

CLASS IX- HY_2021-22 CHEMISTRY (PAPER-2)

DATE: 31.08.2021

TIME: 35 MINUTES

* Required

1. Email *

2. Name *

3. Class & Section *

Mark only one oval.

IXA

IXB

IXC

IXd

IXE

IXF

IXG

QUESTION 1

4. 1. A reddish brown coloured metal used in electric wires, when powdered and heated strongly in an open China dish, its colour turns black. When hydrogen gas is passed over this black substances, it regain its original colour. Based on this information, the metal and black coloured substances are: *
- 1 point

Mark only one oval.

- a. copper and copper nitrate
- b. silver and silver oxide
- c. copper and copper oxide
- d. aluminium and aluminium oxide

QUESTION 2

5. 2. The isotope deuterium of hydrogen has * 1 point

Mark only one oval.

- a. No neutrons and one proton
- b. One neutrons and two protons
- c. One electron and two neutron
- d. One proton and one neutron

QUESTION 3

6. 3. Sodium chloride reacts with manganese dioxide and sulphuric acid to give sodium bisulphate, manganous sulphate, chlorine and water. The complete balanced reaction is:- *
- 1 point

Mark only one oval.

- a. $2\text{NaCl} + \text{MnO}_2 + 2\text{H}_2\text{SO}_4 \rightarrow \text{NaHSO}_4 + \text{Mn}_2\text{SO}_4 + \text{Cl}_2 + 2\text{H}_2\text{O}$
- b. $2\text{NaCl} + \text{MnO}_2 + 3\text{H}_2\text{SO}_4 \rightarrow 2\text{NaHSO}_4 + \text{MnSO}_4 + \text{Cl}_2 + 2\text{H}_2\text{O}$
- c. $2\text{NaCl} + \text{MnO}_2 + 2\text{H}_2\text{SO}_4 \rightarrow \text{NaHSO}_4 + \text{MnSO}_4 + \text{Cl}_2 + 2\text{H}_2\text{O}$
- d. $2\text{NaCl} + \text{MnO}_2 + 3\text{H}_2\text{SO}_4 \rightarrow \text{Na}_2\text{HSO}_4 + \text{MnSO}_4 + \text{Cl}_2 + 2\text{H}_2\text{O}$

QUESTION 4

7. 4. A redox reaction is one in which- *

1 point

Mark only one oval.

- a. both the substance are reduced
- b. both the substance are oxidised
- c. an acid is neutralised by the base
- d. one substance is oxidised while the other is reduced

QUESTION 5

8. 5. Which of the following pairs of substances on reaction will not evolve

1 point

 $H_2(g)$? **Mark only one oval.*

- a. Fe and H_2SO_4
- b. Copper and HCl (aqueous)
- c. Sodium and ethyl alcohol
- d. Iron and steam

QUESTION 6

9. 6. An element M has a valency 3+. What will be the formula of its silicate? *

1 point

Mark only one oval.

- a. $M(SiO_3)_2$
- b. $MSiO_3$
- c. $M_2(SiO_3)_3$
- d. $M_2(SiO_2)_3$

QUESTION 7

10. 7. Identify the oxidising agent and the reduced product in the reaction: 2 points
 $2\text{FeCl}_3 + \text{H}_2\text{S} \rightarrow 2\text{FeCl}_2 + 2\text{HCl} + \text{S}^*$

Mark only one oval.

- a. FeCl_3 , S
- b. H_2S , FeCl_2
- c. FeCl_3 , HCl
- d. FeCl_3 , FeCl_2

QUESTION 8

11. 8. The number of electrons and protons in a nitride ion is: * 1 point

Mark only one oval.

- a. 7,10
- b. 10,7
- c. 3,7
- d. 10,3

QUESTION 9

12. 9. What happens when copper rod is dipped in iron sulphate solution? * 1 point

Mark only one oval.

- a. Copper displaces iron
- b. Blue colour of copper sulphate solution is obtained
- c. Reaction is exothermic
- d. No reaction takes place

QUESTION 10

13. 10. In a chemical reaction ___ participate *

1 point

Mark only one oval.

- a. all the electrons of the atom
- b. protons
- c. valence electrons
- d. electrons and protons

QUESTION 11

14. 11. If the pressure is increased by 2 times of a certain amount of gas at a fixed temperature, then what would be its final volume? *

1 point

Mark only one oval.

- a. Double
- b. One half
- c. Triple
- d. One fourth

QUESTION 12

15. 12. Which of the following metal evolves hydrogen on reacting with cold dilute nitric acid *

1 point

Mark only one oval.

- a. magnesium
- b. iron
- c. aluminium
- d. copper

QUESTION 13

16. 13. Number of valence electrons in O²⁻ is: *

1 point

Mark only one oval.

a. 6

b. 8

c. 10

d. 4

QUESTION 14

17. 14. Gas that turns lead acetate paper silvery black and it evolved with rotten egg smell *

1 point

Mark only one oval.

a. H₂

b. CO₂

c. NO₂

d. H₂S

QUESTION 15

18. 15. On converting 308 K, 329 K and 391 K to Celsius scale, the correct sequence of temperatures will be: *

1 point

Mark only one oval.

a. 33°C, 56°C and 118°C

b. 35°C, 56°C and 119°C

c. 35°C, 56°C and 118°C

d. 56°C, 119°C and 35° C

QUESTION 16

19. 16. A non metallic element X is tetravalent and another metallic element Y is divalent. The compound formed by these two elements will be: * 1 point

Mark only one oval.

- a. YX
- b. XY_2
- c. Y_2X
- d. XY_4

QUESTION 17

20. 17. When we blow air into the balloon, it inflates because: * 1 point

Mark only one oval.

- a. air particles diffuse into the balloon
- b. air particles collide with the walls of the balloon and exert pressure on them
- c. the temperature of air in the balloon increases
- d. rubber is elastic in nature

QUESTION 18

21. 18. The original colour of the substance is light green, after heating leaves black residue, also turns moist blue litmus faint red. The substance mentioned is: * 1 point

Mark only one oval.

- a. Copper carbonate
- b. Lead nitrate
- c. Washing soda
- d. Red lead

QUESTION 19

22. 19. What is the nature of the Pressure-Volume vs Pressure (PV vs P) graph in Boyle's Law? * 1 point

Mark only one oval.

- a. Straight line parallel to P axis;
- b. Straight line parallel to PV axis;
- c. Curve with positive slope;
- d. Curve with negative slope:

QUESTION 20

23. 20. If the temperature is increased from 0°C to 30°C at a constant pressure of gas having fixed mass, then the ratio of initial and final volume will be: * 2 points

Mark only one oval.

- a. 91 : 101
- b. 91 : 100
- c. 91 : 111
- d. 91 : 121

24. Upload the working for the above question here:

Files submitted:

QUESTION 21

25. 21. Which of the following represents a correct chemical formula? *

1 point

Mark only one oval.

a. CaCl

b. BiPO₄

c. NaSO₄

d. NaS

QUESTION 22

26. 22. Which of the following expression at constant pressure represents

1 point

Charles law? *

Mark only one oval.

a. VT=constant

b. PV=constant

c. V/T= constant

d. T/V=constant

QUESTION 23

27. 23. With regard to the species O²⁻, F⁻ and Al³⁺, which of the following statements is correct? *

1 point

Mark only one oval.

a. Both F⁻ and Al contain 20 neutrons each.

b. The sum of the neutrons in all three species is 27.

c. All three species contain 10 electrons.

d. The sum of the protons in all three species is 28

QUESTION 24

28. 24. Match the following *

4 points

Mark only one oval per row.

	ClO^-	ClO_4^-	ClO_3^-	ClO_2^-
a. Chlorate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Chlorite	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Hypochlorite	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Perchlorate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

QUESTION 25

29. 25. An ionic species has 18 electrons, and 20 neutrons. Its charge is +2. 1 point
What is its mass number? *

Mark only one oval.

- a. 36
- b. 38
- c. 39
- d. 40

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