

FSS

FIRST MID TERM TEST - 2022

11 - Std

CHEMISTRY

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Time : 1.30 Hrs

Marks : 50

PART - I

I Answer all the questions.

10 X 1 = 10

- 40 ml of methane is completely burnt using 80ml of O_2 at room temp. The volume A gas left after cooling to room temp is
 - 40 ml CO_2 gas
 - 40 ml CO_2 gas and 80ml H_2O gas
 - 60 ml CO_2 gas and 60 ml H_2 gas
 - 120 ml CO_2 gas
- The number of water molecules in a drop of water weighing 0.018 g is
 - 6.022×10^{26}
 - 6.022×10^{23}
 - 6.022×10^{20}
 - 9.9×10^{22}
- Which one of the following is used as a standard for atomic mass
 - ${}_6C^{12}$
 - ${}_7C^{12}$
 - ${}_6C^{13}$
 - ${}_5C^{14}$
- The molecular mass of ethanol C_2H_5OH is
 - 44
 - 46
 - 56
 - 40
- The maximum number of electron in a sub shell is given by the expression
 - $2n^2$
 - $2l + 1$
 - $4l + 2$
 - None of these
- Electron density in the yz plane of 3 dxy orbital is
 - Zero
 - 0.50
 - 0.75
 - 1.90
- Splitting of spectral lines in a electric field is called
 - Zeeman effect
 - shleeding effect
 - Compton effect
 - Stark effect
- The value of a gas constant R is
 - $0.082 \text{ dm}^3 \text{ atm}$
 - $0.987 \text{ Cal mol}^{-1} \text{ K}^{-1}$
 - $8.3 \text{ J mol}^{-1} \text{ K}^{-1}$
 - $8 \text{ erg mol}^{-1} \text{ K}^{-1}$
- Maximum deviation from Ideal gas is expected from
 - $CH_4(g)$
 - $NH_3(g)$
 - $H_2(g)$
 - $N_2(g)$
- Equal weights of methane and Oxygen are mixed in an empty container at 298K. The fraction of total pressure exerted by Oxygen is
 - $\frac{1}{3}$
 - $\frac{1}{2}$
 - $\frac{2}{3}$
 - $\frac{1}{3} \times 273 \times 298$

PART - II**II Answer any 5 only answer. Q.No. 17 compulsory.**

5 X 2 = 10

11. Define : Relative atomic mass.
12. Define oxidation number.
13. State : Pauli exclusion principle.
14. Define : Orbitals.
15. Define : Joule - Thomson effect.
16. What are ideal gas and real gas.
17. Calculate the molecular mass glucose.

PART - III**III Answer any 5 only. Answer Q.No. 24 Compulsory.**

5 X 3 = 15

18. Distinguish between oxidation and reduction.
19. Write the limitation of Bhor modal.
20. State : Heisenberg uncertainty principle.
21. Define : Equivalent mass.
22. State L Boyle's law and Charles's law.
23. Define : Inversion temperature.
24. Calculate the number of moles in 9g of ethane (C₂H₆).

PART - IV**IV Answer all questions.**

3 X 5 = 15

25. a) Write the rules for finding the oxidation number,

(OR)

- b) i) Find out the equivalent mass of H₂SO₄.
- ii) Find out the oxidation number of underlined elements.

- a) CO₂ b) H₂SO₄ d) Cr₂O₇⁻²

26. a) Derive the De - Broglie equation.

(OR)

- b) Derive the Ideal gas equation.

27. a) i) State : Graham's law of diffusion. (ii) Define : Compressibility factors.

(OR)

- b) Explain quantum Number.