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CLASS - XIA

(CHEMISTRY)

Q1. Which of the following reaction will get affected by increasing the pressure also mention whether change will cause the reaction to go into forward or backward direction

1. COCl2 (g) ⇌ CO (g) + Cl (g)

ii) CH4 (g) +2S2 (g)⇌ CS2 (g) + 2H2S (g)

Q2. Describe the effect of

* 1. addition of H2
  2. addition of CH3OH
  3. removal of CO
  4. removal of CH3OH

On the equilibrium of the reaction 2H2(g) +CO (g) ⇌CH 3OH. (g)

Q3. A sample of HI(g) in flask at a pressure of 0.2 atm. At the equilibrium the partial pressure of HI(g) is 0.04 atm . What is Kp for the given equilibrium ? 2HI(g) ⇌H2 (g) +I2 (g)

Q4. Write the expression for the equilibrium constant

,Kc for each of the following reactions

i) 2NOCl g ⇌2NO (g) + Cl2 (g)

ii) 2Cu(NO3)2 (s) ⇌2CuO (s) +4NO2 (g) + O2 (g)

Q5. State Le Chatelier's principle.

Q6. At 1127K and 1 atm pressure, a gaseous mixture of CO and CO2 in equilibrium with solid carbon has 90.55% CO by mass

C (s). + CO2 (g) ⇌ 2CO (g)

Calculate Kc for this reaction at the above temperature