

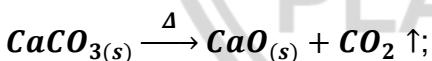
Law of equilibrium and Equilibrium constant

61. The reaction, $2SO_{2(g)} + O_{2(g)} \rightleftharpoons 2SO_{3(g)}$ is carried out in a 1 dm^3 vessel and 2 dm^3 vessel separately. The ratio of the reaction velocities will be

62. The compound A and B are mixed in equimolar proportion to form the products, $A + B \rightleftharpoons C + D$. At equilibrium, one third of A and B are consumed. The equilibrium constant for the reaction is

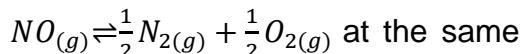
(a) 0.5 (b) 4.0
 (c) 2.5 (d) 0.25

63. Calculate the partial pressure of carbon monoxide from the following



$$CO_{2(q)} + C_{(s)} \rightarrow 2CO_{(q)} ; K_p = 2$$

64. The equilibrium constant for the reaction $N_{2(g)} + O_{2(g)} \rightleftharpoons 2NO_{(g)}$ at temperature T is 4×10^{-4} . The value of K_c for the reaction



temperature is

- (a) 4×10^{-4} (b) 50
 (c) 2.5×10^2 (d) 0.02

65. What is the equilibrium expression for the reaction $P_{4(s)} + 5O_{2(g)} \rightleftharpoons P_{4}O_{10(s)}$

(a) $K_c = [O_2]^5$

$$(b) K_c = [P_4 O_{10}] / 5[P_4][O_2]$$

$$(c) K_c = [P_4 O_{10}] / [P_4] [O_2]^5$$

$$(d) K_c = 1/[O_2]^5$$

66. In the reaction, $H_2 + I_2 \rightleftharpoons 2HI$. In a 2 litre flask 0.4 moles of each H_2 and I_2 are taken. At equilibrium 0.5 moles of HI are formed. What will be the value of equilibrium constant, K_c

67. Ammonia carbonate when heated to 200°C gives a mixture of NH_3 and CO_2 vapour with a density of 13.0. What is the degree of dissociation of ammonium carbonate

(a) 3/2

(b) 1/2

(c) 2

(d) 1

(e) 5/2



