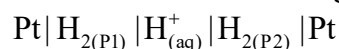


## CHEMISTRY

### PHYSICAL CHEMISTRY SHEET

01. What will be the emf of the given cell?



- (1)  $\frac{RT}{F} \ln \frac{P_1}{P_2}$       (2)  $\frac{RT}{2F} \ln \frac{P_1}{P_2}$       (3)  $\frac{RT}{F} \ln \frac{P_2}{P_1}$       (4)  $\frac{RT}{2F} \ln \frac{P_2}{P_1}$

02. Ratio of vapour pressures of A and B in pure state is 1 : 2 and ratio of moles of A and B is also 1 : 2, then find out mole fraction of A in vapour phase.

- (1) 0.2      (2) 0.4      (3) 0.8      (4) 0.1

03.  $\text{A}_{(s)} \rightleftharpoons 2\text{B}_{(g)} + 3\text{C}_{(g)}$

If equilibrium concentration of C gets doubled, then

- (1)  $K_C$  increases 8 times  
 (2)  $[\text{B}]_{\text{eq}}$  gets doubled of previous value  
 (3)  $[\text{B}]_{\text{eq}}$  becomes  $\frac{1}{2\sqrt{2}}$  times of previous value  
 (4)  $[\text{B}]_{\text{eq}}$  remains unaffected

04. What is the change in oxidation number of carbon in the following reaction?



- (1) 0 to -4      (2) +4 to +4      (3) 0 to +4      (4) -4 to +4

05. A mixture of 2.3 g formic acid and 4.5 g oxalic acid is treated with conc.  $\text{H}_2\text{SO}_4$ . The evolved gaseous mixture is passed through KOH pellets. Weight (in g) of the remaining product at STP will be

- (1) 1.4      (2) 3.0      (3) 4.4      (4) 2.8