GREENLAWNS HIGH SCHOOL
SEMESTER II EXAMINATION
CHEMISTRY
VIII – 18/02/25

Maximum Marks: 80

Time allowed: Two hours

Answers to this Paper must be written on the paper provided separately.

The time given at the head of this Paper is the time allowed for writing the answers.

Section A and B both are compulsory.

The intended marks for questions or parts of questions are given in brackets [ ].

SECTION A
(Attempt all questions)

Question 1

Choose the correct answers to the questions from the given options.
(Do not copy the question, Write the correct answer only.) **[15]**

(i) Carbon compound found in petrol which on incomplete combustion release CO.

(a) octane (b) butane

(c) pentane (d) heptane

(ii) Serious condition caused due to lack of oxygen resulting in death.

(a) anemia (b) arthritis

(c) asphyxia (d) ataxia

(iii) Catalyst used for converting sulphur dioxide to sulphur trioxide by addition of oxygen.

(a) VO_5 (b) V_2O_5

(c) V_3O_5 (d) V_2O_4

(iv) Metal that react violently with cold water.

(a) iron (b) calcium

(c) magnesium (d) sodium

(v) Element which is a metalloid.

(a) aluminium (b) silicon

(c) sulphur (d) beryllium

(vi) Change of a weather is classified as

(a) balanced change (b) unbalanced change

(c) periodic change (d) non-periodic change

(vii) Electronic configuration of calcium is

(a) (2,8,8,2) (b) (2,8,8,)

(c) (2,8,2) (d) (2,8,8,1)

(viii) Element has electronic configuration of (2,8,1) it will form ion by

(a) accepting electrons (b) donating electrons

(c) sharing electrons (d) destructing electrons

(ix) Non-metallic oxide combines with water to give an.

(a) alkali (b) acid

(c) base (d) salt

(x) Catalyst which is not a positive catalyst.

(a) iron (b) platinum

(c) alcohol (d) nickel

(xi) Carbon compound which is termed as an organic compound

(a) Carbonic acid (b) calcium carbonate

(c) Carbon monoxide (d) acetic acid

(xii) Amorphous impure form of carbon

(a) coal (b) diamond

(c) graphite (d) fullerene

(xiii) _____ used as a filler in rubber tyres.

(a) coal (b) coke

(c) carbon black (d) charcoal

(xiv) Amorphous allotropes of carbon obtained by destructive distillation.

(i) bone charcoal (ii) coke

(iii) soot (iv) sugar charcoal

(a) i and ii (b) i and iii

(c) i and iv (d) ii and iii

(xv) Compound carrying carbon which acts as a fertilizer.

(a) carbonic acid (b) urea

(c) methane (d) butane

Question 2

(i) Identify the following : **[5]**

(a) Changes which results in the formation of products which are less useful or not at all useful in nature.

(b) Sub atomic particles which carry negligible mass.

(c) Mixture which oxidises CO to CO_2 at ordinary temperature.

(d) Reaction in which an element replaces another less reactive element present in a compound.

(e) Substance which is added to the catalyst to increase its efficiency.

(ii) Complete the following by choosing the correct answers from the bracket: **[5]**

(a) _____ is a water-soluble compound. ($Ca(HCO_3)_2$ / $CaCO_3$)

(b) _____ is a dehydrating agent. (conc. HNO_3 / conc. H_2SO_4)

(c) Graphite and diamond are _____ of carbon. (allotropes / isotopes)

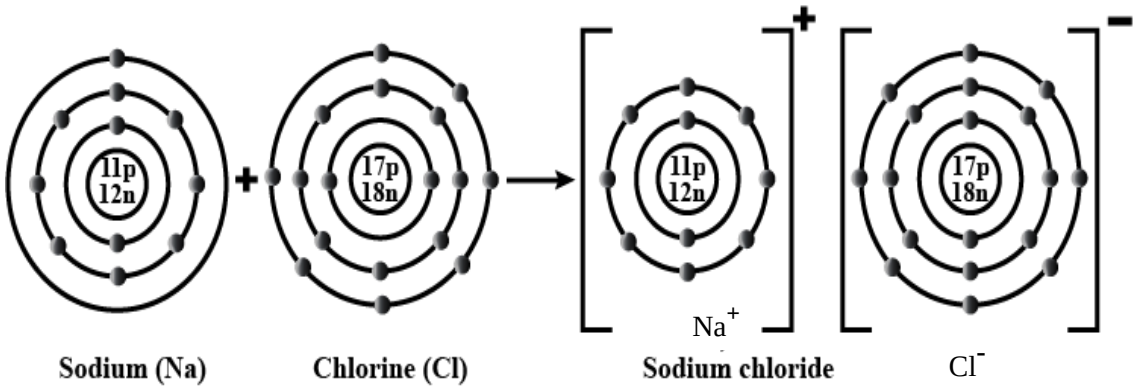
(d) _____ cannot displace hydrogen from dilute acid. (Hg/ Mg).

(e) Rust is chemically _____ (Iron [II]oxide / Iron [III]oxide)

(iii) Match the following **[5]**

(a)	Chemical change	1.	electrons
(b)	Physical change	2.	Gelatinous white ppt
(c)	William Crookes	3.	Changes in electro chemical cells
(d)	J.J. Thomson	4.	Cathode ray
(e)	Zinc hydroxide	5.	Boiling of milk

(iv) Answer the question based on the formation of sodium chloride **[5]**



(a) Electronic configuration of Cl.

(b) Electronic configuration of Na^+.

(c) Element which gain electron to attain stable electronic configuration, which is same as Argon.

(d) Why sodium ion smaller in size as compare to sodium atom?

(e) Put the correct sign, Chlorine atom _____ Chlorine ion. (<, =, >,)

(v) Write the one reason/condition for use of following : **[5]**

(i) Diamond in jewellery item.

(ii) Coke as a fuel.

(iii) Potassium hydrogen carbonate during CO_2 preparation.

(iv) Graphite as an electrode.

(v) Caustic potash during CO preparation.

SECTION B

(Attempt all the questions)

Question 3

(i) Why carbon monoxide is a highly poisonous gas? **[2]**

(ii) Define precipitation reaction. Identify the precipitate formed in the reaction given below **[2]**

$FeCl_3 + 3NaOH \rightarrow 3NaCl + Fe(OH)_3$

(iii) Chocolate is melted to form a chocolate syrup. **[3]**

(a) Is the above change physical or chemical.

(b) Give 2 reasons in support of your answer to question (a) above.

(iv) In an atom electrons are located in an orbit **[3]**

(a) What is an orbit?

(b) Which English alphabet is used to represented the inner most orbit in any atom?

(c) Give the formula used to calculate the maximum number of electrons a particular orbit can hold.

Question 4

(i) Argon has electronic configuration of (2,8,8) **[2]**

(a) Give the valency of an Argon atom.

(b) Why Argon is classified as noble gas?

(ii) Identify and write the type of chemical reaction given below**.** **[2]**

(a) $2HgO \rightarrow 2Hg + O_2$

(b) $SO_2 + H_2O \rightarrow H_2SO_3$

(iii) Name and explain in brief two types of fire extinguishers. **[3]**

(iv) Draw the structure of oxygen atom $^{16}_{8}O$ **[3]**

Question 5

(i) Define neutralisation reaction. Write chemical equation representing neutralisation. **[2]**

(ii) Give two chemical properties of CO. **[2]**

(iii) Distinguish between the following with respect to definition. **[3]**

(a) slow change and fast change

(b) reversible change and irreversible change

(c) periodic change and non-periodic change.

(iv) Define valency with respect to number of electrons. How anion and cation are formed? **[3]**

Question 6

(i) Define thermal dissociation reaction giving an example for the same. **[2]**

(ii) Why dil.H_2SO_4 is not used instead of dil.HCl during laboratory preparation of CO_2? **[2]**

(iii) Give three uses of wood charcoal. **[3]**

(iv) What is chemical reaction? What is the effect of heat on reacting particles during chemical reaction? **[3]**