HSL

HALF YEARLY EXAMINATION- 2022
## CHEMISTRY

CLASS :11

TIME : 3.00 Hrs

MARKS : 70

Instructions: 1. Check the Question paper for fairness of printing. If there is any lack of fairness, inform the Hall Supervisor immediately. 2. Use Blue or Black ink to write and underline and pencil to draw diagrams.

PART - I

I. Choose the correct answer.   15 X 1 = 15

1. Total number of electron present in 1.7 g of Ammonia is

   a) 6.022×10^{23} b) $\dfrac{6.022 \times 10^{12}}{1.7}$ c) $\dfrac{6.022 \times 10^{24}}{1.7}$ d) $\dfrac{6.022 \times 10^{23}}{1.7}$

2. The total number of orbitals associated with principle quantum number $n = 3$ is

   a) 9   b) 8   c) 5   d) 7

3. The element with positive electron gain enthalpy is

   a) Hydrogen   b) Sodium   c) Argon   d) Fluorine

4. Formula of gypsum is

   a) $CaSO_4.2H_2O$ b) $CaSO_4.1/2\ H_2O$ c) $3\ CaSO_4.H_2O$ d) $2CaSO_4.2H_2O$

5. Water is a

   a) Basic Oxide   b) Acidic Oxide   c) Amphoteric Oxide   d) None of these

6. Maximum deviation from ideal gas is expected from

   a) $CH_{4(g)}$ b) $NH_{3(g)}$ c) $H_{2(g)}$ d) $N_{2(g)}$

7. Which of the following is not a thermodynamic function

   a) Internal energy   b) Enthalpy   c) Entropy   d) Frictional energy

8. An equilibrium constant is 3.2×10^{-6} reaction means

   a) Largely toward forward direction   b) Largely toward reverse direction

   c) Never established   d) None of these

9. What is molarity of a 10% w/w aqueous solution of NaCl+

   a) 2.778   b) 2.5   c) 10   d) 0.4

10. Shape of ClF_3 is

    a) Planar triangular   b) Pyramidal   c) T - shaped   d) None of these

11. The IUPAC name of the Compound $CH_3\ CH = CH - C \equiv CH$

    a) Pent - 4 yn - z - ene   b) pent - 3- ene - 1 - yne

    c) Pent - 2 - en - 4 yne   d) Pent - 1 - yn - 3 - ene

12. Which of the following species is not electro phile in Nature.

    a) Cl^+ b) BH_3 c) H_3O^+ d) $^+NO_2$

13. In which of the following molecules all atoms are coplanar
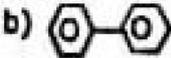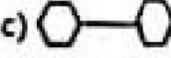
    a)   b)   c)   d) Both a and b

14. The treatment of ethyl formate with excess of Rmg X gives

    a) R - C - R   b) R - CH - R   c) R - CHO   d) R - O- R
          | |
          O   OH

15. Ozone depletion will cause
    a) forest fires   b) Eutrophication   c) Bio magnification   d) Global warming

PART - II

Answer any 6 question. Q.No.24 is compulsory.   6 X 2 = 12

16. State Pauli - exclusion Principle.
17. Give the uses of Heavy Water.
18. What is Screening effect?
19. Name one item that can serve as a model of Gay - lussal law.
20. Write the relationship between K_p and K_C give one example for which K_p is equal to K_c.
21. Which bond is stronger in σ or π? Why?
22. What is Chiral Carbon?
23. Write the preparation of BHC ?
24. What would happen if the green house gases were totally missing in the earth atmosphere.

PART - III

(i) Answer any 6 question. (ii) Q.No. 33 is compulsory.   6 X 3 = 18

25. Calculate the molar mass of
    a) Urea   b) Acetone   c) Sulphuric acid
26. Give the uses of Gypsum.
27. What is water gas - shift reaction.
28. What are state function and path function give an example.
29. Define : Normality.
30. State first law of thermodyamic.
31. What is b - elimination. Give an example.
32. What are Freon? Give its uses.
33. Suggest simple test to distiguish prepare and propene.

PART - IV

Answer the all question.   5 X 5 = 25

34. a) i) Define relative atomic mass.
    ii) Distinguish between oxidation an reduction.   (OR)
    b) i) State modern periodic law.
    ii) How many orbitals are possible for n=4

35. a) i) How is plaster of paris prepared?
    ii) De- broglie equation?   (OR)
    b) i) Define : Joule Thomson effect.
    ii) Define ideal gas equation.

36. a) Explain the characteris of internal energy.   (OR)
    b) Derive ideal gas equation.

37. a) Write the general characteristic of organic compound.   (OR)
    b) Emulate the structure of Benzene.

38. a) Compare SN_1 and SN_2 reaction mechanism.   (OR)
    b) i) What is Green Chemistry?
    ii) Write notes on Acid rain.

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