li> <li>➤ Know how to prevent iron from rusting.</li> <li>➤ Explain the rusting of iron.</li> <li>➤ Describe the process of rusting.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain the topic by lecture method.</li> <li>➤ Write the reactions on board.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What is corrosion?</li> <li>➤ How it is prevented?</li> <li>➤ What are disadvantages of rusting?</li> <li>➤ What is the role of oxygen in rusting?</li> </ul>	No work	
87	Electroplating .	<ul style="list-style-type: none"> <li>➤ Define electroplating.</li> <li>➤ Know the practical applications of electroplating.</li> <li>➤ Explain the process of electroplating.</li> <li>➤ Sketch the diagram to show electroplating.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain the topic by demonstration or lecture method.</li> <li>➤ Draw diagram of electroplating on occurring in cell on board.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What is electroplating?</li> <li>➤ What are practical applications of electroplating?</li> <li>➤ Why cathode is made up of pure metal.</li> <li>➤ Why an electrolyte is used for electroplating.</li> </ul>	S.Q#(v)	

Days	Learning Topics	SLOs	Strategy	Assessment	Home Work	Remarks
88	Zinc, chrome, silver and tin plating.	<ul style="list-style-type: none"> <li>➤ Describe the zn, Tin plating.</li> <li>➤ Able to tell the practical applications of electroplating.</li> </ul>	Do	Do	No work	
89	Test	<ul style="list-style-type: none"> <li>➤ After completion of chapter students will able to tell about all concepts of electrochemistry.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Students will be seated according to roll no and provided with test.</li> </ul>	<ul style="list-style-type: none"> <li>➤ After marking the test teacher can evaluate.</li> </ul>	No work	
90	Chapter # 8 chemical reactivity introduction + metals.	<ul style="list-style-type: none"> <li>➤ Able to define chemical reactivity.</li> <li>➤ Explain electro-positivity nature of metals.</li> <li>➤ Know about the nature of bond in metals.</li> <li>➤ Recognize the metals from surrounding.</li> <li>➤ Tell the position of metals in periodic table.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain the topic by lecture method. &amp;</li> <li>➤ Demonstration method using periodic table.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What is meant by chemical reactivity?</li> <li>➤ Why metals donate electrons?</li> <li>➤ How you can differentiate between metals &amp; non metals.</li> <li>➤ Why metals have metallic luster.</li> </ul>	No work	.
91	Characteristics of metals and non metals.	<ul style="list-style-type: none"> <li>➤ Able to define metals and non metals.</li> <li>➤ Explain the properties of metals &amp; non metals to differentiate between metals &amp; non metals.</li> <li>➤ Show how cation is related to metals &amp; anion is related to non metals.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain the topic by lecture method.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What are metals?</li> <li>➤ What are non metals?</li> <li>➤ Why metals donate electrons?</li> </ul>	S.Q# (ii) L.Q#8(iv)	

Days	Learning Topics	SLOs	Strategy	Assessment	Home Work	Remarks
92	Alkali metals & alkaline earth metals.	<ul style="list-style-type: none"> <li>➤ Explain the alkali &amp; alkaline earth metals.</li> <li>➤ Tell the name of alkali metals.</li> <li>➤ Tell the name of alkaline earth metals.</li> <li>➤ Know the symbols of alkali metals.</li> <li>➤ Know the symbols of alkaline earth metals</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain the topic by lecture and demonstration method by using periodic table.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What are the group IA elements?</li> <li>➤ Why are called alkali metals?</li> <li>➤ What are source of elements of group IIA.</li> <li>➤ Why alkaline earth metals are less reactive metals then alkali.</li> </ul>	L.Q#4 L.Q#8(i) S.Q=(iii)	
93	Difference between ionization energy between group I and II elements.	<ul style="list-style-type: none"> <li>➤ Able to define ionization energy.</li> <li>➤ Explain the trend of ionization energy in group IA &amp; IIA.</li> <li>➤ Describe the difference of ionization energy between IA &amp; IIA.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain the topic by lecture and demonstration by using book + periodic table.</li> <li>➤ Perform activity 8.1 in class.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What is ionization energy?</li> <li>➤ How it is measured?</li> <li>➤ Why ionization energy of IIA is greater than IA.</li> <li>➤ Why metals have low ionization energy.</li> </ul>	L.Q # 3	
94	Sodium	<ul style="list-style-type: none"> <li>➤ Able to know the nature of sodium.</li> <li>➤ Tell the bonding of sodium.</li> <li>➤ Know how to keep it in lab.</li> <li>➤ Describe its reaction.</li> <li>➤ Explain its uses.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain the topic by lecture method.</li> <li>➤ Write all important reaction of Na on board.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What is sodium?</li> <li>➤ What is reactivity?</li> <li>➤ How it is reducing agent.</li> <li>➤ Why sodium is soft.</li> <li>➤ Why it is kept in kerosene oil.</li> </ul>	L.Q#5 L.Q#8(ii)	
95	magnesium & calcium	<ul style="list-style-type: none"> <li>➤ Discuss the Mg &amp; Ca.</li> <li>➤ Explain the bonding in Mg &amp; Ca.</li> <li>➤ Describe the position of Ca &amp; Mg in periodic table.</li> <li>➤ Know their uses.</li> <li>➤ Know their properties.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain the topic by lecture method.</li> <li>➤ Write all reactions on board.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Why Ca &amp; Mg are heavier than water?</li> <li>➤ What is the group of Ca &amp; Mg in periodic table?</li> <li>➤ What are the uses of Mg &amp; Ca?</li> <li>➤ What is the color of Ca &amp; Mg.</li> </ul>	S.Q#(iii)	

Days	Learning Topics	SLOs	Strategy	Assessment	Home Work	Remarks
96	Soft, Hard and Nobel metals.	<ul style="list-style-type: none"> <li>➤ Able to define soft, hard &amp; Nobel Metals.</li> <li>➤ Explain the properties of such metals.</li> <li>➤ Describe the uses of Nobel metals.</li> <li>➤ Know the practical application of soft &amp; hard metals.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain the topic by lecture method.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What are metals?</li> <li>➤ What are soft metals?</li> <li>➤ What are hard metals?</li> <li>➤ Why noble metals does not react with any substance.</li> <li>➤ What are the uses of soft &amp; hard metals?</li> </ul>	S.Q#(iv) (v) L.Q#6 L.Q#8(v)	
97	Non metals.	<ul style="list-style-type: none"> <li>➤ Able to know the nature of non-metals.</li> <li>➤ Able to define non metals.</li> <li>➤ Explain the electro-negative nature of non metals.</li> <li>➤ Describe the reactivity of halogens.</li> <li>➤ Know the uses of non metals.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain the topic by lecture methods.</li> <li>➤ Write the reactions on board.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What are non metals?</li> <li>➤ Why non metals are different from metals?</li> <li>➤ Why halogen are more reactive.</li> <li>➤ How halogen are reducing agent.</li> <li>➤ Why halogen are found in diatomic molecule.</li> </ul>	L.Q#7	

98	Practical. To demonstrate a metal displacement reaction in aqueous medium.	<ul style="list-style-type: none"> <li>➤ Able to perform the practical.</li> <li>➤ Able to work in team.</li> <li>➤ Explain the reactivity of element.</li> <li>➤ Describe the replacement.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Perform the practical in front of students.</li> <li>➤ Divide the students into groups and perform practical.</li> <li>➤ Help the student.</li> </ul>	<ul style="list-style-type: none"> <li>➤ What are displacements?</li> <li>➤ What is reactivity?</li> </ul>	Write in practical notebook.	
99	Test	<ul style="list-style-type: none"> <li>➤ At the end of chapter students will be able know the chemical reaction.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Seated the students according to their roll numbers and provide the test.</li> </ul>	<ul style="list-style-type: none"> <li>➤ After marking the test the teacher will able to evaluate.</li> </ul>	No work	
100	Day 100 o 180	<ul style="list-style-type: none"> <li>➤ McQ's from all exercise of text book.</li> <li>➤ Preparation of short question.</li> <li>➤ Preparation of long question.</li> <li>➤ Previous question papers of BISE.</li> <li>➤ Their method of attempt and solution.</li> </ul>				