CHEMISTRY 20.10

Time: 20 Minutes Max. Marks: 17

SECTION A (MULTIPLE CHOICE QUESTIONS)

1. Choose the correct answer for each from the given options.

(i) This is not an extensive property:

• Internal energy • Enthalpy • <u>Density</u> • Entropy

(ii) The equation for K_{sp} of CaF_2 is:

• $K_{sp} = [Ca^{++}] [F_2]$ • <u>$K_{sp} = [Ca^{+2}] [F]^2$</u>

• $K_{sp} = [Ca^{++}] [F]$ • $K_{sp} = [Ca] [F]$

(iii) This ion has the greatest degree of hydration:

• Na^+ • Mg^{+2} • <u>Al^{+3}</u> • K^+

(iv) The molarity of a solution containing 53g Na_2CO_3 dissolved in 1 dm^3 solution will be:

• 0.1 • 0.01 • 0.02 • <u>0.5</u>

(v) The reaction $2NO_2 \rightarrow 2NO + O_2$, is of:

• Zero order • 1^{st} order • <u>2^{nd} order</u> • 3^{rd} order

(vi) The volume of 3.01×10^{23} molecules of N_2 gas at S.T.P will be:

• 3 dm^3 • <u>11.2 dm^3</u> • 22.4 dm^3 • 28 dm^3

(vii) The characteristic of 10^3 is:

• 2 • <u>3</u> • 4 • 5

(viii) If $a = b \neq c$ and $\alpha = \beta = \gamma = 90°$, the crystal structure is:

• Cubic • <u>Tetragonal</u> • Orthorhombic • Triclinic

(ix) The rate of diffusion of CO_2 is equal to that of:

• CH_4 • CO • <u>C_3H_8</u> • SO_2

(x) The S.I. unit of viscosity is:

• Poise • Millipoise • Centipoise • <u>$N.s.m^{-2}$</u>

(xi) The maximum number of electrons in a particular energy level is:

• <u>$2n^2$</u> • n^2 • $(2l + 1)$ • $2(2l + 1)$

(xii) The energy of each quantum of radiation is directly proportional to its: • Wavelength

• <u>Frequency</u> • Wave number • Source of energy

(xiii) These radioactive rays are non-material in nature:

• α rays • β rays • <u>γ rays</u> • Canal rays

(xiv) The potential energy of an electron can be denoted by:

• Ze^2/r^2 • Ze/r • Ze^2/r • <u>$-Ze^2/r$</u>

(xv) This molecule has the maximum bond angle:

• <u>CS_2</u> • NH_3 • SO_2 • H_2O

(xvi) The energy of this bond is the greatest:

• CH_4 • O_2 • <u>N_2</u> • Cl_2

(xvii) The dipole moment of this molecule is zero:

• NH_3 • <u>CO_2</u> • H_2O • HCl