

Answers to this Paper must be written on the paper provided separately. You will not be allowed to write during the first 15 minutes. This time is 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.

Section A is compulsory. Attempt any five questions from Section B. The intended marks for questions or parts of questions are given in brackets.

Section A (40 marks)  
(Attempt all questions from this section)

I. Tick the correct answer:

[10]

- Which of the following is not an amorphous form of carbon?  
(a) coal (b) diamond  
(c) charcoal (d) lamp black
- The process by which food is oxidised :  
(a) photosynthesis (b) carbocation  
(c) respiration (d) tongs
- Latent heat of vaporisation is :  
(a) 2257 J/g (b) 2268 J/g  
(c) 226 J/g (d) 126 J/g
- The metals which form ionic hydrides are :  
(a) Li, Na, Zn (b) Li, Na, Ca  
(c) Na, Cu, Al (d) Zn, Mg, Al
- When crystals of copper carbonate, which are green in colour, are heated strongly then it forms a :  
(a) black compound of CuO (b) white compound of CuO  
(c) green compound of CuO (d) reaction does not take place
- Allotropy is shown by :  
(a) hydrogen (b) carbon  
(c) both (a) and (b) (d) none of these
- Which acid is present in vinegar?  
(a) acetic acid (b) boric acid  
(c) carbonic acid (d) ferric acid
- Sacrificial protection is the coating of any substance with :  
(a) nickel (b) zinc  
(c) manganese (d) copper
- The metals which can be used for producing hydrogen gas by reacting them with steam are:  
(a) Mg, Cd, Sn (b) Mg, Zn, Na  
(c) Mg, Zn, Fe (d) Zn, Sn, Cu
- The reaction between lead nitrate and potassium iodide is an example of :  
(a) double displacement reaction (b) single displacement reaction  
(c) decomposition reaction (d) neutralisation reaction

II. Fill in the blanks:

[5]

- The substance which accelerates the reaction is known as \_\_\_\_\_.
- The volume of water \_\_\_\_\_ during solidification.
- The melting point of hydrogen is \_\_\_\_\_.

4. When wood is heated in the absence of air the residue is called \_\_\_\_\_.
5. Dry ice is used in food \_\_\_\_\_.

**III. Write true or false for each statement, rewrite the false statements correctly:**

[5]

1. Carbon dioxide is a supporter of combustion.
2. Adsorption is a surface phenomenon.
3. The heat capacity of water is high and its heat conductivity is poor.
4. Hydrogen is absorbed by heated palladium.
5. In a displacement reaction, the less reactive element displaces a more reactive element.

**IV. Match the following:**

[5]

- |                                    |                             |
|------------------------------------|-----------------------------|
| 1. Decomposition of nitroglycerine | a. hydrogen                 |
| 2. Shine of sun                    | b. $\text{CO} + \text{H}_2$ |
| 3. Salts in sea water              | c. exothermic reaction      |
| 4. Water gas                       | d. fizziness                |
| 5. Aerated drinks                  | e. 2.5 %                    |

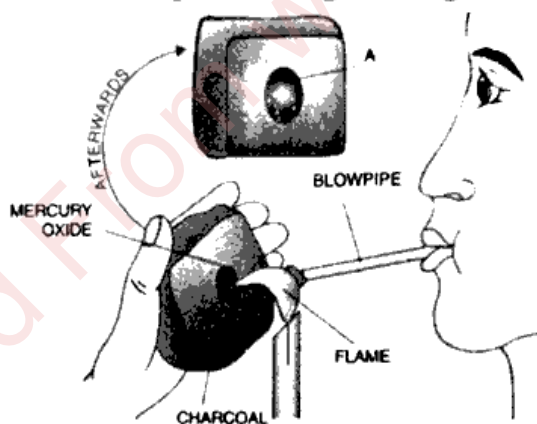
**V. Answer in one word:**

[5]

1. Calcareous shells are made up of
2. Isotope of carbon used to find the age of prehistoric objects
3. Water borne disease
4. Flame used for welding purposes
5. Chemical formula of Magnesium nitrate

**VI. Answer the following questions with respect to the given diagram:**

[5]



1. What is A?
2. Name the place where mercuric oxide is placed.
3. What do you observe in this experiment?
4. What is the function of blow pipe?
5. Give chemical reaction taking place.

**VII. Balance the following:**

[5]

1.  $\text{NaCl} \rightarrow \text{Na} + \text{Cl}_2$
2.  $\text{Al} + \text{NaOH} + \text{H}_2\text{O} \rightarrow \text{NaAlO}_2 + \text{H}_2$
3.  $\text{K} + \text{H}_2\text{O} \rightarrow \text{KOH} + \text{H}_2$
4.  $\text{AgNO}_3 \rightarrow \text{Ag} + \text{O}_2 + \text{NO}_2$
5.  $\text{P}_2\text{O}_5 + \text{H}_2\text{O} \rightarrow \text{H}_3\text{PO}_4$

**Section B (40 marks)**  
(Attempt any five questions)

- VIII. 1) What is activated charcoal? [3]  
2) How will you prove that powdered charcoal acts as a reducing agent? [5]
- IX. 1) Explain why carbon dioxide is used as fire extinguisher. [3]  
2) What is greenhouse effect? How has global warming led to melting of ice caps? [5]
- X. 1) What role water plays in human body? [3]  
2) Explain how temporary and permanent hardness of water is removed? [5]
- XI. 1) What are ionic hydrides? [3]  
2) How is hydrogen prepared for its use in industries? [5]
- XII. 1) What are precipitation reactions? [3]  
2) Give the differences between exothermic and endothermic reaction. [5]
- XIII. 1) Give tests for carbon dioxide. [3]  
2) Why is hard water not preferred for washing and in industry? [5]
- XIV. 1) Where do van der waals's forces operate? [3]  
2) Draw and explain the structure of diamond. [5]

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