

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 gases show more deviation from ideal behaviour at : (A) Low temperature and high pressure (B) High temperature and low pressure (C) High temperature and high pressure (D) Low temperature and low pressure
2	The wave number of the light emitted by a certain source is $2 \times 10^6 m^{-1}$. The wavelength of this light will be : (A) 200 nm (B) 500 m (C) 500 nm (D) $5 \times 10^7 m$
3	The equilibrium constant for the reaction $2O_3 \rightleftharpoons 3O_2$ is 10^{55} at 25 °C. It tells us that at room temperature : (A) O_3 is unstable and decomposes rapidly (B) O_3 is highly stable and decomposes slowly (C) O_3 is unstable and decomposes slowly (D) O_3 is highly stable and decomposes rapidly
4	The main function of a catalyst in a chemical reaction is to : (A) Increase E_a (B) Decrease temperature (C) Decrease E_a (D) Decrease pressure
5	49 g of aqueous solution of H_2SO_4 contains moles of H^+ ions : (A) 1.0 (B) 0.2 (C) 0.4 (D) 0.01
6	Which of the following molecule has zero dipole moment : (A) H_2S (B) SO_2 (C) CO (D) CS_2
7	Solvent extraction is an equilibrium process and it is controlled by : (A) Law of mass action (B) Distribution law (C) The amount of solute (D) The amount of solvent used
8	The geometry of PH_3 is : (A) Bent (B) Trigonal planar (C) Tetrahedral (D) Trigonal pyramidal
9	Stronger the oxidizing agent, greater is the : (A) Oxidation potential (B) Reduction potential (C) Redox potential (D) emf of cell
10	Which type of intermolecular forces are present in chloroform : (A) Hydrogen bonding (B) Dipole-dipole forces (C) London forces (D) Dipole-induced forces
11	One mole of CO_2 contains : (A) 6.02×10^{23} atoms of oxygen (B) 18.1×10^{23} molecules of CO_2 (C) 6.02×10^{23} atoms of carbon (D) 22 gram atoms of CO_2
12	The solid iodine is the best example of : (A) Ionic solids (B) Covalent solids (C) Metallic solids (D) Molecular solids
13	The order of the rate of diffusion of gases NH_3 , SO_2 , Cl_2 and CO_2 is : (A) $NH_3 > SO_2 > Cl_2 > CO_2$ (B) $NH_3 > CO_2 > SO_2 > Cl_2$ (C) $Cl_2 > SO_2 > CO_2 > NH_3$ (D) $NH_3 > CO_2 > Cl_2 > SO_2$
14	Quantum number values for 2p orbitals are : (A) $n = 2, \ell = 1$ (B) $n = 1, \ell = 2$ (C) $n = 1, \ell = 0$ (D) $n = 2, \ell = 0$
15	Which of the following substance is used as drying agent in desiccator : (A) NaCl (B) Animal Charcoal (C) NH_4Cl (D) Anhydrous $CaCl_2$
16	At constant volume, q_v is equal to : (A) ΔH (B) ΔE (C) ΔP (D) ΔV
17	18 g glucose is dissolved in 90 g of water. The relative lowering of vapour pressure is equal to : (A) 1/5 (B) 5.1 (C) 1/51 (D) 6