

PAPER CODE = 6481

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 in the answer-book. Cutting or filling two or more circles will result in zero mark in that question.

1-1	The largest number of molecules is present in : (A) 5.4 g of N_2O_4 (B) 2.8 g of CO (C) 4.8 g of C_2H_6O (D) 3.6 g of H_2O
2	1.00 mole of SO_2 contains : (A) 6.02×10^{23} atoms of oxygen (B) 3.01×10^{23} molecules of SO_2 (C) 6.02×10^{23} molecules of SO_2 (D) 3.01×10^{23} atoms of sulphur
3	Solvent extraction is a separation technique used for the product, which is : (A) Non-volatile; thermally unstable (B) Volatile; thermally stable (C) Non-volatile; thermally stable (D) Volatile; thermally unstable
4	The deviation of a gas from ideal behaviour is maximum at : (A) $-10^\circ C$ and 5 atm (B) $-10^\circ C$ and 2 atm (C) $100^\circ C$ and 2 atm (D) $0^\circ C$ and 2 atm
5	The order of effusion of NH_3 , SO_2 , Cl_2 and CO_2 gases 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) $NH_3 > CO_2 > Cl_2 > SO_2$
6	Density of ice is minimum at $4^\circ C$ due to : (A) Empty spaces in structure of ice (B) Tetrahedral shape of crystal of ice (C) Large bond lengths (D) Large bond angles
7	The solid which has no definite crystalline shape : (A) Sugar (B) Salt (C) Glass (D) Dry ice
8	Quantum numbers, which represents 2p orbitals are : (A) $n = 2, \ell = 1$ (B) $n = 1, \ell = 2$ (C) $n = 1, \ell = 0$ (D) $n = 2, \ell = 0$
9	The nature of positive rays in discharge tube depends upon nature of : (A) Anode (B) Cathode (C) Residual gas (D) Discharge tube
10	Nature of bonds in N_2 molecule is : (A) One sigma ; two pi bonds (B) Two sigma; two pi bonds (C) Two sigma; one pi bond (D) Three pi bonds
11	For HF molecule μ_{obs} is 1.90 D ; μ_{ionic} is 4.4 D. The percentage ionic character of HF molecule is : (A) 100 (B) 80 (C) 57 (D) 43
12	The amount of heat absorbed when one mole of gaseous atoms are formed from the element is called enthalpy of : (A) Formation (B) Reaction (C) Combustion (D) Atomization
13	For which of the following reaction, the unit of equilibrium constant (K_c) is reciprocal of molar concentration (M^{-1}) : (A) $3H_2(g) + N_2(g) \rightleftharpoons 2NH_3(g)$ (B) $2NO_2(g) \rightleftharpoons N_2O_4(g)$ (C) $H_2(g) + I_2(g) \rightleftharpoons 2HI(g)$ (D) $N_2(g) + O_2(g) \rightleftharpoons 2NO(g)$
14	18 g glucose dissolved in 90 g water has relative lowering of vapour pressure equal to : (A) $\frac{18}{90}$ (B) $\frac{1}{6}$ (C) $\frac{10}{51}$ (D) $\frac{1}{51}$
15	The salt dissolved in water forms a solution of pH greater than 7 : (A) NaCl (B) Na_2CO_3 (C) $CuSO_4$ (D) NH_4Cl
16	The oxidation state of oxygen in OF_2 is : (A) -2 (B) -1 (C) +1 (D) +2
17	The unit of rate constant is same as that of rate of the reaction having order : (A) Zero (B) One (C) Fractional (D) Two