**Reg. NO:**

**TIME: 45 MIN**

**DATE: 02.5.2020**

**SOME BASIC CONCEPTS OF CHEMISTRY-KEY- HINTSAND SOLUTIONS**

**SUBJECT: CHEMISTRY**

|  |  |
| --- | --- |
|  | |
| **-: SOME BASIC CONCEPTS OF CHEMISTRY** **-HINTS AND SOLUTIONS :-** |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| : SOME BASIC CONCEPTS OF CHEMISTRY - ANSWER KEY | | | | | | | |
| 1) | **d** | **2)** | **c** | **3)** | **d** | **4)** | **a** |
| 5) | **d** | **6)** | **a** | **7)** | **a** | **8)** | **d** |
| 9) | **c** | **10)** | **a** | **11)** | **a** | **12)** | **d** |
| 13) | **b** | **14)** | **c** | **15)** | **c** | **16)** | **a** |
| 17) | **d** | **18)** | **d** | **19)** | **b** | **20)** | **b** |
| 21) | **c** | **22)** | **a** | **23)** | **c** | **24)** | **c** |
| 25) | **c** | **26)** | **b** | **27)** | **d** | **28)** | **c** |
| 29) | **a** | **30)** | **b** |  |  |  |  |

|  |  |  |
| --- | --- | --- |
| 1 | **(d)**  Wt. of O in | |
| 2 | **(c)**  Equivalent weight of bivalent metal=37.2  Atomic weight of metal=  Formula of chloride=  Hence, molecular weight of chloride | |
| 3 | **(d)**  0.0833 mole of carbohydrate has hydrogen=1 g  1 mole of carbohydrate has hydrogen  g  Given, empirical formula of carbohydrate has 2 g of hydrogen  Molecular formula of carbohydrate is | |
| 4 | **(a)**  Eq. wt.  Acidity of = 1; only one OH is replaced. | |
| 5 | **(d)** | |
| 6 | **(a)**  g g ()  g of gives= g Ag  1 g of gives  276 g of gives  =2.16 g | |
| 7 | **(a)**  For phenolphthalein:  For methyl orange:  Meq. of  =  ∴  ∴w = 0.042 g in 10 mL ∴ = 0.053 g in 10 mL  ∴ = 4.2 g in 1 litre = 5.3 g in 1 litre | |
| 8 | **(d)**  ∵ 18 g water has molecules  ∴1 g water has molecules  or molecules occupy volume = 1  ∴ 1molecule occupies volume  = | |
| 9 | **(c)** | |
| 10 | **(a)**  Suppose the volume of 6 M HCL required to obtain 1 L of 3 M  HCl = L  volume of 2 N HCl required = () L  Applying the molarity equation  L  Hence, volume of 6MHCl required = 0.25 L  and volume of 2M HCl required L | |
| 11 | **(a)**  ( is diacidic base) | |
| 12 | **(d)**  1 mole of gives = 3 moles of ions or ions  mole of will give ions  ions | |
| 13 | **(b)** | |
| 14 | **(c)**  1 mole of contains 12 moles of hydrogen atoms.  moles of hydrogen atoms 1 mole of  moles of hydrogen atom mole of  moles of hydrogen atom  mole of  1 mole of moles of oxygen  So, mole of mol | |
| 15 | **(c)**  Meq. ofHCl= Meq. of NaOH;  Thus, | |
| 16 | **(a)**  Molecular weight = Eq. wt. | |
| 17 | **(d)**  Smallest and largest amount of energy respectively eV and L-atm. | |
| 18 | **(d)**  63.8 g of Cu has atoms = 6.023  of Cu has =  of Cu has  atoms | |
| 19 | | **(b)**  2 mol 3 mol 2 mol  21.6 g=2 mol  21.6 g B= 2 mol B 3 mol | |
| 20 | | **(b)** | |
| 21 | | **(c)** | |
| 22 | | **(a)**  Conservation of mass should be noticed. | |
| 23 | | **(c)**  The volume of water changes with temperature. | |
| 24 | | **(c)**  Amount of heat evolved on combustion of 4 g of methane=10.46 kJ  The amount of heat evolved on combustion of one mole of methane (, 16 g of )  kJ | |
| 25  26  27 | | **(c)**  Mol. wt. = 70 2 = 140;  (CO),∴(12 +16). = 140 ∴  **(b)**  Conceptual  **(d)**  Conceptual | |
| 28 | | **(c)**  Mole fraction of solute =  Mole fraction of solvent = | |
| 29 | | **(a)**  We have  Change in oxidation number = 3  Equivalent mass of | |
| 30 | | **(b)**  5.6 litre = 60 g  ∴ 22.4 litre = 240 g = mol. wt.  ∴ Vapour density = | |