61.(C) $k_B = \frac{R}{N_A}$ **62.(A)** Refer to Q 47

63.(D) Greater the force of attraction, greater the value of 'a'.

64.(B) $T_B = \frac{a}{bR}$ **65.(B)** $P = \frac{nRT}{V} = 2.46\,atm$

66.(D) $\frac{3}{2}kT = mgh \Rightarrow h = \frac{3}{2}\times\frac{1.38\times10^{-23}\times300}{9.81\times4\times1.66\times10^{-27}} = 9.53\times10^{4}\,m$

67.(D) An ideal gas cannot be liquify.

68.(B) $P_{ideal} = \left(P_{real} + \frac{an^2}{V^2}\right)$ a is measure of intermolecular forces **69.(B)** $C_{MP} = \sqrt{\frac{2RT}{M}}$

70.(B) Under identical conditions of pressure, the rate of diffusion of H_2 will be more than the rate of diffusion of ethyne.

71.(A) $x_m = \frac{n_A}{n_A + n_B + n_C}$

$X_p = \frac{P_A}{P_A + P_B + P_C} = \frac{n_A}{n_A + n_B + n_C}$ (For content V and T)

$X_V = \frac{V_A}{V_A + V_B + V_C} = \frac{n_A}{n_A + n_B + n_C}$ (For constant P and T)

72.(D) H_2 $n_1 = \frac{100\times200}{RT}$ and He $n_2 = \frac{100\times200}{RT}$

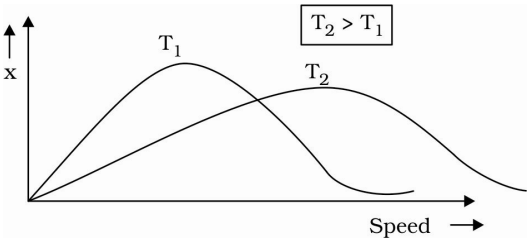
After Combing $P\times(V_1+V_2) = (n_1+n_2)\,RT$

$P\times300 = \frac{400\times100}{RT}\times RT$

$P = \frac{400}{3} = 133.33\,torr$

73.(D) Rate $\propto \frac{P}{\sqrt{M}}$

74.(B)



75.(D) Avg. $kE = \frac{3}{2}RT$ Avg. molecular speed $= \sqrt{\frac{8RT}{\pi M_0}}$