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ANNUAL EVALUATION 2021-22

E 906-Ch

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 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 6. Each carries 1 Score. **(4 x 1 = 4)**

1. Find out the relationship and fill up. (1)

   Proton : Positive charge

   Neutron : .....

2. Actinoides belong to the .....period of the periodic table . (1)

3. N_2 is a diatomic molecule. Identify the type of covalent bond in this molecule (1)

   (Hint :- Atomic Number of N = 7)

   (Single bond Double bond Triple bond)

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

   (CaO, Na_2O, K_2O, CO_2)

5. Which is the most abundant gas in the atmosphere? (1)

6. Which substance is used for the preparation of Oxygen in the laboratory ? (1)

Answer any 4 questions from 7 to 12. Each carries 2 Scores. **(4 x 2 = 8)**

7. Which among the following statements are suitable for ionic compounds. (2)

   i. Not soluble in water

   ii. Soluble in water

   iii. Exist in different states

   iv. Conduct electricity in molten state and in aqueous solution

8. Write any two advantages of hydrogen fuel. (2)

9. Analyse the isotopes given below and answer the following questions.

   (Carbon - 14, Protium, Deuterium, Phosphorous-31)

   a) Which isotope is used to determine the age of fossils ? (1)

   b) Which isotope of Hydrogen is used in atomic reactors ? (1)

10. Balance the following chemical equations. (2)

a) $N_2 + H_2 \rightarrow NH_3$

b) $H_2 + I_2 \rightarrow HI$

11. Write any two advantages of Mendeleev's periodic table. (2)

12. From the given statements select those suitable for diamond.

i. Conductor of electricity

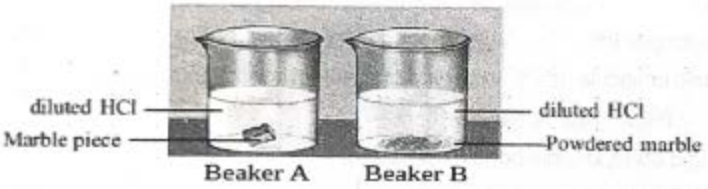
ii. Transparent

iii. Very hard

iv. Soft and slippery (2)

Answer any 4 questions from 13 to 18. Each carries 3 Scores. (4 x 3 =12)

13. Analyse the figure given below and answer the follwoing questions.



a) In which beaker the rate of reaction is greater ? (1)

b) Which is the factor that influenced the rate of chemical reaction here? (1)

c) Suggest any other method to increase the rate this reaction. (1)

14. Complete the table (3)

Name of particle	Name of scientist who discovered
proton	a
electron	b
neutron	c

15. p^H value of some solutions are given below.

Solution	p^H value
A	2.5
B	5.5
C	7
D	10.5

a) Which is the neutral solution ? (1)

b) Which among these has basic nature ? (1)

c) Which among these is strongly acidic ? (1)

16. Some elements and their valencies are given below.

[Ba = 2, Cl=1, O=2]

a) Write the chemical formula of Barium chloride. (1)

b) The chemical formula of Calcium chloride is $CaCl_2$.
What is the valency of Ca? (1)

c) Which is the anion present in $CaCl_2$? (1)

17. Some elements in the third period of the periodic table are given below.

$_{13}Al$	$_{14}Si$	$_{15}P$	$_{16}S$	$_{17}Cl$

a) Which among these has the highest ionisation energy ? (1)

b) Which among these has the biggest atom ? (1)

c) Write the electronic configuration of the inert gas in this period . (1)

18. When carbon and carbon compounds burn in oxygen, Carbon dioxide is produced.

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

b) Name the solid form of Carbondioxide. Write any one use of it. (2)

Answer any 4 questions from 19 to 24. Each carries 4 Scores. (4 x 4 =16)

19. Electronic configuration of an element X is 2,8,7 and its mass number is 35.

a) What is the atomic number of this element ? (1)

b) How many neutrons are there in this atom ? (1)

c) What is the nuclear charge of this atom ? (1)

d) Among the shells K, L, M, which has the highest energy? (1)

20. a) Which gas is used to prepare bleaching powder ? (1)

b) Which is the substance used to remove moisture from this gas during its laboratory preparation ? (1)

c) Which is the unstable compound formed when this gas combines with moisture ? (1)

d) Write any one use of bleaching powder. (1)

21. Electronic configuration of some elements are given below. Analyse them and answer the following questions (Symbols are not real)

P - 2,1

Q - 2,5

R - 2,8,1

S - 2,8, 6

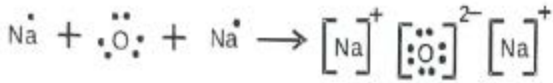
a) Which among these belong to the same group ? (1)

b) Which element has the highest metallic character ? (1)

c) Which element belongs to the oxygen family ? (1)

d) Find the period number of the element 'S' (1)

22 Analyse the electron dot diagram and answer the following questions.



[Hint : Atomic number Na = 11, O = 8]

a) Which atom donates electron in this reaction? (1)

b) Write the electronic configuration of oxide ion . (1)

c) Which type of chemical bonding is present in this compound ? (1)

d) Write the chemical formula of Sodium Oxide. (1)

23. $NaOH + HCl \rightarrow \underline{\quad X \quad} + H_2O$

a) Write the chemical formula of X. (1)

b) What is the name of this reaction? (1)

(Decomposition reaction, Neutralisation reaction, Combination reaction)

c) Which acid and alkali are reacting to get the salt $CaSO_4$? (2)

24. $\overset{0}{Mg} + 2\,\overset{+1\,-1}{H}\overset{+1\,-1}{Cl} \rightarrow \overset{+2\,-1}{MgCl_2} + \overset{0}{H_2}$

a) Which are the reactants in this reaction ? (1)

b) Oxidation number of which atom is increased ? (1)

c) This is a redox reaction. Why ? (1)

d) Which is the reducing agent in this reaction ? (1)