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Higher Secondary 1st Year

Pre-Half yearly Exam

TIME :2.30Hrs   **CHEMISTRY**   MARKS:70

I. Answer all the Questions.   15 X 1 = 15

1. A compound contains 50% of X (atomic mass 10) and 50% Y (at. Mass 20). Which formulate pertain to above date ?
   a) XY b) X_2Y c) X_4Y_3 d) $(X_2)_3Y_3$

2. Gangue + flux $\rightarrow$ ……………………..
   a) mineral   b) Ore   c) Slag   d) None of the above

3. The number of orbitals in a p-sub-shell is………..
   (a) 1   (b) 2   (c) 3   (d) 6

4. Filling up of the 5f orbitals after actinium gives the 5f-inner transition series known as the…………
   a) Noble gases   b) Lanthanoid series c) Actinoid series d) None of the above

5. Which element has the greatest tendency to lose electrons?
   (a) Chlorine   (b) Sulphur   (c) Francium   (d) Berylium.

6. Tritium is prepared by bombarding lithium with
   (a) deuterons (b) mesons   (c) slow neutrons   (d) all helium nucleus

7. Plaster of paris is…………..
   (a) CaSO4. 2H2O   (b) CaCl2   (c) CaSO4   (d) CaSO4. 2H2O

8. The hydride of V group element which is used in the manufacture of artificial silk
   a) ammonia   b) stibine   c) phosphine   d) bismuthine

9. The 8:8 type of packing is present in:
   (a) CsCl   (b) KCl   (c) NaCl   (d) MgF2

10. The expression for critical pressure is…………….
    (a) 8a/27Rb   b) 3b   c) $a/27b^2$ d) 2a/Rb

11. The compound which contains both ionic and covalent is
    (a) CH4   (b) H2   (c) KCN   (d) KCl

12. Which of the following is reversible process?
    (a) Diffusion   (b) melting   (c) neutralization   (d) combustion

13. Nitrobenzene and benzene can be separated by the method of………..
    a) Steam distillation b) Crystallisation   c) Fractional crystallisation d) Chromatography

14. Alkynes are represented by the formula…………….
    a) CnH2n+2   b) CnH2n-2   c) CnH2n   d) Cn H2n-3

15. Benzene was first isolated by
    a) Huckel   b) Faraday   c) Hofmann   d) Barthelot

PART- II

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

16. What is the simplest formula of the compound which has the following percentage composition carbon 80%, hydrogen 20%.

17. State Pauli's exclusion principle.

18. Boron does not form B^{3+} ion. Why?

19. What are the units of Vanderwaal's constants "a" and "b".?

20. What are the characteristics of osmatic pressure?

21. Write IUPAC name of the following compound
    i. CH_3CH_2CHO ii. $CH_3-C \equiv C - CH_3$ iii. $CH_3-O-C_2H_5$

22. 0.316g of an organic compound gives 0.466g of barium sulphate by carius method. Calculate the percentage of sulphur?

23. What is wurtz fittig reaction?

24. What are the differences between electrovalent and covalent bonds?

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PART-III

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

25. How is hydrogen peroxide prepared in the laboratory.
26. How is Gypsum prepared? Mention its uses.
27. Define transition elements. Name the different transition series.
28. Write the difference between amorphous and crystalline solid.
29. What are miller indices?
30. Which is considered to " earth's protective umbrella"?
31. How would you convert the following i). Sodiumbenzoate to benzene ii). Phenol to benzene
32. What are test for acetylene?
33. Write Diels Alder reaction.

PART-IV

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

34. What are the rule for writing stoichiometric equation?   **Or**
    How electromagnetic separation process is useful in the separation of magnetic impurities from non magnetic ores? Draw the diagram.
35. What are the postulates of Bohr's theory of atom?   **Or**
    Describe Linde's process of liquefaction of gases.
36. Calculate the lattice energy of NaCl using Born Haber cycle. **Or**
    Explain the laws of osmotic pressure and its determination by Berkley Hartley method.
37. Describe a bomb calorimeter and explain how heat of formation of an organic compound is determined.   **Or**
    Explain about paper chromatography
38. Write the **Common** and **IUPAC** name of the following
            (a) $CH_2=CH-CH_2-Cl$
            (b) $CH_3-CH_2-CH=CH_2$ **Or**
            (c) $CH_3-CH_2-O-CH_2-CH_3$
            (d) $HCHO$
            (e) $(CH_3)_3-N$
39. (i) Explain the types of isomerism (2m)   (ii) Note on carbonium ion and carbanion. (3m)

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SELF RELIANCE