

## REVISION TEST-III

**CLASS : XI**

**MARKS : 70**

**SUBJECT : CHEMISTRY (FULL PORTION)**

**TIME : 3.00 HRS**

### PART-A

**CHOOSE THE BEST ANSWER**

**15 X 1 = 15**

1. Which of the following contain same number of carbon atoms as in 6 g of carbon-12.
  - a) 7.5 g
  - b) 8 g methane
  - c) both a and b
  - d) none of these
2. Two electrons occupying the same orbital are distinguished by
  - a) azimuthal quantum number
  - b) spin quantum number
  - c) magnetic quantum number
  - d) orbital quantum number
3. The hardness of water can be determined by volumetrically using the reagent
  - a) sodium thio sulphate
  - b) potassium permanganate
  - c) hydrogen peroxide
  - d) EDTA
4. Match the flame colours of the alkali and alkaline earth metal salts in the bunsen burner
 

(p) Sodium	(1) Brick red
(q) Calcium	(2) Yellow
(r) Barium	(3) Violet
(s) Strontium	(4) Apple green
(t) Cesium	(5) Crimson red
(u) Potassium	(6) Blue

  - a) p - 2, q - 1, r - 4, s - 5, t - 6, u - 3
  - b) p - 1, q - 2, r - 4, s - 5, t - 6, u - 3
  - c) p - 4, q - 1, r - 2, s - 3, t - 5, u - 6
  - d) p - 6, q - 5, r - 4, s - 3, t - 1, u - 2
5. Heat of combustion is always
  - a) positive
  - b) negative
  - c) zero
  - d) either positive or negative
6. Consider the following reversible reaction at equilibrium,  $A + B \rightleftharpoons C$ , If the concentration of the reactants A and B are doubled, then the equilibrium constant will
  - a) be doubled
  - b) become one fourth
  - c) be halved
  - d) remain the same
7. Non- Zero dipole moment is shown by
  - a) CO<sub>2</sub>
  - b) p-dichlorobenzene
  - c) carbontetrachloride
  - d) water
8. Which one of the following names does not fit a real name?
  - a) 3 - Methyl -3- hexanone
  - b) 4- Methyl -3- hexanone
  - c) 3- Methyl -3- hexanol
  - d) 2- Methyl cyclo hexanone.
9. Cis - 2 - butene and trans - 2 - butane are
  - a) conformational isomers
  - b) structural isomers
  - c) configurational isomers
  - d) optical isomers

10. Ethylidene chloride on treatment with aqueous KOH gives  
a) acetaldehyde                                          b) ethyleneglycol  
c) formaldehyde                                        d) glyoxal
11. The effective nuclear charge experienced by the  $d^1$  electron in the given electronic configuration,  $(1s)^2 (2s,2p)^8 (3s,3p)^8 (3d)^1 (4s)^2$  is :  
a) 4                                          b) 3                                          c) 2.1                                          d) 6.9
12. Gases tend to behave ideally only at \_\_\_\_\_  
a) Low temperature and low pressure      b) High temperature and High pressure  
c) High temperature and low pressure      d) Low temperature and High pressure
13. osmotic pressure ( $\pi$ ) of a solution is given by the relation \_\_\_\_\_  
a)  $\pi = nRT$                                               b)  $V = \pi nRT$   
c)  $\pi = nRT$                                               d)  $\pi V = nRT$
14. The geometrical shape of carbanion is  
a) planar                                          b) linear                                          c) pyramidal                                          d) tetrahedral
15. \_\_\_\_\_ cause kidney damage  
a) Cadmium, mercury                                          b) Lead, Cadmium  
c) Freon, Fluoride                                          d) copper, Cadmium

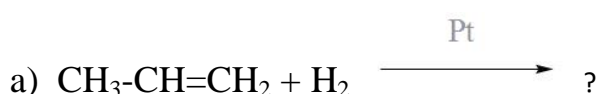
**PART-B**

Answer the following any six questions

6 X 2 = 12

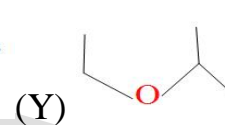
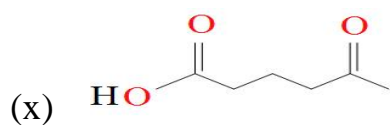
Note : question no : 24 is compulsory

16. How many orbitals are possible for  $n=4$  ?
17. State and explain Dobereiner's "triad"
18. why blue colour appears during the dissolution of alkali metals in liquid ammonia ?
19. what are ideal gas ?
20. Write the shape and molecular geometry for  $BF_3$
21. Give the structure for the following compounds .  
1) 3-methylpentane  
2) 2-methylpropan-2-ol
22. Define entropy. Give its unit
23. write the Name the gases that cause green house effect
24. Complete the following :



**PART-C****Answer the following any six questions****6 X 3 = 18****Note : question no : 33 is compulsory**

25. calculate the empirical formula of a compound containing 76.6% carbon, 6.38%, hydrogen and rest of oxygen
26. Describe the Pauling method for determination of ionic radius
27. How do you convert para hydrogen into ortho hydrogen ?
28. Derive KC and KP for synthesis of ammonia
29. What are ideal solutions ? Give example
30. Write the IUPAC names for the following compounds :



31. The bond length between all the four carbon atoms is same in 1,3-butadiene. Explain
32. explain the mechanism involved in the elimination reaction of tertiary butyl chloride with alcoholic KOH
33. What is hybridisation ? mention the type of hybridization found in  $\text{CH}_4$

**PART-D****ANSWER ALL THE QUESTIONS****5X 5 = 25**

34. a) i) What is the empirical formula of the following ? (2)
- a) Fructose ( $\text{C}_6\text{H}_{12}\text{O}_6$ )      ii) Caffeine ( $\text{C}_8\text{H}_{10}\text{N}_4\text{O}_2$ )
- ii) explain Aufbau principle (3)
- (OR)
- b) i) How is Tritium prepared ? (2)
- ii) What are the reasons for the anomalous properties of Beryllium ? (3)
35. a) i) . Describe about magnetic quantum number ? (2)
- ii) How will you determine the ionic character in covalent bond using electronegativity values ? (3)
- (OR)
- b) i) Derive the ideal gas equation ? (3)
- ii) What are the condition for the spontaneity of a process ? (2)

36. a) i) Define reaction quotient(2)

ii) What is van't hoff factor 'i'?(1)

iii)  $\text{NH}_3$  and  $\text{HCl}$  do not obey Henry's law. Why? (2)

(OR)

b) Draw the M.O diagram for oxygen molecule . calculate its bond order and magnetic character.(5)

37. a) What is polymerisation ? explain the two types of polymerisation reaction of acetylene .(5)

(OR)

b) i) Explain Birch reduction(2)

ii) .Write notes on the adverse effect caused by ozone depletion (3)

38. a) i) Give an example for each of the following type of organic compounds(2)

a) Non benzenoid

b) carbocyclic

ii) Mention any two methods of preparation of haloalkanes from alcohols (3)

(OR)

b) i) Calculate the entropy change during the melting of one mole of ice into water at  $0^\circ\text{C}$  and 1 atm pressure. Enthalpy of fusion of ice is  $6008\text{J mol}^{-1}$  (2)

ii) . explain about inductive effect (3)

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