Chemistry
Full Syllabus Test

VII (ICSE) **Full Marks : 80**
Topic: Full Syllabus **Time : 2 hrs.**

SECTION – A
(Compulsory)

1. (a) **Classify the following elements as metals, non-metals and metalloids.** **5**

Silicon	
Sulphur	
Platinum	
Hydrogen	
Copper	

(b) **Define the following:** **5**
(i) Homogenous mixtures
(ii) Rusting of iron
(iii) Nitrogen fixation
(iv) atomicity
(v) Polyatomic molecules

(c) **State whether True or False:** **5**
(i) Milk is a mixture.
(ii) No new substance is formed during chemical change.
(iii) Sulphuric acid is a weak acid.
(iv) Black residue is formed when sugar is heated.
(v) A conical flask is used for storing and mixing liquids.

(d) **Match the apparatus with its correct use.** **5**

Bunsen burner	Mixing and storing gases
Thistle funnel	Heating purposes
Wire gauze	Measuring liquids
Measuring cylinder	Transferring liquids
Conical flask	Preventing cracking of a glass apparatus during heating

(e) **State whether true or false:** **5**
(i) Marble is a hydrated calcium sulphate.
(ii) Oxygen burns in an atmosphere of acetylene producing very high temperatures which is used for welding and cutting metals.
(iii) Metals occur in nature in both free and combined states.
(iv) Rusting is a slow oxidation process in which iron slowly reacts with oxygen of the air in the presence of moisture.
(v) Water freezing into ice is an example of chemical change.

(f) **Choose the correct option:** **5**
(i) Which of the following is the best conductor of electricity?
(A) Ag (B) Cu (C) Al (D) Fe
(ii) The natural way of adding oxygen to air which involves green plants is called
(A) photosynthesis (B) respiration (C) burning (D) dissolution
(iii) A metalloid used in the manufacture of microchips used in computer is
(A) antimony (B) germanium (C) silicon (D) arsenic
(iv) When sodium carbonate reacts with dilute hydrochloric acid, the gas evolved is
(A) CO_2 (B) N_2 (C) O_2 (D) H_2

(v) Which of the following exhibits variable valency?
(A) Ca (B) Cu (C) C (D) Na

(g) **Fill in the blanks and rewrite the sentences:** **5**
(i) Manganese dioxide acts as a _____ during the formation of oxygen.
(ii) On burning a candle, _____ is formed.
(iii) When ammonium chloride is dissolved in water; heat is _____.
(iv) A sublimable solid on heating turns into _____.
(v) Adding salt to water increases the _____ point of water.

(h) **Balance the following reactions:** **5**
(i) $Mg + O_2 \rightarrow MgO$
(ii) $H_2O \rightarrow H_2 + O_2$
(iii) $Fe + CuSO_4 \rightarrow FeSO_4 + Cu$
(iv) $NaHCO_3 + H_2SO_4 \rightarrow Na_2SO_4 + H_2O + CO_2$
(v) $Zn + HCl \rightarrow ZnCl_2 + H_2$

SECTION – B
(Answer any four)

2. (a) Compare in tabular form properties of solids, liquids and gases with respect to: **5**
(i) Shape
(ii) Volume
(iii) Compressibility
(iv) Diffusion
(v) Fluidity or Rigidity

(b) **Match the following:** **5**

	Column I		Column II
(a)	Solid 'X' to liquid 'Y'	(p)	Liquefaction
(b)	Liquid 'X' to its vapours 'Z'	(q)	Solidification
(c)	'Z' to 'X'	(r)	Melting
(d)	'Y' to 'X'	(s)	Boiling point
(e)	The temperature at which 'Y' changes to 'Z'	(t)	Vaporisation

3. (a) **State the differences between:** **5**
(i) Physical and Chemical changes
(ii) Physical Properties of Metals and non-metals

(b) **Give the application of the following methods used for separation of substances.** **5**
(i) Sedimentation
(ii) Filtration
(iii) Evaporation
(iv) Distillation
(v) Centrifugation

4. (a) (i) What are endothermic reactions? Give an example. **3**
(ii) What is radical? Give one example of trivalent negative radical.

(b) **Mark the properties as A or M for atoms and molecules respectively.** **3**
(i) All can exist independently.
(ii) Takes part in a chemical reaction.
(iii) Determines the properties of the matter.

(c) **Give word equations to represent following observations in chemical reactions.** **4**
(i) Two gases combine to give a solid product.
(ii) White precipitate is formed.
(iii) An effervescence of colourless gas is observed.
(iv) A green solid turns black on heating.

5. (a) **Complete the following table:** **2**

Indicator	Solutions	Colour
Litmus	Lemon Juice	
	Sodium hydroxide	Pink
Turmeric juice	Soap solution	
Phenolpthalin solution	Orange juice	

(b) Write two evidences to show air is a mixture, not a compound. **2**
(c) Mention the valency of underlines element or radical in each of the following compounds: **2**
(i) $\underline{Hg}Cl$
(ii) $\underline{Al_2}O_3$
(iii) $\underline{N}H_3$
(iv) $H_2\underline{S}$
(d) Write one use of each of the following: **2**
(i) Nitric acid
(ii) Sodium benzoate
(e) Write the full form and constituents of SPM. **2**

6. (a) Write any three comparisons between burning and respiration. **3**
(b) Name an acid found in acid rain. How is it formed? Write equations. **3**
(c) (i) Draw a labelled diagram to show laboratory preparation of O_2. **4**
(ii) Write a balanced equation for the above.
(iii) How is O_2 collected?
(iv) State a test for O_2 gas.

7. (a) Write the formula of the following substances: **3**
(i) Washing soda (ii) gypsum (iii) lime stone
(b) Complete and balance the following reactions: **3**
(i) $KOH + H_2SO_4 \rightarrow$
(ii) $Mg + HCl \rightarrow$
(iii) $CaCO_3 + HCl \rightarrow$
(c) Name the following: **4**
(i) A metal that does not displace hydrogen from an acid.
(ii) A salt formed on partial replacement of H atom of an acid.
(iii) An acid used as antiseptic.
(iv) A supplement to common salt to prevent goitre.

8. (a) State three differences between chemical properties of metals and non-metals. **3**
(b) Name a non-metal that is **3**
(i) lustrous and diatomic
(ii) liquid at room temperature
(iii) a good conductor of electricity
(c) Explain why the iron pillar of Delhi has not rusted yet. **4**