

HIGHER SECONDARY IST YEAR (2017-2018)
CHEMISTRY
QUARTERLY EXAM MODEL QUESTION PAPER

TIME: 2 ½ Hrs

MARKS:70

PART-I**I. CHOOSE THE BEST ANSWER****15 X1 = 15**

1. The number of gram-atoms of oxygen in 128g of oxygen is
a) 4 b) 8 c) 128 d) $8 \times 6.02 \times 10^{23}$
2. Victor-Meyers method is used to find
a) Empirical formula b) Equivalent mass c) Molecular mass d) all of these
3. Which one is correct: (1) Galena - ZnS
(2) Zinc Blende - PbS
(3) Bauxite - $Al_2O_3 \cdot 2H_2O$
(4) Argentite - $Ag_2S \cdot Sb_2S_3$
(a) 1, 2, 3, 4 (b) 1,2 (c) 1, 3 (d) 3
4. Steel is an alloy of carbon and iron and contains of carbon
a) 0.5 – 0.15% (b) 1- 1.5 % (c) 0.15-1.5% (d) 1.5 -2 %
5. $l = 3$, how many values of “m”
(a) 1 (b) 3 (c) 5 (d) 7
6. When the 4p orbital is complete, the new electron will enter the
(a) 5d orbital (b) 4f orbital (c) 4s orbital (d) 5s orbital.
7. Each unit cell of NaCl consists of 4 chlorine ions and
(a) 13 Na atoms (b) 4 Na atoms (c) 6 Na atoms (d) 8 Na atoms
8. The coordination number of Cs^+ in CsCl crystal is -----
(a) 6 (b) 8 (c) 3 (d) 4
9. Method used to liquefy air or any other gas.
(a) Linde's Method (b) Andrews method (c) Victor meyer's method (d) all of these
10. If a gas expands at constant temperature.
(a) Number of molecules of the gas decreases
(b) The kinetic energy of the molecules decreases
(c) The kinetic energy of the molecules decreases
(d) The kinetic energy of the molecules increases
11. The greater polarizing power of cation is
(a) Li^+ (b) Na^+ (c) K^+ (d) Rb^+
12. The compound which contains both ionic and covalent is
(a) CH_4 (b) H_2 (c) KCN (d) KCl
13. Cyclohexane is a /an organic compound.
(a) Aromatic (b) Acyclic (c) Alicyclic (d) Homo aromatic
14. Decolourisation of coloured compounds can be effected by using
(a) Animal charcoal (b) Carbon (c) Coke (d) Infra-red rays
15. In Ascending paper Chromatography, the solvent moves
(a) Upwards (b) Downwards (c) Horizontally (d) None

PART-II**II . Answer Any Six Questions in which Question No.21 is compulsory****6 x 2= 12**

16. Define mole.
17. Calculate the oxidation state of i) Cr in $Cr_2O_7^{2-}$ ii) Mn in K_2MnO_4
18. What is acid Bessemer process?
19. State Hund's rule .
20. Define unit cell.
21. What are the possible “l” values for the principal quantum number 3.
22. What is critical pressure?
23. Draw the resonance structures of CO_3^{2-} .
24. Give two examples of mixtures that are separated by simple distillation method .

PART-III**III. Answer Any Six Questions in which Question No.30 is compulsory 6 X 3= 18**

25. Find the molecular formula of a compound that contains an empirical formula C_2H_4O and its vapour density is 44.
26. Define molality . Give its representation.
27. What is shape of the orbital with (i) $n = 2$ and $l = 0$; (ii) $n = 2$ and $l = 1$?
28. Write a note about the refining of metal using carbonyl, and name the process.
29. Write the stable electronic configuration of the following (i) Cu (ii) Cr (iii) Mn^{2+} .
30. How do the spacing of the three planes (100), (110) and (111) of cubic lattice vary?
31. What is polymerization reaction? Write one reaction.
32. State Joule-Thomson effect.
33. Write the differences between Thin layer and Paper chromatography.

PART-IV**IV Answer All the Questions****5 X 5 = 25**

34. (i) Explain Zone refining (3m)
(ii) What is anode mud? (2m)

OR

- (i) Explain the general rules for assigning oxidation number to an atom. (5m)

35. (i) Explain briefly about magnetic quantum number. (3m)
(ii) What is the total number of orbitals associated with the principal quantum number $n = 2$? (2m)

OR

- (i) Explain the structure of CsCl crystal with neat diagram. (5m)

36. (i) Explain Linde's method for liquefaction of gas. (5m)

OR

- (i) What is co-ordination bond? (2m)
(ii) Give the electron dot representation for PH_3 and ethane. (3m)

37. (i) Write any 3 properties of electrovalent compounds. (3m)
(ii) Find the number of sigma and pi bonds present in the following compounds
 $CH_3 - CH_3$, $CH_2 = CH_2$, $CH \equiv CH$ (2m)

OR

- (i) Explain the basic assumptions of the VSEPR theory . (5m)

38. (i) Write the **Common** and **IUPAC** name of the following (5m)

- (a) $CH_2=CH-CH_2-Cl$
(b) $CH_3-CH_2-\underset{\substack{| \\ OH}}{CH}-OH$
(c) $CH_3-CH_2 - O - CH_2-CH_3$
(d) $HCHO$
(e) $(CH_3)_3-N$

OR

- (i) A compound has the following composition Mg = 9.76%, S = 13.01%, O = 26.01, $H_2O = 51.22$, what is its empirical formula? [Mg = 24, S = 32, O = 16, H = 1] (5m)

HARD WORK NEVER FAILS

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