| VII, S2   | ,025 CHEMISTRY TIN   | AE: 2 Hrs |  |
|---|--|-----------|--|
|   | Answers to this Paper must be written on the paper provided separately.<br>You will not be allowed to write during first 15 minutes.<br>This time is to be spent in reading the question paper.<br>The time given at the head of this Paper is the time allowed for writing the answer |           |  |
| Questi  | on 1   |           |  |
| Choose  | e the correct answers to the questions from the given options.   | [2]       |  |
| (i)   | An element that can be drawn into wires is said to be :  |           |  |
|   | (a) malleable (b) ductile (c) conductor (d) insulator  |           |  |
| ( <b>ii</b> )   | A metalloid used in the manufacture of computer micro chips :  |           |  |
|   | (a) Antimony (b) Germanium (c) Silicon (d) Arsenic   |           |  |
| (iii) Which of the following exhibits variable valency? |  |           |  |
|   | (a) Calcium (b) Copper (c) Carbon (d) Chlorine   |           |  |
| ( <b>iv</b> )   | Which gas is evolved when sodium carbonate reacts with dilute hydrochloric acid?<br>(a) Carbon dioxide (b) Nitrogen (c) Oxygen (d) Hydrogen  |           |  |
| ( <b>v</b> )  | Which of the following causes ozone depletion and global warming?  |           |  |
|   | (a) dust (b) lead compounds (c) chlorofluorocarbons (d) carbon monoxide  |           |  |
| (vi)  | ) is an indication of the evolution of a gas in a chemical reaction:   |           |  |
|   | (a) change in colour (b) the beaker becoming cold  |           |  |
|   | (c) formation of precipitate (d) change in smelll  |           |  |
| (vii)   | Which of the following has a valency of three?   |           |  |
|   | (a) Fluorine (b) Carbon (c) Oxygen (d) Aluminium   |           |  |
| (viii)  | Which one of the following is most likely to be corroded?  |           |  |
|   | (a) stainless steel cupboard (b) galvanized iron bucket  |           |  |
|   | (c) iron hammer (d) tin plated iron box  |           |  |
| Questi  | on 2   | [2]       |  |
| Fill in   | the blanks:  | [2]       |  |
| (1)   | In some chemical reactions, an insoluble is formed when two solutions are mixed.   |           |  |
| ( <b>ii</b> )   | The most abundant metal and non- metal in the earth's crust are and respectively.  |           |  |
| ( <b>iii</b> )  | 2H <sub>2</sub> means two of hydrogen.   |           |  |
| (iv)  | The number of atoms present in a molecule is the of the molecule.  |           |  |
|   |  |           |  |

- (v) Oxygen occupies about ----- of air by volume.
- (vi) The increase in global temperature due to the presence of air

CHENISTDY

# DBSSSV

pollutants is called -----. (vii) The basic condition necessary for a chemical reaction is ------. **Ouestion 3** [2] Write true or false: **(i)** Protons are the particles with no electric charge and unit mass. **(ii)** All atoms of a compound are identical. (iii) Carbon dioxide dissolves in sulphuric acid to form carbonic acid. (iv) Sodium can be cut with a knife. (v) Oxygen reacts with the metals to produce an acidic oxide. (vi) Iron in ferrous chloride has a valency of two. (vii) An atom is electrically neutral. (viii) No new substance is formed during a chemical reaction. **Question 4** [2] Name the following: **(i)** The positively charged subatomic particle of an atom. **(ii)** A metal which is brittle (iii) A mixture of Oxygen and Carbon dioxide used for artificial respiration. (iv) A non-metal which is liquid at room temperature **(v)** The tabular arrangement of elements in horizontal rows and vertical columns (vi) A non-metal which is the hardest naturally occurring substance (vii) The smallest particle of a compound (viii) An alloy of iron **Question 5** [2] Write one example for the following by using symbol or formula: (i) A liquid (ii) A diatomic molecule (iii) A cation (iv) An anion **Question 6** [2] Write your observations for the following: (i) Magnesium is burnt in oxygen (ii) Copper carbonate is heated (iii) Hydrogen gas is burnt in oxygen (iv) Iron is heated with the sulphur **Question 7** 

### Write the word equations for the following:

(i) Aqueous solution of sodium chloride is mixed with an aqueous solution of silver nitrate

[2]

| (11)          | A glass rod dipped in ammonia solution is brought near a test tube containing        |     |
|---------------|--|-----|
|               | concentrated hydrochloric acid   |     |
| Questi        | on 8   |     |
| Differe       | entiate between the following:   | [3] |
|               | (i) Cations and anions (ii) Burning and respiration (iii) Metalloids and noble gases |     |
| Questi        | on 9   |     |
| Define        | the following:   | [5] |
|               | (i) Fuel (ii) Ignition temperature (iii) Catalyst (iv) Valency (v) Photosynthesis    |     |
| Questi        | on 10  |     |
| Choose        | e the correct option for the Assertion - Reason given below :                        | [1] |
| (i)           | Assertion (A): Red litmus dipped in rust solution turns blue.                        |     |
|               | Reason (R): Rust is acidic in nature.  |     |
| ( <b>ii</b> ) | Assertion (A): The atom is electrically neutral.                                     |     |
|               | Reason (R): The number of electrons is equal to number of protons in an atom.        |     |
|               | (a) Both A and R are true and R is the correct explanation of A.                     |     |
|               | (b) Both A and R are true but R is not the correct explanation of A.                 |     |
|               | (c) A is true but R is false.  |     |
|               | (d) A is false but R is true.  |     |
| ~             |  |     |

. .

# **Question 11**

### **Complete the table:**

| Name of the radical | Representation      |
|---------------------|---------------------|
| (a)                 | (i) O <sup>2-</sup> |
| (b) Magnesium ion   | (ii)                |
| (c) Nitrate ion     | (iii)               |
| (d)                 | $(iv) Al^{3+}$      |

# **Question 12**

# Answer any eight questions from the following:

- - -

- (i) Three test tubes A, B and C containing clean Iron nails. In test tube A Iron nails are kept in boiled water. In test tube B iron nails are in contact with the dry air only. In test tube C nails are kept in tap water.
  - (a) In which of the test tube containing nails will get rusted? why?
  - (b) Why is there no rusting of Iron nails in the other two test tube?
- (ii) A compound M reacts with lead acetate to form yellow coloured precipitate R.
  - (a) Identify and name the terms M and R.
  - (b) Write the word equation for the formation of  ${\sf R}$  .

[1]

[16]

- (iii) (a) What is meant by a balanced equation?
  - (b) Balance the following equation:

 $H_2 + Cl_2 \rightarrow HCl$ 

- (iv) (a) Draw the atomic model of oxygen atom.
  - (b) Name the subatomic particles present inside the nucleus of oxygen atom.
- (v) Observe the given diagram and answer the following:



(a) Identify the above monument and write the reason for the change in its colour from white to yellow.

(b) Name the air pollutants which can cause the above change.

- (c) Write any two ways to prevent air pollution.
- (vi) When water is boiled, bubbles are formed. When milk is set to form curd and left outside for a few days, again bubbles are formed.
  - (a) In which case has a chemical reaction taken place?
  - (b) What are the other two characteristics of occurrence of chemical reactions?



- (a) Identify the picture and write its significance in the nitrogen cycle.
- (b) Write any two uses of ntirogen.
- (viii) Rohan observes that the iron railing of his friend's house is totally rusted.Suggest any two methods to Rohan's friend in order to prevent it.
- (ix) Observe the given pictures and answer the following:
  - (A)



(B)



- (a) Identify the various forms of carbon given above.
- (b) Write any one use for each.

\*\*\*\*\*