

# SARALA BIRLA PUBLIC SCHOOL

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Revision Test (CHEMISTRY)

Class – XI



- 1 mole of Ethene ( $C_2H_4$ ) contains
  - 6.022 $\times 10^{23}$  atom of H
  - 4 g of hydrogen
  - 1.81 $\times 10^{23}$  molecules of ethene
  - 24 g of carbon
- Which of the following statement is not correct
  - the electronic configuration of Cu is  $[Ar] 3d^{10}, 4s^1$
  - 'm' can have -1 to +1 value
  - In Ag (47), 23 electrons have one type of spin and 24 electrons have opposite spin
  - the oxidation state of nitrogen in  $HN_3$  (Hydrazonic acid) is - 3
- The stability of +1 oxidation state among Al, Ga, In and Tl increases in the sequence
  - Al < Ga < In < Tl
  - Tl < In < Ga < Al
  - In < Tl < Ga < Al
  - Ga < In < Al < Tl

**Direction (Q. 4): In the following question, the Assertion and Reason have been put forward. Read the statement carefully and choose the correct alternative from the following**

  - both Assertion and Reason are true and Reason is the correct explanation of Assertion
  - both Assertion and Reason are true and Reason is not correct explanation of Assertion
  - Assertion is true but Reason is false
  - both Assertion and Reason are false
- Assertion:**  $SiCl_4$  reacts with water,  $CCl_4$  does not  
**Reason:**  $SiCl_4$  is ionic whereas  $CCl_4$  is covalent
- Equal masses of He,  $O_2$  and  $SO_2$  taken in closed container. What will be ratio of their partial pressure
- 50 mL of  $H_2$  measured at 27 $^{\circ}$  C are heated to 327 $^{\circ}$  C, what is new volume if pressure is kept constant
- If 50 g of  $CaCO_3$  is treated with 50 g of HCl how many grams of  $CO_2$  can be produced according to following equation;  $CaCO_3(s) + 2HCl(dil) \rightarrow CaCl_2(aq) + CO_2(g) + H_2O(l)$
- The wavelength of first spectral line in the Balmer series is 6561 Å. Calculate the wavelength of the second spectral line in Balmer series
- Element A and B have atomic numbers 29 and 36 respectively on the basis of electronic configuration, write to which group of the periodic table each element belong
  - Predict the blocks to which these element belong also predict the periods
- Use molecular orbital theory to predict why  $Be_2$  molecule does not exist
  - Compare the stability of  $N_2^+$  and  $N_2$ .
- Define molarity and molality.

b) Commercially available concentrated hydrochloric acid contains 45% HCl by mass. (i) What is the molarity and molality of this solution? The density is 1.19 g/ml

12. a) State Pauli's exclusion Principle.

b) Using s, p, d, f notations, describe the orbital with following quantum numbers:

i)  $n=2, l=1$

ii)  $n = 4, l = 0$

iii)  $n = 5, l = 3$

iv)  $n=3, l = 2$

c) Arrange the elements of second period in order of decreasing value of ionization energy .

d) Among Be & B which one has higher electron gain enthalpy and why

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