VISION INTERNATIONAL SCHOOL
ICSE 1ST TERMINAL EXAMINATION (2021-22)
CHEMISTRY
SCIENCE PAPER - 2

Maximum Marks: 40
Time allowed: One hour (inclusive of reading time)
ALL QUESTIONS ARE COMPULSORY.
The marks intended for questions are given in brackets [ ].
Select the correct option for each of the following questions.

Instructions:

1. Answer script must bear the **Name of the Student, Class, Section and subject of Examination** at the **top of the first Page**.
2. All the pages should be numbered properly (clearly visible) and PDF file should be created in the order of the page number.
3. The answer script should be converted and uploaded as a single PDF file only, using any PDF converter.
4. Delay in submission of answer script may lead to cancellation of the paper for that student.

Question 1.

The following properties are related with the certain properties of an element 'X' having atomic number 20. [2]

(A) How many valence electrons are present in 'X'?

1. 2
2. 6
3. 10
4. 12

(B) What type of bonding will you expect in between element 'X' and Oxygen?

1. Covalent bonding
2. Ionic bonding
3. Dative bonding
4. Molecular bonding

Question 2. [3]

The percentage composition of Zn and Cl in a compound are 49.8 and 50.2 percent respectively. (Given – at. mass of Zn = 65 and Cl = 35.5)

(A) The atomic ratio of zinc and chlorine is –

1. 0.77 : 1.41
2. 1.41 : 0.77
3. 1.54 : 2.82
4. None of the above

(B) The simplest ratio of zinc and chlorine is

1. 2 : 1
2. 1 : 2
3. 2 : 4
4. 4 : 2

(C) Empirical formula is

1. ZnCl
2. ClZn
3. $ZnCl_2$
4. Zn_2Cl_4

Question 3. [1]

A weak mineral acid is :

1. H_2SO_4
2. HCl
3. H_2CO_3
4. HNO_3

Question 4. [1]

Raman wants to electroplate a copper spoon with silver. Help him to choose the electrolyte.

1. $AgNO_3$
2. $CuSO_4$
3. $Na[Ag(CN)_2]$
4. $CuNO_3$

Question 5. [1]

Shalini wanted to purify an impure block of copper through electrorefining. For this she should connect the impure copper block and pure copper plate to which terminal of the battery?

1. Impure block - +ve; pure plate - –ve
2. Impure block - –ve; pure plate - +ve
3. Pure plate - +ve; pure plate - –ve
4. Impure block - +ve; Impure block - –ve

Question 6.

Representative elements have– [1]

1. complete penultimate shell
2. incomplete penultimate shell
3. incomplete valence shell
4. both (1) and (3)

Question 7.

The oxides of period 3 show - [1]

1. an increasing acidic character
2. a decreasing basic character
3. decrease in basiccharacter at first followed by increase in acidiccharacter.
4. all the above

Question 8.

Which of these elements has three shells with six electrons in its valence shell? [1]

1. Mg
2. Si
3. S
4. P

Question 9.

Which of these elements are related diagonally? [1]

1. Li, Na
2. Li, Mg
3. C, Al
4. B, Mg

Question 10. [1]

Between vinegar and glucose name the solution which contains ions as well as molecules.

1. glucose
2. vinegar
3. None
4. Both

Question 11.

The bonds formed between metals and non-metals are – [1]

1. Ionic
2. Covalent
3. Dative
4. Co-ordinate

Question 12.

Pick out the correct statement with reference to sodium atom (Na) and sodium ion (Na+) [1]

1. Na is chemically active whereas Na+ is chemically inactive
2. Na+ is chemically active whereas Na is chemically inactive
3. Na has complete valence shell whereas Na+ has incomplete valence shell.
4. Both (1) and (3)

Question 13. [1]

The compound which is a basic oxide:

1. Na_2O
2. PbO_2
3. CO
4. NO_2

Question 14.

Which of these compounds contain one lone pair of electrons and three polar covalent bond? [1]

1. Methane
2. Ammonia
3. Water
4. Ammonium chloride

Question 15. [1]

$Ca(H_2PO_4)_2$ is an example of a compound called _____.

1. basic salt
2. acid salt
3. normal salt
4. alkali

Question 16.

With reference to hydrogen and chlorine which of the following statement is correct? [1]

1. Hydrogen and chlorine have the same electronegativity as they both are non-metal
2. Hydrogen and chlorine are electropositive elements
3. Hydrogen chloride, a compound of Hydrogen and chlorine is polar
4. Both hydrogen and chlorine are elements having three shells with five electrons in its valence shell

Question 17. [1]

The basicity of phosphoric acid is -

1. 1
2. 2
3. 3
4. 4

Question 18. [1]

Solution A is a strong acid, solution B is a weak acid and solution C is a strong alkali.
Which solution contains solute molecules in addition to water molecules?

1. Solution A
2. Solution B
3. Solution C
4. Both solutions A and B

Question 19.

Out of 20 g K_2CO_3 and 5 g K_2CO_3, one which has higher percentage of potassium is
(at. wt. of K = 39, C = 12, O = 16) [1]

1. 20 g K_2CO_3
2. 5 g K_2CO_3
3. Both will have same percentage
4. It cannot be calculated by the given data

Question 20. [1]

You are provided with two solutions X and Y with pH values 4.5 and 12 respectively. Identify the correct statement about the solutions:

1. Both solutions are strongly alkaline.
2. Solution X and Y both will turn moist blue litmus paper red.
3. Solution X will turn moist blue litmus paper red and solution Y will not change the colour ofmoist bluelitmus paper.
4. SolutionX is strongly acidic and will turn the colour of moist red litmus paper blue.

Question 21.

The correct order of E.A is - [1]

1. I > Br > Cl > F
2. F > Cl > Br > I
3. Cl > F > Br > I
4. Cl > Br > F > I

Question 22. [1]

State your observation when ammonium hydroxide solution is added to lead nitrate solution :

1. Evolution of ammonia gas.
2. Deep blue solution is formed.
3. A chalky white ppt is formed.
4. A dirty green ppt is formed.

Question 23. [1]

Pick up a pair of colourless cation and anion among the following pairs.

1. Cu^{2+}, Br^{1-}
2. Ca^{2+}, CH_3COO^{1-}
3. Ni^{2+}, S^{2-}
4. Fe^{3+}, Cl^{1-}

Question 24.

Which of these are iso-electronic species? [1]

1. Na, Cl
2. Na^+, Ne
3. Cl^-, Ar
4. Both (2) and (3)

Question 25. [1]

What will be the colour of the precipitate when ammonium hydroxide is added to the iron (III) chloride solution ?

1. Dirty green
2. Reddish brown
3. Pale green
4. White

Question 26. [1]

The gas liberated when zinc sulphide reacts with dil. sulphuric acid :

1. Sulphur dioxide
2. Hydrogen sulphide
3. Sulphur trioxide
4. Sulphur vapour

Question 27.

Which of these is an incorrect condition for the formation of an ionic bond? [1]

1. low I.P of metal
2. High E.A of non metal
3. Low electronegativity difference
4. Large electronegativity difference

Question 28. [1]

Calcium hydroxide reacts with dil. hydrochloric acid to give :

1. $Ca(OCl)_2 + H_2O$
2. $Ca + H_2O + Cl_2$
3. $CaH_2 + O_2$
4. $CaCl_2 + H_2O$

Question 29. [1]

Ammonium hydroxide and sodium hydroxide can be distinguished using :

1. litmus paper
2. hydrochloric acid
3. copper sulphate solution
4. zinc sulphate solution

Question 30. [1]

You have supplied with five solutions A, B, C, D and E with pH values as follows :
A = 2, B = 8.5, C = 7, D = 12 and E = 7.2
Which solution(s) would be most likely to liberate hydrogen with powdered zinc metal :

1. B and D
2. C
3. A
4. D and E

Question 31. [1]

Vapour density of a compound is 45. Its empirical formula is CHO_2. The molecular formula of the compound is –

1. $C_2H_2O_4$
2. $C_4H_4O_8$
3. $C_3H_3O_6$
4. $C_5H_5O_{10}$

Question 32. [1]

Hydroxide of this metal is soluble in sodium hydroxide solution :

1. Magnesium
2. Aluminium
3. Silver
4. Copper

Question 33.

Percentage composition of N and S in compound N_2S_2 is
(at.wt.of N = 14, S = 32) [1]

1. 50% each
2. 25% and 75% respectively
3. 30% and 70% respectively
4. 70% and 30% respectively

Question 34.

The most ionic compound is – [1]

1. NaCl
2. KBr
3. CsCl
4. CsF

Question 35.

Pick the correct pair of empirical formula of H_2O_2 and Na_2CO_3 respectively. [1]

1. OH and $NaCO_3$
2. HO and $NaCO_3$
3. HO and Na_2CO_3
4. HO and NaCO

Question 36. [1]

Alcohol is an example of

1. Weak electrolyte
2. Strong electrolyte
3. Conductor
4. Non electrolyte

Question 37. [1]

Identify the false statement among the following :

1. oxidation takes place at the anode
2. reduction takes place at the cathode
3. oxidation takes place at the cathode
4. oxidation and reduction takes place simultaneously at the anode and cathode

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