Match the columns:

(a) Equilibrium	(i) $\Delta G > 0$, $K < 1$
(b) Spontaneous Reaction	(ii) $\Delta G = 0$
(c) Non Spontaneous Reaction	(iii) $\Delta G^\circ = 0$
	(iv) $\Delta G < 0$, $K > 1$.

Sol: (a) for equilibrium, $\Delta G = 0$

Note: $\Delta G = 0$ is the necessary condition for eqⁿ. not $\Delta G^\circ = 0$. but $\Delta G^\circ = 0$ implies the reaction is already at equilibrium at standard states. So (iii) can also be the correct match for (a)

(a) $\longrightarrow$ (ii) and (iii)

(b) Spontaneous reaction $\Rightarrow$ $K > 1$ and $\Delta G < 0$

(c) Non spontaneous Reaction $\Rightarrow$ $K < 1$ and $\Delta G > 0$.

$\therefore$ (a) $\rightarrow$ (ii) & (iii); b $\rightarrow$ (iv), c $\rightarrow$ (i)