Roll No _____ (To be filled in by the candidate) **(Academic Sessions 2017 – 2019 to 2020 – 2022)**

CHEMISTRY 221-(INTER PART – I) Time Allowed : 20 Minutes

Q.PAPER – I (Objective Type) GROUP – I Maximum Marks : 17

PAPER CODE = 6487

Note : Four possible answers A, B, C and D to each question are given. The choice which you think is correct, fill that circle in front of that question with Marker or Pen ink in the answer-book. Cutting or filling two or more circles will result in zero mark in that question.

1-1	The pH of mixture of CH_3COONa and CH_3COOH is : (A) 7 (B) >7 (C) <7 (D) 1
2	Balmer series in hydrogen spectrum lies in the region : (A) Ultraviolet (B) Visible (C) Infrared (D) Microwave
3	Density of an ideal gas can be calculated by the formula : (A) $d = nRT$ (B) $d = \frac{PM}{RT}$ (C) $d = \frac{m}{M}RT$ (D) $d = \frac{PV}{M}$
4	In endothermic reactions, the heat content of the : (A) Products is more than that of reactants (B) Reactants is more than that of products (C) Surrounding increases (D) Reactants and products are equal
5	Which of the following species has unpaired electrons in antibonding molecular orbitals : (A) O_2^{2+} (B) N_2^{2-} (C) B_2 (D) F_2
6	1 gram formula of $NaC\ell$ is equal to : (A) 58.5 g (B) 23 g (C) 35.5 g (D) 12 g
7	The unit of rate constant is the same as that of rate of reaction in : (A) First order reaction (B) Second order reaction (C) Zero order reaction (D) Third order reaction
8	When water freezes at 0 °C, its density decreases due to : (A) Cubic structure of ice (B) Empty spaces present in structure of ice (C) Change of bond lengths (D) Change of bond angles
9	An excess of silver nitrate in aqueous form is added to aqueous barium chloride and precipitate is removed by filtration. What are main ions in the filtrate : (A) Ag^+ and NO_3^- only (B) Ag^+ and Ba^{2+} and NO_3^- (C) Ba^{2+} and NO_3^- only (D) Ba^{2+} and NO_3^- and $C\ell^-$
10	Many elements have fractional atomic masses, this is because : (A) The mass of an atom is itself fractional (B) Atomic masses are average masses of isobars (C) Atomic masses are average masses of isotopes (D) Atomic masses are average masses of isotopes proportional to their relative abundance
11	According to VSEPR theory, the shape of PH_3 molecule is : (A) Trigonal pyramidal (B) Tetragonal (C) Linear (D) Trigonal planer
12	Which of the following compounds do not show process of sublimation : (A) Ammonium chloride (B) Iodine (C) Naphthalene (D) Carbon tetra chloride
13	A thermometer used in Landsberger's method can read upto : (A) 0.1 K (B) 0.01 F (C) 0.01 K (D) 0.01 °C
14	In the monoclinic crystal system, bond axes are : (A) $a = b = c$ (B) $a = b \neq c$ (C) $a \neq b = c$ (D) $a \neq b \neq c$
15	If a salt bridge is not used between two half cells, then the voltage : (A) Decreases rapidly (B) Decreases slowly (C) Does not change (D) Drops to zero
16	Orbitals having same energy are called : (A) Hybrid orbitals (B) Valence orbitals (C) Degenerate orbitals (D) d-orbitals
17	If absolute temperature of a gas is doubled and the pressure is reduced to one half, the volume of the gas will : (A) Remain unchanged (B) Increase four times (C) Reduce to $\frac{1}{4}$ (D) Be doubled