

GREENLAWNS SCHOOL, WORLI

TERMINAL EXAMINATION: 2016-17

CHEMISTRY

Std: VIII

Marks: 80

Date: 6/10/2016

Time: 2 hrs

Answer to this paper must be written on the answer booklet provided to you.

The first 10 minutes are to be spent in reading the Question paper. The time given at the head of this paper is the time allowed for writing the answers. All questions are compulsory.

Do not waste paper. Leave only one line after each answer.

I A) Name the following: [5]

- i. Process which causes warming up of the earth's surface due to the blanketing effect of man made air pollutant.
- ii. The unique property shown by water which causes ice to float on it.
- iii. A salt which contains water of crystallisation.
- iv. Scientist which gave the first systematic idea of structure of atom.
- v. A gas which is highly soluble in water.

B) Define the following: [5]

- i. Fractional distillation
- ii. Radicals
- iii. Hygroscopic substances
- iv. Mass number of an element
- v. Covalent bond

C) Give the molecular formula for the following compounds: [5]

- i. Lead (II) nitrate
- ii. Sodium zincate
- iii. Calcium carbonate
- iv. Potassium nitrite
- v. Magnesium bicarbonate

D) Give one point of difference between the following: [5]

- i. Automobile exhausts and lightning discharge (pollutants released)
- ii. Solute and solvent (example)
- iii. Hydrated and anhydrous crystals (No. of water molecules in loose chemical combination with crystal)
- iv. Relative atomic mass and relative molecular mass (meaning)
- v. Iron and copper (variable valency exhibited)

E) Draw the atomic structure of the following elements: [5]

- i. $^{32}_{16}\text{S}$
- ii. $^{39}_{19}\text{K}$

F) Give scientific reasons for the following: [5]

- i. Air is a mixture.
- ii. Magnesium gains weight on burning.

- iii. Helium does not form ions.
- iv. Solubility of gases decrease with increase in temperature.
- v. Temperature of land near the sea is lower than temperature of lands away from the sea.

G) Complete the following table: [10]

Common name	Chemical name	Molecular formula
Caustic soda	i	ii
iii	Sulphuric acid	iv
v	vi	NaNO ₃
Washing soda	vii	viii
ix	x	HNO ₃

II) Write equations for the following and balance them: [10]

- i. Iron (III) chloride dissolves in water producing Iron (III) hydroxide and hydrochloric acid.
- ii. Aluminium reacts with nitrogen to give aluminium nitride.
- iii. Iron reacts with steam to produce triferric tetraoxide and hydrogen.
- iv. Copper (II) carbonate on heating decomposes to give Copper (II) oxide and carbon dioxide.
- v. Nitrogen combines with hydrogen to produce ammonia gas.

III A) An atom usually contains three main particles. [3]

- i. Name an element which contains only two of these types of particles in its atom?
- ii. What is meant by the statement that the atomic number of sodium is eleven?
- iii. What is the main difference between sodium atom and sodium ion?

B) Give balanced equations for the following: [3]

- i. Burning of phosphorus in air.
- ii. Oxidation of food substances in the body (respiration).
- iii. Dissolution of sulphur dioxide in water.

C) Some information about the elements D, E, F, G, and H is given below: [4]

Element	Atomic Weight	Atomic Number
D	9	4
E	19	9
F	23	11
G	31	15
H	40	18

- i. Which of the above element / elements are metals?
- ii. Which element is a rare gas?
- iii. Which element contains 22 neutrons in its nucleus?

- iv. Which two elements can form ions with electronic configuration of the noble gas neon?

IV A) The following is a series of metallic elements placed in order of reactivity.

X, Y and Z are imaginary elements:

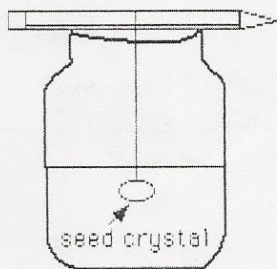
K, X, Ca, Y, Al, Zn, Fe, Pb, Cu, Hg, Z

Answer the following questions about X, Y and Z:

- Identify X, Y and Z. [1½]
 - What will you observe when X and Y react with water? [2]
 - Give equations for reactions of X and Y with water. [2]
 - What does dissolution of oxides of X and Y form? [½]
 - What can you say about the reaction of Z with water? [1]
- B) Name the chemical technique which could be used successfully to separate: [2]
- Ammonium chloride and sodium chloride
 - Alcohol and water
 - Components of a coloured ink
 - Sulphur and charcoal

C) Give any two uses of chlorine gas. [1]

V A) Observe the experimental set-up given below and answer the questions:



- What aspect of experiment is being studied? [1]
 - How has the seed crystal been formed? [2]
 - What happens to this crystal after some time? [1]
 - What causes the above change? [1]
- B) Answer the following questions with respect to carbon dioxide:
- Give an equation for preparation of this gas in laboratory. [1]
 - How is this gas collected? [1]
 - What is the density of CO₂? [1]
- C) State the valencies of the following elements: [2]
- Dichromate
 - Nitride
 - Sulphite
 - Hydroxide
