SET A

E906-Ch

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ANNUAL EVALUATION 2022-23

CHEMISTRY

Std: IX

Score : 40
Time : 1 ½Hours

Instructions

- First 15 minutes is given as cool off time. This time is to be spent for reading and understanding the questions.
- Answer the questions according to the directions.
- Score and time are to be considered while answering.

Answer any 4 questions from 1 to 5. Each carries 1 Score. **(4 x 1 = 4)**

1. Which among the following has the highest electronegativity? (1)

   (Sodium, Oxygen, Fluorine, Chlorine)

2. Write the chemical name of caustic soda. (1)

3. $\overset{0}{2Na} + \overset{0}{Cl_2} \rightarrow \overset{1+\ 1-}{2NaCl}$

   Which is the oxidising agent in this reaction ? (1)

4. Which among the following oxides is an acidic oxide ? (1)

   (Na_2O, K_2O, MgO, SO_2)

5. Find the relation and fill in the blanks. (1)

   Nitrogen : N_2

   Ozone : .....

Answer any 4 questions from 6 to 10. Each carries 2 Scores. **(4 x 2 = 8)**

6. Choose the correct statements among the following. (2)

   i. As the size of atom increases ionization energy increases.

   ii. As the size of atom decreases electronegativity increases.

   iii. As the size of atom increases metallic character increases.

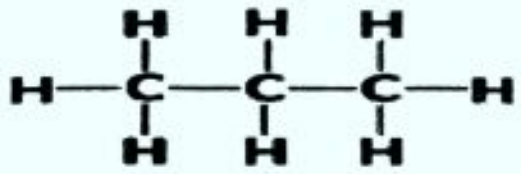
   iv. Size of atom increases on moving from left to right in a period.

7. a) What are the chemicals required for the laboratory preparation of Hydrogen? (1)

   b) Hydrogen filled balloons rise up in the air. Why? (1)

8. Write any two advantages of using organic fertilizers. (2)

9. Structure of an organic compound is given below.



a) What is the valency of Carbon ? (1)

b) What is the name of organic compounds which contain only carbon and hydrogen? (1)

10. Carbon is an element that shows allotropy.

a) What is allotropy? (1)

b) Non crystalline allotropes of carbon are commonly called ..... (1)

Answer any 4 questions from 11 to 15. Each carries 3 Scores. **(4 x 3 =12)**

11. $CaCO_3 + 2HCl \rightarrow CaCl_2 + H_2O + \underline{X}$

a) Identify the gas X. (1)

b) Write any two methods to increase the rate of this chemical reaction. (2)

12. Heat potassium permanganate in a dry boiling tube. When a glowing match stick is shown into this boiling tube, it flares up.

a) The presence of which gas is indicated by the flaring up of the glowing match stick? (1).

b) Write down the chemical equation of reaction taking place in the boiling tube (1)

c) To which category does this reaction belong ? (1)

(Combination reaction, displacement reaction, decomposition, double decomposition)

13. Atomic number of an element is 17 and its mass number is 35.

a) Find out the number of protons and neutrons in this atom. (1)

b) Draw the Bohr model of this atom (2)

14. Structures of two crystalline allotropes of carbon are given below.

a) Which among these is the structure of diamond ? (1)

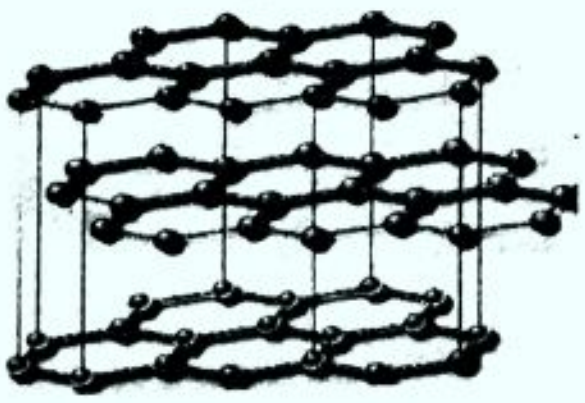


Figure A

Figure B

b) Which of these crystalline structures has no free electrons ? (1)

c) Graphite is used as lubricant. Why? (1)

15. Atomic number of an element Y is 16 (Symbol is not real).

a) Write the electronic configuration of this element. (1)

b) To which period does this element belong ? (1)

c) To which family of elements does this element belong? (1)

Answer any 4 questions from 16 to 20. Each carries 4 scores. **(4 ´x 4 = 16)**

16. Hydrogen used as a fuel because of its high calorific value.

a) What is calorific value? (1)

b) Write any other advantage of hydrogen fuel. (1)

c) Hydrogen is not commonly used as a domestic fuel. Give reasons. (2)

17. Carbon monoxide and Carbon dioxide are two compounds formed by the combination of carbon and oxygen.

a) Write the balanced chemical equation showing the formation of carbon monoxide. (l)

b) Which are the gases mixed with carbon monoxide to prepare water gas and producer gas respectively? (1)

c) Inhaling of excess carbon monoxide leads even to death. Why? (2)

18. The pH values of four solutions are found to be 10,7,5,1. Complete the table using the given pH values. (4)

Solutions	PH value
NaCl Solution	.....a.....
Con. HCl	.....b.....
Vinegar	.....c.....
Solution of washing soda	.....d.....

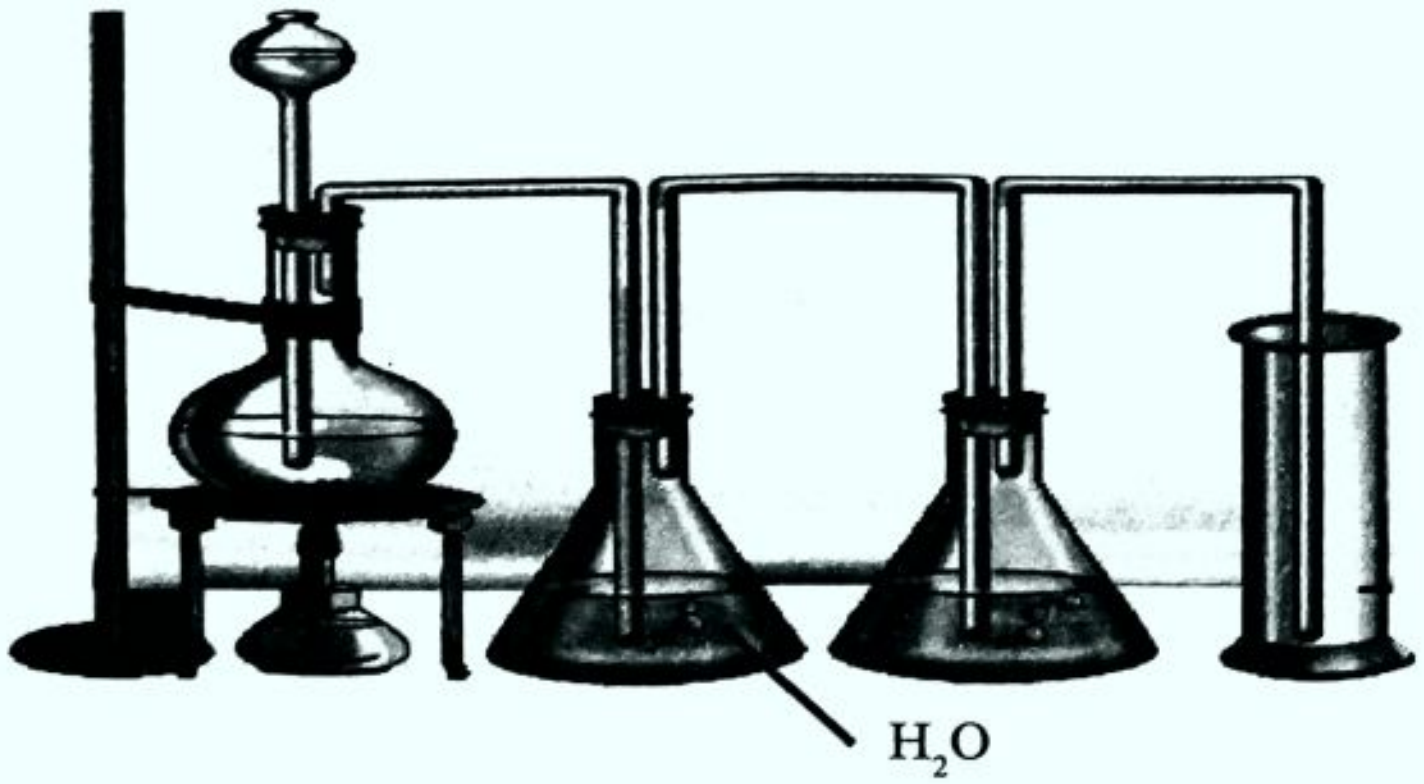
19. Carbon dioxide (CO_2) is an important oxide of carbon.

a) Name the process by which CO_2 is utilized by plants. (1)

b) Write an environmental problem due to the tremendous increase in the amount of CO_2 in atmosphere. (1)

c) What is dry ice? Write any one use. (2)

20 Picture given below shows the laboratory preparation of chlorine. Analyse the picture and answer the following questions.



a) What are the chemicals required for the preparation of chlorine gas? (1)

b) Why is Chlorine gas passed through water.? (1)

c) Which substance is used to remove moisture from chlorine? (1)

d) How is bleaching powder prepared? (1)