REVISION TEST-II

CLASS   : XI   **MARKS : 70**
SUBJECT : CHEMISTRY   (FULL PORTION)   **TIME : 3.00 HRS**

PART-A

CHOOSE THE BEST ANSWER   **15 X 1 = 15**

1. What is the mass of precipitate formed when 50 ml of 8.5 % solution of AgNO3 is mixed with 100 ml of 1.865 % potassium chloride solution?
   a) 3.59g   b) 7g   c) 14g   d) 28g

2. Which one of the following is the least electronegative element?
   a) Bromine   b) Chlorine   c) Iodine   d) Hydrogen

3. Ionic hydrides are formed by
   a) halogens   b) chalogens   c) inert gases   d) group one elements

4. When an ideal gas undergoes unrestrained expansion, no cooling occurs because the molecules
   a) are above inversion temperature   b) exert no attractive forces on each other
   c) do work equal to the loss in kinetic energy d) collide without loss of energy

5. Which of the following is not a thermodynamic function ?
   a) internal energy   b) enthalpy   c) entropy   d) frictional energy

6. Phenol dimerises in benzene having van't Hoff factor 0.54. What is the degree of association ?
   a) 0.46   b) 92   c) 46   d) 0.92 7.According to

7. Valence bond theory, a bond between two atoms is formed when
   a) fully filled atomic orbitals overlap   b) half filled atomic orbitals overlap
   c) non- bonding atomic orbitals overlap   d) empty atomic orbitals overlap

8. Which of the following species does not acts as a nucleophile?
   a) ROH   b) ROR   c) PCl3   d) BF3

9. Which of the following can be used as the halide component for friedal – crafts reaction ?
   a) Chloro benzene   b) Bromo benzene   c) chloro ethane   d) isopropyl chloride

10. Ozone depletion will cause
   a) forest fires   b) eutrophication   c) bio magnification   d) global warming

11. The total number of orbitals associated with the principle quantum number n=2 ?
    a) 9   b) 8   c) 4   d) 7

12. . Formula of plaster of paris
   a) $3CaSO_4.H_2O$ b) $CaSO_4.2H_2O$ c) $2CaSO_4.2H_2O$ d) $CaSO_4.\frac{1}{2}H_2O$

13. When Δng is positive in chemical equilibrium reaction then
    a) $K_p < K_c$ b) $K_p = 1/K_c$ c) $K_p = K_c(RT)^{-ve}$ d) $K_p > K_c$

14. .Match the following
   1) -NH2   i) Sulpho-
   2)   -CN   ii) Formyl -
   3) -SO3H   iii) Amino -
   4)   -CHO   iv) Cyano -
   a) 1)- i) , 2)- ii), 3)- iii , 4)- iv)   b) 1)- iv , 2)- iii) , 3)- ii) , 4)- i)
   c) 1)- iii), 2)- iv), 3)- i) , 4)- ii)   d) 1)- iii), 2)- i) , 3)- iv) , 4)- ii)

15. . match the following

	1)Iodoform	i) Fire extinguisher
	2)Carbon tetrachloride	ii)Insecticide
	3)CFC	iii) Antiseptic
	4)DDT	iv)Refrigerants

a) (1)- (iii), (2)-(i) , (3)-(iv), (4)-(ii)   b) (1)- (ii), (2)-(iv) , (3)-(i), (4)-(iii)

c)   (1)- (iii), (2)-(ii) , (3)-(iv), (4)-(i)   d) (1)- (i), (2)-(ii) , (3)-(iii), (4)-(iv)

PART-B

Answer the following any six questions   **6 X 2 = 12**

Note : question no : 24 is compulsory

16. Calculate the total number of angular nodes and radial nodes present in 3d and 4f orbitals

17. compare the ionisation energy of beryllium and boron

18. How is bleaching powder prepared?

19. State Diffusion law

20. What is path function ? Give two examples?

21. What is resonance ?

22. Give the general formula for the following class of organic compounds

a) Alkanes   b) Alkenes   c) Alkynes

23. .define- acid rain

24. .what happens when ethylene is passed through cold dilute alkaline potassium permanganate ?

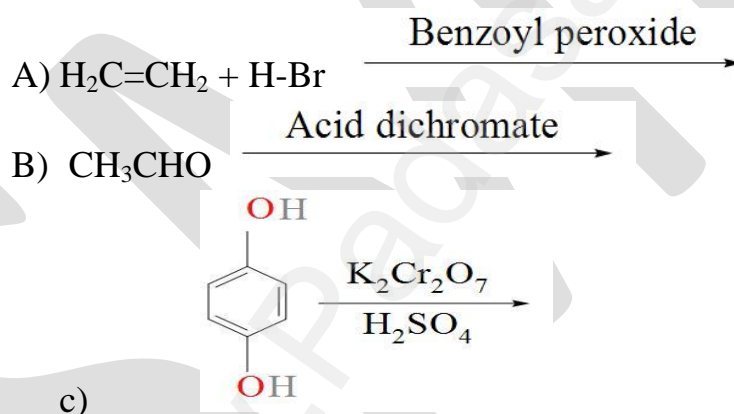## PART-C

Answer the following any six questions   **6 X 3 = 18**

Note : question no : 33 is compulsory

25. . Distinguish between oxidation and reduction

26. Define electronegativity. State the trends in the variation of electronegativity in group and period

27. Mention the three types of covalent hydrides

28. Define –Le-Chatelier principle.

29. Explain the formation of H_2 molecule using MO-theory

30. Explain geometrical isomerism in 2-butene

31. What are nucleophiles and electrophiles ? give one example each

32. Give the structure and uses of DDT

33. 50g of tab water contains 20 mg of dissolved solids. What is the TDS val;ue in ppm?

PART-D

ANSWER ALL THE QUESTIONS   **5 X 5 = 25**

34. a) i) Calculate the empirical formula and molecular of a compound containing 76.6% carbon,6.38% of hydrogen and rest oxygen. Its vapour density is 47 (3)

    ii) What is exchange energy ? (2)

(OR)

   b) i) Why hydrogen peroxide is stored in plastic bottle containers not in glass container (2)

     ii) Give any three properties of beryllium that are different from other elements of the group (3)

35. a) i) Calculate the orbital angular momentum for d and f orbital (3)

     ii) What are f-block elements ? (2)

(OR)

   b) i) .Derive the relation between enthalpy ΔH and internal energy ΔU for an ideal gas. (3)

     ii) Write the mathematical formula for compressibility factor 'Z' (2)

36. a) Derive the relation between kp and kc for a general homogeneous gaseous reaction(5)

(OR)

   b) i) Define Hess's law of constant heat summation(2)

     ii) . Discuss the formation of C_2 molecule using MO theory(3)

37. a) i) complete the following reaction   (3)

A) $H_2C=CH_2$ + H-Br $\xrightarrow{\text{Benzoyl peroxide}}$

B) CH_3CHO $\xrightarrow{\text{Acid dichromate}}$

c)   (a 1,4-dihydroxybenzene with OH groups) $\xrightarrow[\text{H}_2\text{SO}_4]{\text{K}_2\text{Cr}_2\text{O}_7}$

    ii) How does Huckel rule help to decide the aromatic character of a compound? (2)

(OR)

   b) A simple aromatic hydrocarbon (A) reacts with chlorine to give compound (B) . compound (B) reacts with ammonia to give compound (C) which undergoes carbylamines reaction. Identify (A), (B) and (C) and explain the rteactions(5)

38. a) i) What is meant by optical isomerism? (2)

     ii) Write any three strategies to control environment pollution? (3)

(OR)

   b) i) $C_{(s)} + O_{2(g)} \rightarrow CO_{2(g)}$ Calculate the standard entropy change for the above reaction, given the standard entropies of $CO_{2(g)}, C_{(s)}, O_{2(g)}$ are 213.6,5.740 and 205 jk^{-1}respectively(3)

     ii) Write short notes on hyper conjugation? (2)

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