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# SAMAGRA SHIKSHA, KERALA

E 906 Ch

## ANNUAL EVALUATION 2019

**Std: IX** **CHEMISTRY** **Score : 40**
**Time: 1 ½Hours**

**Instructions**

- First 15 minutes is given as cool-off time. This time is to be spent for reading the question paper.
- Answer according to the instructions.
- Answer the questions considering the score and time.

**Answer any 4 questions from 1 to 5. Each carries 1 Score.** **(4x1=4)**

1. $H_2S_2O_7$ is a compound formed in one stage of the contact process. This is known as..... (1)

2. Which is the oxidising agent in the reaction? (1)

$$\overset{0}{H_2} + \overset{0}{Cl_2} \longrightarrow 2\,H^{+1}\,Cl^{-1}$$

3. Find the relation and complete the following (1)

| | | |
|---|---|---|
| Dobereiner | : | Triads |
| ..... | : | Law of Octaves. |

4. Carbon atoms have the ability to combine with each other. By which name this ability is known? (1)

5. Which isotope is used as the tracer for identifying the nutrient exchange in plants?
[ C-14 P-31 I -131 U-235] (1)

**Answer any 4 questions from 6 to 10. Each carries 2 Scores.** **(4x2=8)**

6. Some oxides are given below

(i) $Na_2O$ (ii) $NO_2$ (iii) $CO_2$ (iv) MgO

a) Which are the basic oxides among these? (1)

b) What is the name of the aqueous solution of $CO_2$? (1)

7. Baking soda and washing soda are compounds containing carbon.

a) Write the chemical formula of baking soda. (1)

b) Which is the gas formed when these compounds react with acids? (1)

8. Complete the following equations.

a) $NaCl + H_2SO_4 \longrightarrow NaHSO_4 + \underline{X}$ (1)

b) $X + NH_3 \longrightarrow \underline{Y}$ (1)

9. From the given statements, select those suitable for graphite.

i) Is a conductor of electricity.

ii) Is very hard.

iii) Is non volatile.

iv) Has high thermal conductivity. (2)

10. $4\,HNO_3 \longrightarrow 4\,\underline{(A)} + 2H_2O + O_2$

a) Identify A. (1)

b) Write any one property of the product A. (1)

**Answer any 4 questions from 11 to 15. Each carries 3 Scores. (4x3=12)**

11. An element is represented as follows.

$^{27}_{13}X$ (Symbol is not real)

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

b) What is the number of electrons in the shell with highest energy? (1)

c) Findout the number of neutrons in this atom. (1)

12. The chemical formulae of some hydrocarbons are given below.

i) $C_3H_8$ ii) $C_3H_6$ iii) $C_4H_8$ iv) $C_4H_6$

a) Which among these belong to the same homologous series. (1)

b) What is the general formula of this series? (1)

c) Write the IUPAC name of $C_3H_8$ (1)

13. The equation of a reaction used to identify a salt is given below.

$NaCl + X \longrightarrow AgCl + NaNO_3$

a) Identify X. (1)

b) Which is the substance precipitated? (1)

c) What happens when ammonium hydroxide solution is added to this precipitate? (1)

14. Hydrogen and oxygen can be prepared by the electrolysis of water.

a) How is oxygen produced industrially? (1)

b) What is heavy water? Write any two uses of it. (2)

15. Ammonium sulphate $[(NH_4)_2 SO_4]$ is a salt used as a chemical fertilizer.

a) Which is the anion of this salt ? (1)

b) Write the name of the acid used to prepare this salt. (1)

c) Name a sulphate salt which is used as fungicide. (1)

**Answer any 4 questions from 16 to 20. Each carries 4 Scores. (4x4=16)**

16. Some properties of sulphuric acid are given below.

a) Is a drying agent. (1)

b) Is a dehydrating agent. (1)

c) Shows oxidising property. (1)

d) Displaces volatile acids from their salts. (1)

Write one suitable example each to illustrate these properties.

17. The electronic configuration of some elements are given. (Symbols are not real). Analyse them and answer the following questions.

A - 2. 8. 7

B - 2. 8, 8

C - 2, 8, 1

D - 2, 8, 3

a) Which of these show the valency '1' ? (1)

b) To which group does the element 'D' belong? (1)

c) Which element among these has the lowest ionisation energy? Why? (2)

18. Ammonia is an important raw material for the production of nitrogen fertilizers.

a) Which are the reactants required for the preparation of ammonia in the laboratory? (1)

b) Which substance is used as drying agent in the preparation of ammonia. (1)

c) Why ammonia is collected in an inverted gas jar? (1)

d) Write the identification test for ammonium salts. (1)

19. Carbon monoxide and carbon dioxide are two compounds formed by combining carbon and oxygen.

a) Which among them are used for the following.

i) Production of carbogen (1)

ii) As a reducing agent in metallurgy. (1)

b) Write the balanced chemical equation showing the formation of Carbonmonoxide. (1)

c) Write the components of water gas and producer gas. (1)

20. Details regarding a hydrocarbon are given below.

* There are 5 carbon atoms in the chain.

* There is a double bond between first and second carbon atoms.

a) To which category does the compound belong?

(alkane, alkene, alkyne) (1)

b) Write the structural formula of this compound. (1)

c) Write the structural formula and IUPAC name of alicyclic compound having the same molecular formula. (2)