

CHEMICAL EQUILIBRIUM

1	Given, $X(g) \rightleftharpoons nY(g)$; If degree of dissociation is α then K_c of the reaction in a vessel of 1 Liter is
	1) $\frac{n\alpha^n}{1}$ 2) $\frac{n\alpha}{1}$ 3) $\frac{(n\alpha)^n}{1}$ 4) $\frac{(n\alpha)^n}{1}$
	$1-\alpha$ $1-\alpha$ $1+\alpha$ $1-\alpha$
2	For the reaction $A(g)+3B(g) \Longrightarrow 2C(g)$ at $27^{\circ}C$, 2 moles of A, 4 moles of B and 6 moles of C
	are present in 2 litre vessel. If K_c for the reaction is 1.2, the reaction will proceed in
	1) forward direction2) backward reaction3) neither direction4) none of these
3	
3	At 52/°C, the reaction given below has $K_c = 4$
	$NH_3(g) \Longrightarrow \frac{1}{2}N_2(g) + \frac{3}{2}H_2(g)$
	What is the K_p for the reaction?
	$N_2(g) + 3H_2(g) \Longrightarrow 2NH_3(g)$
	1) $16 \times (800R)^2$ 2) $\left(\frac{800R}{4}\right)^{-2}$ 3) $\left(\frac{1}{4 \times 800R}\right)^2$ 4) None of these
	2)
4	For the equilibrium $SO_2Cl_2(g) \Longrightarrow SO_2(g) + Cl_2(g)$ what is the temperature at which
	$\frac{K_p(atm)}{K_c(M)} = 3$
	1) 0.027 K 2) 0.36 K 3) 36.54 K 4) 273 K
5	For the reaction $CO(g) + Cl_2(g) \longrightarrow COCl_2(g)$ the value of $\frac{K_c}{K_p}$ is equal to
	1) \sqrt{RT} 2) RT 3) $\frac{1}{RT}$ 4) 1.0
6	For the reaction $2NO_2(g) + \frac{1}{2}O_2(g) \Longrightarrow N_2O_5(g)$, if the equilibrium constant is K_p , then the
	equilibrium constant for the reaction $2N_2O_5(g) \Longrightarrow 4NO_2(g) + O_2(g)$ would be
	1) K^2 2) $\frac{2}{3}$ 3) $\frac{1}{3}$ 4) $\frac{1}{3}$
	K_p K_p^2 $\sqrt{K_p}$
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7	Consider the following	paseous equilibria give	en below	
1	I) $N_2 + 3H_2 =$	$\geq 2NH_3$; Eqm. Consta	$tint = K_1$	
	II) $N_2 + O_2 = 1$	2 <i>NO</i> ; Eqm. Constant	$t = K_2$	
	III) $H_2 + \frac{1}{2}O_2 \rightleftharpoons$	\implies H_2O ; Eqm consta	$nt = K_3$	
	The equilibrium	constant for the reacti	on $2NH_3 + \frac{5}{2}O_2 =$	$\Rightarrow 2NO + 3H_2O$; in terms of
	K_1, K_2 and K_3 w	ill be	Z	
	1) $K_1 K_2 K_3$	2) $\frac{K_1 K_2}{K_3}$	3) $\frac{K_1 K_3^2}{K_2}$	4) $\frac{K_2 K_3^3}{K_1}$
8	In the reaction $X(g)$ +	$Y(g) \Longrightarrow 2Z(g), 2$	mole of X, 1 mole of	f Y and 1 mole of Z are placed in a
	10 litre vessel ar	d allowed to reach eq	uilibrium. If final co	ncentration of Z is 0.2 M, then
	K_c for the given	reaction is		
	1) 1.60	2) $\frac{80}{3}$	3) $\frac{16}{3}$	4) None of these
9	For the reaction $2A(g)$	$\xrightarrow{B(g)+3C(g)}$ a	t a given temperatur	$K_c = 16$. What must be the
	volume of the fla	ask, if a mixture of 2 n	nole each of A, B an	d C exist in equilibrium?
	1) $\frac{1}{4}$	2) $\frac{1}{2}$	3) 1	4) None of these
	4	Z		
10	When heated, ammoniu	m carbamate decompo	oses as follows	
	NH ₄ CO	$ONH_2(s) \Longrightarrow 2NH_3$	$(g)+CO_2(g)$	
	At a certain temp	perature, the equilibriu	im pressure of the sy	stem is 0.318 atm. K_p for the
	reaction is			
	1) 0.128	2) 0.426	3) 4.76×10 ⁻⁵	4) None of these
11	The equilibrium constar	It K_p for the reaction		
	$H_2(g)+$	$CO_2(g) \Longrightarrow H_2O(g)$	g)+CO(g)	
	Is 4.0 at 1660°C	. Initially 0.80 mole 1	H_2 and 0.80 mole CC	D_2 are injected into a 5.0 litre flask.
	What is the equi	librium concentration	of $CO_2(g)$?	
	1) 0.533 M	2) 0.0534 M	3) 0.535 M	4) None of these
12	The equilibrium constar	t for the reaction CO	$(g) + H_2O(g) \Longrightarrow$	$CO_2(g) + H_2(g)$ is 5. How many
	moles of <i>CO</i> , m	ust be added to 1 litre	container already co	ntaining 3 moles each of CO and
	H_2O to make 2M	I equilibrium concenti	ation of CO?	-
	1) 15	2) 19	3) 5	4) 20
13	At $27^{\circ}C$ and 1 atm press	sure, N_2O_4 is 20% dis	sociation in 1 litrs c	ontainer into NO ₂ . According to
	following equati	on		
	$N_2 O_4 \rightleftharpoons \blacksquare$	$2 NO_2$ What is K_0	2	
	1)0.2 M	2)0.4 M	3) 0.8 M	4) 0.1 M
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14	Determine the value of equilibrium constant (K_c) for the reaction
	$A_2(g) + B_2(g) \Longrightarrow 2AB(g)$
	If 10 moles of A_2 ; 15 moles of B_2 and 5 moles of AB are placed in a 2 litre vessel and
	allowed to come to equilibrium. The final concentration of AB is 7.5M
	1) 4.5 2) 1.5 3) 0.6 4) None of these
15	Cu^{2+} ions react with Fe^{2+} ions according to the following reaction
	$Cu^{2+} + 2Fe^{2+} = Cu + 2Fe^{3+}$
	At equilibrium, the concentration of Cu^{2+} ions is not changed by addition of 1) Cu^{2+} 2) Ee^{2+} 3) Cu^{2+} 4) Ee^{3+}
	$1) Cu \qquad 2) Fe \qquad 5) Cu \qquad 4) Fe$
16	$AB_3(g)$ is dissociates as $AB_3(g) \Longrightarrow AB_2(g) + \frac{1}{2}B_2(g)$
	When the initial pressure of AB_3 is 800 torr and the total pressure developed at equilibrium is
	900 torr. What fraction of $AB_3(g)$ is dissociated?
	1) 10%2) 20% 3) 25% 4) 30%
17	At 1000 K, a sample of pure NO_2 gas decomposes as
	$2NO_2(g) \Longrightarrow 2NO(g) + O_2(g)$
	The equilibrium constant K_p is 156.25 at,. Analysis shows that the partial pressure of O_2 is
	0.25 atm at equilibrium. The partial pressure of NO_2 at equilibrium is
	1) 0.01 2) 0.02 3) 0.04 4) None of these
18	For the dissociation reaction $N_2O_4(g) \implies 2NO_2(g)$, the degree of dissociation (α) in terms of
	K_n and total equilibrium pressure P is
	$\sqrt{4P+K_n}$ $\sqrt{K_n}$ $\sqrt{K_n}$
	1) $\alpha = \sqrt{\frac{\nu}{K_p}}$ 2) $\alpha = \sqrt{\frac{\nu}{4P + K_p}}$ 3) $\alpha = \sqrt{\frac{\nu}{4P}}$ 4) None of these
19	The vapour pressure of mercury is 0.002 mm Hg at $27^{\circ}C$, K_c for the process $Hg(l) \Longrightarrow Hg(g)$ is
	1) 0.002 M 2) 8.12×10^{-5} M 3) 6.48×10^{-5} M 4) 1.068×10^{-7} M
20	
20	K_p has the value of 10° <i>atm</i> ² and 10° <i>atm</i> ² at 298K and 323 K respectively for the reaction
	$CuSO_4.3H_2O(s) = CuSO_4(s) + 3H_2O(g)$
	$\Delta_r H^\circ$ for the reaction is 1) 7.7 kl/mol 2) 147.41 kl/mol
	3) 147.41 kJ/mol 4) None of these
01	The most stable oxides of nitrogen will be
41	1) $2NO_2(g) \Longrightarrow N_4(g) + 2O_2(g); K = 6.7 \times 10^{16} \text{ mol } L^{-1}$
	2) $2N_2O_5(g) \Longrightarrow 2N_2(g) + 5O_2(g); K = 1.2 \times 10^{24} mol^5 L^{-5}$
	3) $2NO(g) \Longrightarrow N_2(g) + O_2(g); K = 2.2 \times 10^{30}$
	4) $2N_2O(g) \implies 2N_2(g) + O_2(g)$; $K = 3.5 \times 10^{33} mol \ L^{-1}$

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$CO(g) \leftarrow CO(g) \in Cl_2(g) \implies K_{g,1} = 0 \text{ and } CO(g) \in Cl_2(g) \implies CO(Cl_2(g); K_{g,2} = 6 \times 10^{-3} \text{ atm}^{-1}$ What is the equilibrium constant K_c for the following reaction at 1120 K $C(s) + CO_2(g) + 2Cl_2(g) \implies 2COCl_2(g)$ 1) $3.31 \times 10^{11} M^{-1}$ 2) $5.5 \times 10^{19} M^{-1}$ 3) $5.51 \times 10^6 M^{-1}$ 4) None of these 23 One mole of $N_2(g)$ is mixed with 2 moles of $H_2(g)$ in a 4 litre vessel. If 50% of $N_2(g)$ is converted to $NH_1(g)$ by the following reaction: $N_2(g) + 3H_1(g) \implies 2NH_3(g)$ What will be the value of K_c for the following equilibrium? $NH_3(g) \implies \frac{1}{2} N_2(g) + \frac{3}{2} H_2(g)$ 1) 256 2) 16 3) $\frac{1}{16}$ 4) None of these 24 Consider the reaction, whose $K_c = 33$, $SO_1(g) + NO_1(g) \implies SO_1(g) + NO(g)$ If 0.1 mol each of SO_2 and NO_2 at are placed in 11 container, What is the concentration of SO_3 at equilibrium? 1) 0.003 M 2) 0.015 M 3) 0.085 M 4) 0.097 M 25 Consider the partial decomposition of A as $2A(g) \implies 2B(g) + C(g)$ At equilibrium 700 mL gaseous misture contains 100 mL of gas C at 10 atm and 300K. What is the value of K_c for the reaction? 1) $\frac{40}{7}$ 2) $\frac{1}{28}$ 3) $\frac{10}{28}$ 4) $\frac{28}{10}$ 26 What concentration of CO_2 be in equilibrium with 0.025 M CO at 120° for the reaction $FeO(s) + CO(g) \implies Fe(s) + CO_1(g)$ If the value of $K_c = 5.0$? 1) 0.125 M 2) 0.0125 M 3) 1.25 M 4) 12.5 M 27 For the reaction, $2A + B \implies 3C$ equilibrium constant is K. If the concentration of A is increased by 2 times, the new equilibrium constant will be 1) $2K$ 2) $\frac{K}{2}$ 3) $4K$ 4) K 28 Two moles of PCl ₃ are heated in a closed vessel of 2 litre capacity. When the equilibrium is attained 40% of it has been found to dissociated What is the value of K_c in mol dm^2 1) 0.532 2) 0.266 3) 0.133 4) 0.174	22	The following equilibriu $2CO(a)$	$\lim_{s \to \infty} c(s) + CO(s)$	etermined at 1120 K $K = 10^{-14} \text{ atm}$	-1	
$C(g) = C_{1}(g) = C_{2}(g), K_{2} = 0.500 \text{ dum}$ What is the equilibrium constant K_{c} for the following reaction at 1120 K $C(s) + CO_{c}(g) + 2C_{2}(g) \Longrightarrow 2COC_{2}(g)$ 1) $3.31 \times 10^{11} M^{-1}$ 2) $5.5 \times 10^{10} M^{-1}$ 3) $5.51 \times 10^{6} M^{-1}$ 4) None of these 23 One mole of $N_{c}(g)$ is mixed with 2 moles of $H_{c}(g)$ in a 4 litre vessel. If 50% of $N_{c}(g)$ is converted to $NH_{1}(g)$ by the following reaction: $N_{2}(g) + 3H_{2}(g) \Longrightarrow 2NH_{1}(g)$ What will be the value of K_{c} for the following equilibrium? $NH_{3}(g) \Longrightarrow \frac{1}{2}N_{2}(g) + \frac{3}{2}H_{2}(g)$ 1) 256 2) 16 3) $\frac{1}{16}$ 4) None of these 24 Consider the reaction, whose $K_{c} = 33$, $SO_{1}(g) + NO_{2}(g) \Longrightarrow SO_{2}(g) + NO(g)$ If 0.1 mol each of SO_{2} and NO_{2} at are placed in 11 container, What is the concentration of SO_{3} at equilibrium? 1) 0.003 M 2) 0.015 M 3) 0.085 M 4) 0.097 M 25 Consider the partial decomposition of A as $2A(g) \Longrightarrow 2B(g) + C(g)$ At equilibrium 700 mL gaseous misture contains 100 mL of gas C at 10 atm and 300K. What is the value of K_{c} for the reaction? 1) $\frac{40}{7}$ 2) $\frac{1}{28}$ 3) $\frac{10}{28}$ 4) $\frac{28}{10}$ 26 What concentration of CO_{2} be in equilibrium with 0.025 M CO at 120° for the reaction $FeO(s) + CO(g) \Longrightarrow Fe(s) + CO_{2}(g)$ If the value of $K_{c} = 5.0$? 1) 0.125 M 2) 0.0125 M 3) 1.25 M 4) 12.5 M 27 For the reaction, $2A + B \Longrightarrow 3C$ equilibrium constant is K. If the concentration of A is increased by 2 times, the new equilibrium constant will be 1) $2K$ 2) $\frac{K}{2}$ 3) $4K$ 4) K 28 Two moles of PCl ₃ are heated in a closed vessel of 2 litre capacity. When the equilibrium is attained 40% of it has been found to dissociated What is the value of K_{c} in mol dm^{2} 1) 0.532 2) 0.266 3) 0.133 4) 0.174		CO(g)	$Cl_{(a)} \longrightarrow COCl_{2}(g)$	$(a): K = 6 \times 10^{10}$	$-3 atm^{-1}$	
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What will be the value of K_c for the following equilibrium? $NH_3(g) \rightleftharpoons \frac{1}{2}N_2(g) + \frac{3}{2}H_2(g)$ 1) 2561) 2562) 163) $\frac{1}{16}$ 4) None of these24Consider the reaction, whose $K_c = 33$, $SO_2(g) + NO_2(g) \rightleftharpoons SO_3(g) + NO(g)$ If 0.1 mol each of SO_2 and NO_2 at are placed in 1.1 container, What is the concentration of SO ₃ at equilibrium? 1) 0.003 M2) 0.015 M25Consider the partial decomposition of A as $2.4(g) \rightleftharpoons 28(g) + C(g)$ At equilibrium 700 mL gaseous misture contains 100 mL of gas C at 10 atm and 300K. What is the value of K_p for the reaction? $1) \frac{40}{7}$ 2) $\frac{1}{28}$ 3) $\frac{10}{28}$ 4) $\frac{28}{10}$ 26What concentration of CO_2 be in equilibrium with 0.025 M CO at 120° for the reaction $FeO(s) + CO(g) \rightleftharpoons Fe(s) + CO_2(g)$ If the value of $K_c = 5.0$? $1) 0.125 M$ 2) 0.0125 M3) 1.25 M4) 12.5 M27For the reaction, $2.4 + B \rightleftharpoons 3C$ equilibrium constant is K. If the concentration of A is increased by 2 times, the new equilibrium constant will be $1) 2K$ 2) $\frac{K}{2}$ 3) $4K$ 4) K 28Two moles of PCIs are heated in a closed vessel of 2 litre capacity. When the equilibrium is attained 40% of it has been found to dissociated. What is the value of K_c in mol/ dm^3 $1) 0.532$ 2) 0.2663) 0.1334) 0.174		Γ	$N_2(g) + 3H_2(g) \Longrightarrow$	$\Rightarrow 2NH_3(g)$		
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40% of it has been found to dissociated .What is the value of K_c in mol/ dm^3 1) 0.5322) 0.2663) 0.1334) 0.174	28	Two moles of PCl ₅ are l	neated in a closed ve	ssel of 2 litre capacit	ty . When the equilibrium is attai	ined
1) 0.532 2) 0.266 3) 0.133 4) 0.174		40% of it has be	en found to dissociat	ed .What is the valu	e of K_c in mol/ dm^3	
		1) 0.532	2) 0.266	3) 0.133	4) 0.174	
	ww	delightclasses.com			755020125	55

_/	was establis	hed in the ve	ssel		rature. The following equilibrium
		$2SO_3(g)$	$\Longrightarrow 2SO_2(g)$	$+O_2(g)$	
	The equilibr	rium mixture	reacted with 0.	2 mole $KMnO_4$ in a	cidic medium. Hence K_c is
	1) 0.50	2) 0.25	3) 0.125	4) Nor	ne of these
30	Two solid compou	nds X and Y	dissociates at	a certain tempera	ture as follows
	X(s)	$(g) \Longrightarrow A(g)$	$+2B(g);K_{p1}=$	$=9 \times 10^{-3} atm^{3}$	
	Y(s	$) \Longrightarrow 2B(g$	$+C(g);K_{p2}=$	$=4.5\times10^{-3} atm^{3}$	
	The total p 1) 4.5 atm	ressure of ga 2)	ises over a mix 0.45 atm	ture of X and Y is 3) 0.6 atm	4) None of these
31	1 mol of N_2 is m	ixed with 3	mol of H_2 in	a litre containter	.If 50% of N_2 is converted into
	ammonia b	y the reaction	on $N_2(g) + 3H_2$	$(g) \Longrightarrow 2NH_3(g)$), then the total number of moles
	1) 1.5	e equilibriul 2)	n are 4.5	3) 3.0	4) 6.0
32	47. Which one of	the followin	g is not a revers	sible reaction	
	$1) 2HI \rightleftharpoons H_2$	$P(g) + I_{2(g)}$			
	$2) PCl_{5(g)} \rightleftharpoons$	$PCl_{3(g)} + Cl_{2(g)}$	g)		
	$3) 2KClO_{3(s)} =$	$\Rightarrow 2KCl_{(s)} + 2$	$3O_{2(g)}$		
	4) $N_{2(g)} + 3H_2$	$e_{(g)} \rightleftharpoons 2NH_3$	(g)		
33	8.50g of NH ₃ is pre	sent in 250 n	nl volume. Its a	ctive mass is	
	1) 1.0 Mole L 3) 1 5 Mole I	$ \begin{bmatrix} -1 & 2 \\ -1 & 4 \end{bmatrix} $) 0.5 Mole L^{-1}		
	5) 1.5 1000) 2.0 Miole E		
34	What is the equilib	rium constar	t expression fo	or thereaction, $P_{4(a)}$	$+5O_{\gamma(a)} \rightleftharpoons P_4O_{10(a)}$?
		\mathcal{D}_{10}]	$[P_4 O_{10}]$	-(3)	2(g) . 10(3)
	1) $K_C = \frac{1}{[P_4][0]}$	$\frac{10}{O_2}$ 2	$K_{C} = \frac{1}{5[P_{4}][O_{2}]}$.]	
	3) $K_{-} = [O_{-}]^{5}$	4	$K_{a} = \frac{1}{1}$		
			$\left[O_2\right]^{5}$		
35	Equilibrium consta	nt for the rea	ection, $2NO_{(a)}$ +	$Cl_{2(q)} \rightleftharpoons 2NOCl_{(q)}$	is correctly given by the
	expression		(8)	2(8) (8)
	1) $K = \frac{[NOC]}{2}$	$\frac{Cl}{2}^2$ 2	$K = \frac{\left[2NoCl\right]}{\left[2NoCl\right]}$]	
	$[NO]^2$	$[Cl_2]$	[2No][Cl	2	
	3) $K = \frac{[NO]^2}{1}$	$+[Cl_2]$ 4	$K = \frac{[NO]^2 [C]}{[C]}$	l^2	
	[<i>NC</i>	DCl]	[NOCl]	2	
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36	For the reaction $AB_{(g)} \rightleftharpoons A_{(g)} + B_{(g)}$, AB is 33% dissociated at a total pressure of P, therefore P is
	related to K_p by one of the following option?
	1) $P = K_p$ 3) $P = 4 K$ 2) $P = 3K_p$ 4) $P = 8K$
	$3/1 - 4 R_p$ $4/1 - 6 R_p$
07	
37	For a system, $A+2B \rightleftharpoons C$, the equilibrium concentration are $[A] = 0.06$, $[B] = 0.12 \& [C] = 0.216$. the K, for the reaction is
	1) 125 2) 415
	3) 4×10^{-3} 4) 250
38	The equilibrium concentration of x, y & yx_2 are 4, 2 & 2 respectively for the equilibrium
	$2x + y \rightleftharpoons yx_2$. The value of equilibrium constant, K _c is
	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
	3) 0.0023 4) 02.3
39	For the reaction, $H_{2(g)} + I_{2(g)} \rightleftharpoons 2HI_{(g)}$ the equilibrium constant K _p changes with
	1) Total pressure
	2) Catalyst
	4) Temperature
	() Temperature
40	$3.1 \text{ mol of FeCl}_2$ and $3.2 \text{ mol of NH}_4\text{SCN}$ are added to one litre of water. At equilibrium 3.0
	mol of Fe SCN ⁺² are formed. The equilibrium constant K_C of the reaction
	$Fe^{+3} + SCN^{-} \rightleftharpoons FeSCN^{+2}$ will be
	$1)6.66 \times 10^{-3}$ 2)0.30
	3) 3.30 4) 150
41	The equilibrium constant for the given reaction is 100. $N_{2(g)} + 2O_{2(g)} \rightleftharpoons 2NO_{2(g)}$
	What is the equilibrium constant for the reaction given below
	$NO_2(g) \rightleftharpoons \frac{1}{2}N_{2(g)} + O_{2(g)}$
	1) 10 2) 1
	3) 0.1 4) 0.01
40	In which of the following reactions $K_{\rm s}$ is less than $K_{\rm s}$?
74	1) $N_2O_4(z) \rightleftharpoons 2NO_2(z)$
	$2) 2H_{L_{2}} \Longrightarrow H_{2} + L_{2}$
	$3) 2SO + O \Longrightarrow 2SO$
	$\begin{array}{c} 2) 2 S \mathcal{O}_{2(g)} + \mathcal{O}_{2(g)} \swarrow 2 S \mathcal{O}_{3(g)} \\ \end{array}$
	$\neg j \mathrel{\iota} \mathrel{\sub{\iota}}_{5(g)} \smile \mathrel{\iota} \mathrel{\operatornamewithlimits{\sub{\iota}}}_{3(g)} \top \mathrel{\operatornamewithlimits{\operatornamewithlimits{\sub{\iota}}}}_{2(g)}$
1	

43	Equilibrium constant de	epends on				
	1) The actual quantities of reactants and products					
	2) The presence o	t a catalyst				
	4) The presence of	f inert material				
14	15 moles of H_{2} and 5.2	moles of L are mixed and allowed to attain equilibrium at	500° C At			
	equilibrium the co	ncentration of HI is found to be 10 moles. The equilibrium	constant for the			
	formation of HI is					
	1)50	2)15				
	3)100	4) 25				
45	If different quantities of	methanol and acetic acid are used in the following reversion	ble reaction at			
	$H_2CCOOH_{\odot} + C$	$H_2OH_{C2} \rightleftharpoons H_2CCOOH_{C2} + H_2O_{C2}$				
	Fauilibrium const	ant will have values which will be?				
	1) Different in all	cases				
	2) Same in all cas	ensos ES				
	3) Higher in cases	where higher concentrations of ethanol is used				
	4) Higher in cases	where higher concentration of acetic acid is used				
46	The unit of equilibrium constant, K_c for the reaction $A + B \rightleftharpoons C$ would be					
	1) Mol ⁻¹ L	2) Mol L^{-1}				
	3) mol L	4) no unit				
47	The units of K_p in the following reaction are					
	$N_{2(g)} + 3H_{2(g)} \rightleftharpoons I$	$2NH_{3(g)}$				
	1) atm	2) atm^{-2}				
	3) atm^2	4) atm^{-1}				
48	In a general reaction, A	$+ B \rightleftharpoons AB$, which value of equilibrium constant most favor	ours the			
	production of AB	2				
	$1)9.0 \times 10^{-3}$	$2)3.5 \times 10^{-3}$				
	$3)4.0 \times 10^{-7}$	4) 4.0×10^{-12}				
49	During thermal dissocia	tion of a gas, the vapour density				
	1) Remains the sa	me 2) Increases				
	3) Decreases	4) Increases in some cases and decreases in others				
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50	The vapour density fully dissociated NH ₄ Cl would be
	1) Less than half of the vanour density of pure NH_4Cl
	2) Double of the venour density of pure NIL Cl
	2) Double of the vapour density of pure NH_4CI
	3) Half of the vapour density of pure NH_4Cl
	4) One third of the vapour density of pure NH ₄ Cl
51	In time killing the following reversible reaction $C_{\alpha}CO \rightarrow C_{\alpha}O \rightarrow CO$ proceeds completion
51	In time kins, the following reversible reaction, $CaCO_{3(s)} \rightleftharpoons CaO_{(s)} + CO_{2(g)}$ proceeds completion
	because of
	1) High temperature 2) CO_2 escapes
	2) Low temperature
	4) Molecular mass of CaO is less than that of CaO_3
52	For the reaction, $C_{(x)} + CO_{2(x)} \rightleftharpoons 2Co(g)$. The partial pressure of CO ₂ & CO are 2.0 & 4.0 atm
	(s) 2(g), $(c) 1 1$
	respectively, at equilibrium. The value of K_p of the reaction is
	1) 0.5 2) 4.0
	3) 32.0 4) 8.0
53	Lechatelier's principle is applicable to
00	1) Only homogeneous chemical reversible reactions
	1) Only homogeneous chemical reversible reactions
	2) Only heterogeneous chemical reversible reactions
	3) Only physical equilibrium
	4) All systems, chemical or physical, in equilibrium
54	For the following reaction at 250° C the value of K is 26. Then the value of K at the same
54	To the following reaction at 250 C, the value of R_c is 20. Then the value of R_p at the same same
	temperature will be $PCl_{3(g)} + Cl_{2(g)} \rightleftharpoons PCl_{5(g)}$
	1) 0.57 2) 0.61
	3) 0.83 $4) 0.91$
55	Manufacture of SO ₃ , $2SO_{2(g)} + O_{2(g)} \rightleftharpoons 2SO_{3(g)} + X cal$, most favourable conditions of
	temperature and pressure for greater yield of SO_2 are
	1) I ow temperature and low pressure
	2) High temperature and low pressure
	2) rightemperature and low pressure
	3) High temperature and low pressure
	4) Low temperature and high pressure
56	In the reaction $N \rightarrow 2NH$ $\Lambda H = -93.6kI$ the yield of ammonia does not increase
	In the reaction $r_{2(g)} + 3r_{2(g)} \leftarrow 2rrr_{3(g)} \leftarrow 95.0$, the yield of animomia does not increase
	when
	1) Pressure is increased
	2) Pressure is decreased
	3) Temperature is lowered
	4) Valuma of the reaction vaggel is decreased
	4) volume of the reaction vessel is decreased

1) Decrease the value of equilibrium constant2) Double the value of equilibrium constant3) Not produce any change in equilibrium constant4) Produce some increase in equilibrium constant58If K_p for a reaction, 0.05 stm at 1000k, its K_c in terms of R will be1) 20000 R2) 0.02 R3) 5×10^{-5} 4) $\frac{5 \times 10^{-5}}{R}$ 59XY ₂ dissociates as $XT_{2(g)} \rightleftharpoons XT_{1(g)} + T_{(g)}$. Initial pressure of XY ₂ is 600mm hg. The total pressure aequilibrium is 800mm hg. Assuming volume of system to remain constant, the value of K_p is1) 50 2) 1003) 2004) 40060Which of the following reaction will be favoured at low pressure? $1)H_{3(g)} + T_{3(g)} \rightleftharpoons 2NH_{3(g)}$ 2) $N_{2(g)} + T_{3(g)} \rightleftharpoons 2NH_{3(g)}$ 3) $PCl_{4(g)} \rightleftharpoons PCl_4 + Cl_{4(g)}$ 4) $N_{3(g)} + 0_{3(g)} \rightleftharpoons 2NO_{(g)}$ 61 K_p/K_c for the reaction, $CO_{(e)} + \frac{1}{2}O_{3(e)} \rightleftharpoons CO_{3(e)}$ is1) RT2) $\frac{1}{\sqrt{KT}}$ 3) \sqrt{KT} 4) 16263The equilibrium constant of the reaction $A \rightleftharpoons D$ is1) 152) 53) 34) 16364The equilibrium constant of the reaction , $H_{3(g)} + L_{4(g)} \rightleftharpoons 2H_{4(g)}$ 6578999999999999999999 <th>57</th> <th>In an exothermic reactio</th> <th>n, a 10[°]C rise in temperature will</th>	57	In an exothermic reactio	n, a 10 [°] C rise in temperature will
2) Double the value of equilibrium constant3) Not produce some increase in equilibrium constant4) Produce some increase in equilibrium constant581f K _p for a reaction, 0.05 atm at 1000k, its K _c in terms of R will be1) 20000 R2) 0.02 R3) 5 × 10^{-5}4) $\frac{5 \times 10^3}{R}$ 59XY ₂ dissociates as $XT_{x(g)} \Rightarrow XT_{(g)} + T_{(g)}$. Initial pressure of XY ₂ is 600mm hg. The total pressure aequilibrium is 800mm hg. Assuming volume of system to remain constant, the value of K _p is1) 502) 1003) 2004) 4006060Which of the following reaction will be favoured at low pressure?1) $H_{x(g)} + I_{x(g)} \Rightarrow 2HI_{(g)}$ 2) $N_{x(g)} + 3H_{x(g)} \Rightarrow 2HI_{x(g)}$ 3) $PCI_{x(g)} \Rightarrow PCI_5 + CI_{x(g)}$ 4) $N_{x(g)} + O_{x(g)} \Rightarrow 2NO_{x(g)}$ 61K _P /K _c for the reaction, $CO_{(g)} + \frac{1}{2}O_{x(g)} \Rightarrow CO_{x(g)}$ is1) RT3) \sqrt{RT} 4) 162For the reactions, $A \Rightarrow B, K_c = 1; B \Rightarrow C, K_c = 3$ $C \in D, K_c = 5$ K _c for the reaction $A \Rightarrow D$ is1) 152) 53) 34) 163The equilibrium constant of the reaction, $H_{x(g)} \Rightarrow 2H_{x(g)}$ $H_{x(g)} + I_{x(g)} \Rightarrow 2H_{x(g)}$ 3) 754) 10		1) Decrease the va	lue of equilibrium constant
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equilibrium is 800mm hg. Assuming volume of system to remain constant, the value of K _p is1) 502) 1003) 2004) 40060Which of the following reaction will be favoured at low pressure?1) $H_{3(p)} + I_{3(p)} \rightleftharpoons 2HI_{(p)}$ 2) $N_{3(p)} + 3H_{3(p)} \rightleftharpoons 2NH_{3(p)}$ 3) $PCI_{5(p)} \rightleftharpoons PCI_{1} + CI_{2(p)}$ 4) $N_{3(p)} + O_{3(p)} \rightleftharpoons 2NO_{(p)}$ 61 K_{p}/K_{c} for the reaction, $CO_{(p)} + \frac{1}{2}O_{3(p)} \rightleftharpoons CO_{3(p)}$ is1) RT2) $\frac{1}{\sqrt{RT}}$ 3) \sqrt{RT} 4) 162For the reactions, $A \rightleftharpoons B, K_{c} = 1; B \rightleftharpoons C, K_{c} = 3$ $C \rightleftharpoons D, K_{c} = 5 K_{c}$ for the reaction $A \rightleftharpoons D$ is1) 152) 53) 34) 163The equilibrium constant of the reaction, $H_{3(p)} + I_{3(p)} \rightleftharpoons 2HI_{(p)}$ iiis 50. If the volume of the container is reduced to one half of its original value, the equilibrium constant will be1) 252) 503) 754) 10	59	XY_2 dissociates as $XY_{2(s)}$	$XY_{(g)} \rightarrow XY_{(g)} + Y_{(g)}$. Initial pressure of XY ₂ is 600mm hg. The total pressure at
1) 502) 1003) 2004) 40060Which of the following reaction will be favoured at low pressure? $1) H_{z(g)} + I_{z(g)} \rightleftharpoons 2HI_{(g)}$ $2) N_{z(g)} \Rightarrow PCI_{z(g)} \rightleftharpoons 2NO_{z(g)}$ 61 K_p/K_e for the reaction, $CO_{(g)} + \frac{1}{2}O_{z(g)} \rightleftharpoons CO_{z(g)}$ is $1) RT$ $2) \frac{1}{\sqrt{RT}}$ $3) \sqrt{RT}$ $4) 1$ 62For the reactions, $A \rightleftharpoons B, K_c = 1; B \rightleftharpoons C, K_c = 3$ $C \rightleftharpoons D, K_c = 5 K_e$ for the reaction $A \rightleftharpoons D$ is $1) 15$ $2) 5$ $3) 3$ $4) 1$ 63The equilibrium constant of the reaction, $H_{z(g)} + I_{z(g)} \rightleftharpoons 2HI_{(g)}$ iii so. If the volume of the container is reduced to one half of its original value, the equilibrium constant will be $1) 25$ $2) 50$ $3) 75$ $4) 10$		equilibrium is 800	mm hg. Assuming volume of system to remain constant, the value of K _p is
$3) 200 \qquad 4) 400$ $(1) H_{3(g)} + I_{3(g)} \rightleftharpoons 2H_{(g)}$ $2) N_{3(g)} + 3H_{3(g)} \rightleftharpoons 2NH_{3(g)}$ $3) PCI_{3(g)} \rightleftharpoons PCI_{3} + CI_{23(g)}$ $4) N_{3(g)} + Q_{3(g)} \rightleftharpoons 2NO_{(g)}$ $(1) RT \qquad 2) \frac{1}{\sqrt{RT}}$ $3) \sqrt{RT} \qquad 4) 1$ $(2) For the reactions, A \rightleftharpoons B, K_{c} = 1; B \rightleftharpoons C, K_{c} = 3$ $C \rightleftharpoons D, K_{c} = 5 K_{c} \text{ for the reaction } A \rightleftharpoons D \text{ is } 1) 15 \qquad 2 \cdot 5 S$ $3) 3 \qquad 4) 1$ $(3) The equilibrium constant of the reaction, A \rightleftharpoons D \text{ is } 1) 15 \qquad 2 \cdot 5 S$ $(1) RT \qquad 2 \cdot 5 S$ $(1) RT \qquad 2 \cdot 5 S$ $(2) S \qquad 3 \cdot 3 \qquad 4 \cdot 1$ $(3) The equilibrium constant of the reaction, A \rightleftharpoons D \text{ is } 1) 15 \qquad 2 \cdot 5 S$ $(3) The equilibrium constant of the reaction, A = D \text{ is } 1) 15 \qquad 2 \cdot 5 S$ $(3) The equilibrium constant of the reaction, A = D \text{ is } 1) 15 \qquad 2 \cdot 5 S$ $(3) The equilibrium constant of the reaction, A = D \text{ is } 1) 15 \qquad 2 \cdot 5 S$ $(3) The equilibrium constant of the reaction, A = D \text{ is } 1) 15 \qquad 2 \cdot 5 S$ $(3) The equilibrium constant of the reaction, A = D \text{ is } 1) 15 \qquad 2 \cdot 5 S$ $(3) The equilibrium constant of the reaction, A = D \text{ is } 1) 15 \qquad 2 \cdot 5 S$ $(3) The equilibrium constant of the reaction, A = D \text{ is } 1) 15 \qquad 2 \cdot 5 S$ $(3) The equilibrium constant of the reaction, A = D \text{ is } 1) 15 \qquad 2 \cdot 5 S$ $(3) The equilibrium constant of the reaction, A = D \text{ is } 1) 15 \qquad 2 \cdot 5 S$ $(3) 75 \qquad 4) 10$ $(3) The equilibrium constant of the reaction, B = 0 \text{ is } 1) 2 \cdot 5 S$ $(3) 75 \qquad 4) 10$		1) 50	2) 100
60Which of the following reaction will be favoured at low pressure? $1) H_{J(g)} + I_{J(g)} \rightleftharpoons 2HI_{(g)}$ $2) N_{J(g)} + 3H_{J(g)} \rightleftharpoons 2NH_{J(g)}$ $3) PCI_{J(g)} \rightleftharpoons PCI_{J} + CI_{2(g)}$ $4) N_{2(g)} + O_{2(g)} \rightleftharpoons 2NO_{(g)}$ 61 K_p/K_c for the reaction, $CO_{(g)} + \frac{1}{2}O_{2(g)} \rightleftharpoons CO_{2(g)}$ is $1) RT$ $2) \frac{1}{\sqrt{RT}}$ $3) \sqrt{RT}$ $4) 1$ 62For the reactions, $A \rightleftharpoons B, K_c = 1; B \rightleftharpoons C, K_c = 3$ $C \rightleftharpoons D, K_c = 5 K_c$ for the reaction $A \rightleftharpoons D$ is $1) 15$ $2) 5$ $3) 3$ $4) 1$ 63The equilibrium constant of the reaction, $H_{2(g)} + I_{2(g)} \rightleftharpoons 2HI_{(g)}$ iis 50. If the volume of the container is reduced to one half of its original value, the equilibrium constant will be $1) 25$ $2) 50$ $3) 75$ $4) 10$		3) 200	4) 400
60 Which of the following reaction will be havened at low pressure? 1) $H_{z(g)} + I_{z(g)} \rightleftharpoons 2HI_{(g)}$ 2) $N_{z(g)} \Rightarrow H_{z(g)} \rightleftharpoons 2NH_{z(g)}$ 3) $PCI_{z(g)} \rightleftharpoons PCI_3 + CI_{z(g)}$ 4) $N_{z(g)} + O_{z(g)} \rightleftharpoons 2NO_{(g)}$ 61 K_p/K_e for the reaction, $CO_{(g)} + \frac{1}{2}O_{2(g)} \rightleftharpoons CO_{2(g)}$ is 1) RT 2) $\frac{1}{\sqrt{RT}}$ 3) \sqrt{RT} 4) 1 62 For the reactions, $A \rightleftharpoons B, K_c = 1; B \rightleftharpoons C, K_c = 3$ $C \rightleftharpoons D, K_c = 5$ K _e for the reaction $A \rightleftharpoons D$ is 1) 15 2) 5 3) 3 4) 1 63 The equilibrium constant of the reaction, $H_{z(g)} + I_{z(g)} \rightleftharpoons 2HI_{(g)}$ iiis 50. If the volume of the container is reduced to one half of its original value, the equilibrium constant will be 1) 25 2) 50 3) 75 4) 10	60	Which of the fallowing	repetion will be ferroured at low pressure?
$\begin{array}{cccc} 2) N_{x(s)}^{(s)} & \rightarrow 3B \\ 2) N_{x(s)}^{(s)} & \rightarrow 2NH_{x(g)} \\ 3) PCI_{s(g)} & \rightleftharpoons PCI_3 + CI_{2(g)} \\ 4) N_{z(g)} + O_{z(g)} & \rightleftharpoons 2NO_{(g)} \\ \end{array}$ $\begin{array}{cccc} 61 \\ K_p/K_c \text{ for the reaction, } CO_{(g)} + \frac{1}{2}O_{2(g)} \rightleftharpoons CO_{2(g)} \text{ is} \\ 1) \text{ RT} & 2) \frac{1}{\sqrt{RT}} \\ 3) \sqrt{RT} & 4) 1 \\ \end{array}$ $\begin{array}{ccccc} 62 \\ \text{For the reactions,} \\ A \rightleftharpoons B, K_c = 1; B \rightleftharpoons C, K_c = 3 \\ C \rightleftharpoons D, K_c = 5 \text{ K}_c \text{ for the reaction } A \rightleftharpoons D \text{ is} \\ 1) 15 & 2) 5 \\ 3) 3 & 4) 1 \\ \end{array}$ $\begin{array}{cccccccc} 63 \\ \text{The equilibrium constant of the reaction,} \\ H_{z(g)} + I_{z(g)} \rightleftharpoons 2HI_{(g)} \text{ iis } 50. \text{ If the volume of the container is reduced to one half of its original value, the equilibrium constant will be} \\ 1) 25 & 2) 50 \\ 3) 75 & 4) 10 \\ \end{array}$	00	1) $H_{2(a)} + I_{2(a)} \rightleftharpoons 2$	$2HI_{(a)}$
$3) PCl_{s(g)} \rightleftharpoons PCl_{3} + Cl_{2(g)}$ $4) N_{2i(g)} + O_{2i(g)} \rightleftharpoons 2NO_{(g)}$ $61 K_{p}/K_{c} \text{ for the reaction, } CO_{(g)} + \frac{1}{2}O_{2(g)} \rightleftharpoons CO_{2(g)} \text{ is }$ $1) \text{ RT } 2) \frac{1}{\sqrt{RT}}$ $3) \sqrt{RT} \qquad 4) 1$ $62 \text{For the reactions,}$ $A \rightleftharpoons B, K_{c} = 1; B \rightleftharpoons C, K_{c} = 3$ $C \rightleftharpoons D, K_{c} = 5 \text{ K}_{c} \text{ for the reaction } A \rightleftharpoons D \text{ is }$ $1) 15 \qquad 2) 5$ $3) 3 \qquad 4) 1$ $63 \text{The equilibrium constant of the reaction,}$ $H_{2(g)} + I_{2(g)} \rightleftharpoons 2HI_{(g)} \text{ iis 50. If the volume of the container is reduced to one half of its original value, the equilibrium constant will be } 1) 25 \qquad 2) 5 \\ 3) 75 \qquad 4) 10$		$2N_{2(g)} + 3H_{2(g)} =$	$\geq 2NH_{3(g)}$
$4) N_{2(g)} + O_{2(g)} \rightleftharpoons 2NO_{(g)}$ $for the reaction, CO_{(g)} + \frac{1}{2}O_{2(g)} \rightleftharpoons CO_{2(g)} is 1) RT \qquad 2) \frac{1}{\sqrt{RT}} 3) \sqrt{RT} \qquad 4) 1 for the reactions, A \rightleftharpoons B, K_c = 1; B \rightleftharpoons C, K_c = 3 C \rightleftharpoons D, K_c = 5 K_c \text{ for the reaction } A \rightleftharpoons D \text{ is} 1) 15 \qquad 2) 5 3) 3 \qquad 4) 1 for the equilibrium constant of the reaction , H_{2(g)} + I_{2(g)} \rightleftharpoons 2HI_{(g)} iis 50. If the volume of the container is reduced to one half of its original value, the equilibrium constant will be 1) 25 \qquad 2) 50 3) 75 \qquad 4) 10$		$3) PCl_{5(g)} \rightleftharpoons PCl_3$	$+ Cl_{2(g)}$
61 $K_{p}/K_{c} \text{ for the reaction, } CO_{(g)} + \frac{1}{2}O_{2(g)} \rightleftharpoons CO_{2(g)} \text{ is}$ $1) \text{ RT} \qquad 2) \frac{1}{\sqrt{RT}}$ $3) \sqrt{RT} \qquad 4) 1$ 62 For the reactions, $A \rightleftharpoons B, K_{c} = 1; B \rightleftharpoons C, K_{c} = 3$ $C \rightleftharpoons D, K_{c} = 5 \text{ K}_{c} \text{ for the reaction } A \rightleftharpoons D \text{ is}$ $1) 15 \qquad 2) 5$ $3) 3 \qquad 4) 1$ 63 The equilibrium constant of the reaction, $H_{2(g)} + I_{2(g)} \rightleftharpoons 2HI_{(g)} \text{ iis 50. If the volume of the container is reduced to one half of its original value, the equilibrium constant will be} 1) 25 \qquad 2) 50 3) 75 \qquad 4) 10$		$4) N_{2(g)} + O_{2(g)} \rightleftharpoons$	$2NO_{(g)}$
61 K _p /K _c for the reaction, $CO_{(g)} + \frac{1}{2}O_{2(g)} \rightleftharpoons CO_{2(g)}$ is 1) RT 2) $\frac{1}{\sqrt{RT}}$ 3) \sqrt{RT} 4) 1 62 For the reactions, $A \rightleftharpoons B, K_c = 1; B \rightleftharpoons C, K_c = 3$ $C \rightleftharpoons D, K_c = 5$ K _c for the reaction $A \rightleftharpoons D$ is 1) 15 2) 5 3) 3 4) 1 63 The equilibrium constant of the reaction , $H_{2(g)} + I_{2(g)} \rightleftharpoons 2HI_{(g)}$ iiis 50. If the volume of the container is reduced to one half of its original value, the equilibrium constant will be 1) 25 2) 50 3) 75 4) 10			
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62 For the reactions, $A \rightleftharpoons B, K_c = 1; B \rightleftharpoons C, K_c = 3$ $C \rightleftharpoons D, K_c = 5$ K _c for the reaction $A \rightleftharpoons D$ is 1) 15 2) 5 3) 3 4) 1 63 The equilibrium constant of the reaction , $H_{2(g)} + I_{2(g)} \rightleftharpoons 2HI_{(g)}$ iiis 50. If the volume of the container is reduced to one half of its original value, the equilibrium constant will be 1) 25 2) 50 3) 75 4) 10		1) RT	$2)\frac{1}{\sqrt{RT}}$
62 For the reactions, $A \rightleftharpoons B, K_c = 1; B \rightleftharpoons C, K_c = 3$ $C \rightleftharpoons D, K_c = 5$ K _c for the reaction $A \rightleftharpoons D$ is 1) 15 2) 5 3) 3 4) 1 63 The equilibrium constant of the reaction, $H_{2(g)} + I_{2(g)} \rightleftharpoons 2HI_{(g)}$ iiis 50. If the volume of the container is reduced to one half of its original value, the equilibrium constant will be 1) 25 2) 50 3) 75 4) 10		$3)\sqrt{RT}$	4) 1
62 For the reactions, $A \rightleftharpoons B, K_c = 1; B \rightleftharpoons C, K_c = 3$ $C \rightleftharpoons D, K_c = 5$ K _c for the reaction $A \rightleftharpoons D$ is 1) 15 2) 5 3) 3 4) 1 63 The equilibrium constant of the reaction , $H_{2(g)} + I_{2(g)} \rightleftharpoons 2HI_{(g)}$ iiis 50. If the volume of the container is reduced to one half of its original value, the equilibrium constant will be 1) 25 2) 50 3) 75 4) 10		5) 111	
63 The equilibrium constant of the reaction , $H_{2(g)} + I_{2(g)} \rightleftharpoons 2HI_{(g)}$ iiis 50. If the volume of the container is reduced to one half of its original value, the equilibrium constant will be 1) 25 2) 50 3) 75 4) 10	62	For the reactions.	
63 The equilibrium constant of the reaction $A \rightleftharpoons D$ is 1) 15 2) 5 3) 3 4) 1 63 The equilibrium constant of the reaction , $H_{2(g)} + I_{2(g)} \rightleftharpoons 2HI_{(g)}$ iiis 50. If the volume of the container is reduced to one half of its original value, the equilibrium constant will be 1) 25 2) 50 3) 75 4) 10		$A \rightleftharpoons B, K_C = 1; h$	$B \rightleftharpoons C, K_c = 3$
63 The equilibrium constant of the reaction, $H_{2(g)} + I_{2(g)} \rightleftharpoons 2HI_{(g)}$ iiis 50. If the volume of the container is reduced to one half of its original value, the equilibrium constant will be 1) 25 2) 50 3) 75 4) 10		$C \rightleftharpoons D, K_c = 5 \text{ K}$	_c for the reaction $A \rightleftharpoons D$ is
63 The equilibrium constant of the reaction, $H_{2(g)} + I_{2(g)} \rightleftharpoons 2HI_{(g)}$ iiis 50. If the volume of the container is reduced to one half of its original value, the equilibrium constant will be 1) 25 2) 50 3) 75 4) 10		1) 15	2) 5
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$H_{2(g)} + I_{2(g)} \rightleftharpoons 2HI_{(g)}$ ins 50. If the volume of the container is reduced to one half of its original value, the equilibrium constant will be 1) 25 2) 50 3) 75 4) 10	63	The equilibrium constan	t of the reaction, U_{i} is a fifth of the container is reduced to any helf. Since
original value, the equilibrium constant will be 1) 25 2) 50 3) 75 4) 10		$\Pi_{2(g)} + I_{2(g)} \rightleftharpoons 2H$	$m_{(g)}$ ms 50. If the volume of the container is reduced to one half of its
1) 25 2) 50 3) 75 4) 10		original value, the	equilibrium constant will be
		1) 25	2) 50 4) 10
		5)15	10
]			

64	In gaseous equilibrium the correct relation between K _c & K _p is
	1) $K_c = K_p (RT)^{\Delta n}$ 2) $K_p = K_c (RT)^{\Delta n}$
	$3)\frac{K_c}{RT} = \left(K_p\right)^{\Delta n} \qquad \qquad 4)\frac{K_p}{RT} = \left(K_c\right)^{\Delta n}$
65	In which of the following equilibrium $K_c \& K_p$ are not equal?
	$1)2NO_{(g)} \rightleftharpoons N_{2(g)} + O_{2(g)}$
	2) $SO_{2(g)} + NO_{2(g)} \Longrightarrow SO_{3(g)} + NO_{(g)}$
	$3) H_{2(g)} + I_{2(g)} \rightleftharpoons 2HI_{(g)}$
	$4) 2C_{(s)} + O_{2(g)} \rightleftharpoons 2CO_{2(g)}$
66	The reaction quotient Q for
	$N_{2(g)} + 3H_{2(g)} \rightleftharpoons 2NH_{3(g)}$ is given by $Q = \frac{[NH_3]^2}{[N_2][H_3]^3}$. The reaction will proceed in backward
	direction when
	$1)Q = K_c \qquad 2)Q < K_c$ $3)Q > K \qquad A)A = 0$
	$J)Q > K_c$ $J/A = 0$
67	For the reaction $PCl_{2(p)} + Cl_{2(p)} \rightleftharpoons PCl_{5(p)}$. The value K_p at 250°C is 0.61 atm ⁻¹ . The value of K_c at
	this temperature will be
	1) 15 (mol/L) ⁻¹ 2) 26 (mol/L) ⁻¹ 2) 25 (mol/L) ⁻¹ 4) 52 (mol/L) ⁻¹
	3) 33(1101/L) 4) 32 (1101/L)
68	Consider the reaction, CaCO ₃ (s) ⇒ CaO (s) + CO ₂ (g) in a closed container at equilibrium. What would be the effect of addition of CaCO ₃ on the equilibrium concentration of CO ₂ ? 1) Increases 2) Unpredictable
	4) Remains unaffected
69	Ka_1 , Ka_2 and Ka_3 are the respective ionisation constants for the following reactions.
	$H_2S \rightleftharpoons H^+ + HS^-$
	$HS^- \rightleftharpoons H^+ + S^{2-}$
	$H_2S \rightleftharpoons 2H + S^2$
	The correct relationship between Ka_1, Ka_2 and Ka_3 is
	1) $Ka_3 = Ka_1 \times Ka_2$
	2) $Ka_3 = Ka_1 + Ka_2$
	3) $Ka_3 = Ka_1 - Ka_2$
	4) $Ka_3 = Ka_1 / Ka_2$

Tail of 1) 3: 2 2) 1: 2 3) 2: 3 4) 2: 1 71 In the reaction 2SO $\pi_{(0)} + O_{\pi(0)} \rightleftharpoons 2SO_{\pi(0)}$ at equilibrium 2 moles of SO ₂ , 1 mole of O ₂ , 2 moles of SO ₃ are present in littre vessel. To have 3moles of SO ₃ at equilibrium additional moles of dioxygen required under similar experimental conditions is 1) 0.5 72 In the process $1_2 + 1 \rightleftharpoons 1_1$ (in aqueous medium), initially there are 2 mole 1_2 and 2 mole 1 . But at equilibrium due to addition of AgNO _{3teq} , 1.75 moles of yellow ppt is obtained. K_c for the process is ($V_{mak} = 1dm^2$) nearly 1) 0.08 1) 0.08 2) 0.02 3) 0.16 4) 0.12 73 A 2 litre vessel contains 2 moles of H ₂ and 4 moles of HL 50% of the reaction has completed for the attainment of equilibrium. The value of K _C for the reaction $H_{2(g)} + 1_{2(g)} = 2H_{1(g)}$ is 1) 0.75 2) 0.13 3) 2.45 4) 0.54 74 $MH_4HS(s) \rightleftharpoons MH_3(g) + H_2S(g)$ The equilibrium pressure at 25°C is 0.660 atm. What is K_p for the reaction? 1) 0.109 2) 0.218 3) 1.89 3) 1.89 4) 2.18 75 At a certain temperature, only 50% HI is dissociated at equilibrium in the following reaction: $2HH(g) \rightleftharpoons H_2(g) + H_2(g)$ The equilibrium constant for this reaction is 1) 0.25 3) 3.0 4) 0.5 76 For reaction, $\frac{N_5(g) + 3H_5(g) \cong 2NH_5(g)}{N_5(g) = 2NH_5(g)}$, the value of K _C at 250°C is 26. The value of K _P at this temperat	70	One mole each of 'A' and 'B' and 3 mole each of 'C' and 'D' are placed in 1-L flask, if equilibrium constant is 2.25 for $A + B \rightleftharpoons C + D$, equilibrium concentrations of 'A' and 'C' will be in the
 1) 3 : 2 2) 3 4) 2 : 1 3) 2 : 3 4) 2 : 1 71 In the reaction 2SO_{2(g)} + O_{3(g)} ⇒ 2SO_{3(g)} at equilibrium 2 moles of SO₂ . 1 mole of O₂. 2 moles of SO₃ are present in 1 litre vessel. To have 3moles of SO₃ at equilibrium additional moles of dioxygen required under similar experimental conditions is 1) 0.5 2) 9 3) 4.5 4) 8.5 72 In the process 1₂ + Γ ⇒ 1₁ (in aqueous medium), initially there are 2 mole 1, and 2 mole Γ. But at equilibrium due to addition of AgNO₃₆₀, 1.75 moles of yellow ppt is obtained. K_C for the process is (V_{bias} = ldm²) nearly 1) 0.08 2) 0.02 3) 0.16 4) 0.12 73 A 2 litre vessel contains 2 moles of H₂ and 4 moles of HI. 50% of the reaction has completed for the attainment of equilibrium. The value of K_C for the reaction H_{2(g)} + 1_{2(g)} = 2HI_(g) is 1) 0.75 2) 1.33 3) 2.45 4) 0.54 74 <i>NH</i>₁<i>HS</i>(<i>s</i>) ⇒ <i>NH</i>₃(<i>g</i>) + <i>H</i>₂<i>S</i>(<i>g</i>) The equilibrium pressure at 25°C is 0.660 atm. What is K_p for the reaction? 1) 0.109 2) 0.218 3) 1.89 4) 2.18 75 At a certain temperature, only 50% HI is dissociated at equilibrium in the following reaction: 2<i>HH</i>(<i>g</i>) ⇒ <i>H</i>₁(<i>g</i>) The equilibrium constant for this reaction is 1) 0.25 2) 1.0 3) 3.0 4) 0.5 76 For reaction, N₂(<i>g</i>)+3H₂(<i>g</i>) ⇒ 2<i>NH</i>₃(<i>g</i>), the value of K_C at 250⁰C is 26. The value of K_P at this temperature will be 1) 0.014 2) 0.83 3) 0.57 4) 0.46 		ratio of (1) $(2, 2)$ (2) $(1, 2)$
 71 In the reaction 2SO₃₍₂₎ + O₃₍₂₎ ⇒ 2SO₃₍₂₎ at equilibrium 2 moles of SO₂, 1 mole of O₂, 2 moles of SO₃ are present in 1 litre vessel. To have 3moles of SO₃ at equilibrium additional moles of dioxygen required under similar experimental conditions is 0.5 2) 9 14.5 4) 8.5 72 In the process I₂+ Γ ⇒ I₁ (in aqueous medium), initially there are 2 mole I₂ and 2 mole Γ. But at equilibrium due to addition of AgNO₃₆₆₀, 1.75 moles of yellow ppt is obtained. K_C for the process is (V_{Inst} = 1dm³) nearly 0.08 2) 0.02 0.16 4) 0.12 73 A 2 litre vessel contains 2 moles of H₂ and 4 moles of HL 50% of the reaction has completed for the attainment of equilibrium. The value of K_C for the reaction H_{2(g)} + I_{2(g)} = 2HI(g) is 0.75 2) 1.33 2.45 4) 0.54 74 NH₁HS(s) ⇒ NH₃(g) + H₂S(g) The equilibrium pressure at 25°C is 0.660 atm. What is K_p for the reaction? 1) 0.19 2) 0.218 75 At a certain temperature, only 50% HI is dissociated at equilibrium in the following reaction: 2HI(g) ⇒ H₂(g) + I₂(g) The equilibrium constant for this reaction is 1) 0.25 2) 1.03 3) 0.4 0.5 76 For reaction, N₂(g)+3H₁(g) = 2NH₁(g), the value of K_C at 250⁰C is 26. The value of K_P at this temperature will be 1) 0.014 2) 0.83 3) 0.57 4) 0.36 		$(1) 5 \cdot 2 = 2) 1 \cdot 2$ $(3) 2 \cdot 3 = 4) 2 \cdot 1$
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Process is $(v_{fisk} - toil)$ fically 1) 0.08 2) 0.02 3) 0.16 4) 0.12 73 A 2 litre vessel contains 2 moles of H_2 and 4 moles of HI. 50% of the reaction has completed for the attainment of equilibrium. The value of K_C for the reaction $H_{2(g)} + I_{2(g)} \rightleftharpoons 2HI_{(g)}$ is 1) 0.75 2) 1.33 3) 2.45 4) 0.54 74 $NH_4HS(s) \rightleftharpoons NH_3(g) + H_2S(g)$ The equilibrium pressure at 25°C is 0.660 atm. What is K_p for the reaction? 1) 0.109 2) 0.218 3) 1.89 4) 2.18 75 At a certain temperature, only 50% HI is dissociated at equilibrium in the following reaction: $2HI(g) \rightleftharpoons H_2(g) + I_2(g)$ The equilibrium constant for this reaction is 1) 0.25 2) 1.0 3) 3.0 4) 0.5 76 For reaction, $N_2(g) + 3H_2(g) \rightleftharpoons 2NH_3(g)$, the value of K_C at 250°C is 26. The value of K_P at this temperature will be 1) 0.014 2) 0.83 3) 0.57 4) 0.46		at equilibrium due to addition of $AgNO_{3(aq)}$, 1.75 moles of yellow ppt is obtained. K _C for the
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$\begin{array}{ c c c c c } \hline 2HI(g) \rightleftharpoons H_2(g) + I_2(g) & \text{The equilibrium constant for this reaction is} \\ 1) 0.25 & 2) 1.0 \\ 3) 3.0 & 4) 0.5 \\ \hline \textbf{76} & \text{For reaction, } {}^{N_2(g) + 3H_2(g)} \rightleftharpoons 2NH_3(g) \\ \text{temperature will be} \\ 1) 0.014 & 2) 0.83 \\ 3) 0.57 & 4) 0.46 \\ \hline \end{array}$	75	At a certain temperature, only 50% HI is dissociated at equilibrium in the following reaction:
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3) 0.57 4) 0.46		1) 0.014 2) 0.83
		3) 0.5 / 4) 0.46



9	Ans-2	
-	Sol:	$K_c = \frac{n_B n_C^3}{n_A^2} \times \frac{1}{V^2}$ $16 = \frac{2 \times 2^3}{2^2 \times V^2} \Longrightarrow V = \frac{1}{2}$
10	Ans-3 Sol:	$P_{total} = 3P$ $\Rightarrow P = \frac{0.318}{3} = 0.106$ $\therefore K_{total} = 4P^{3} = 4.76 \times 10^{-3}$
11	Ang 2	$\dots \mathbf{R}_p = \mathbf{H}_p = \mathbf{H}_p = \mathbf{H}_p + \mathbf{H}_p +$
	Sol:	$H_{2}(g) + CO_{2}(g) \xrightarrow{\longrightarrow} H_{2}O + CO(g)$ Moles of eqm 0.8-x 0.8-x x x Conc. at eqm $\frac{0.8-x}{5} \left(\frac{0.8-x}{5}\right) \left(\frac{x}{5}\right) \left(\frac{x}{5}\right)$ $\therefore \Delta n_{g} = 0$ $\therefore K_{c} = \frac{\left(\frac{x}{5}\right)^{2}}{\left(\frac{0.8-x}{5}\right)^{2}}$ $2 = \frac{x}{0.8-x}$ x = 0.533 $[CO_{2}(g)] = \frac{0.8-0.533}{5}$ $0.267 \div 5 = 0.0534$
12	Ans-2 Sol:	$CO+H_2O CO_2+H_2$ initial conc. 3 3 x 0 At eqm 2 2 (x+1) 1 $5 = \frac{(x+1)}{4} = 20 = x+1$ $x = 19$

13 Ans-1
Sol:
$$N_{y}O_{c} \rightleftharpoons 2NO_{2}$$

 $I - X = 2X$
 $0.8 = 0.4$
 $K_{c} = \frac{0.4 \times 0.4}{0.8}$
14 Ans-1
Sol: $A(g) + B_{2}(g) \rightleftharpoons 2.2Mg(g)$
initial core: $10^{1/2} 15/2 = 5/2$
 $Argam = 5 - x 7.5 - x = 2.5 + 2x$
 $\therefore 2.5 + 2x = 7.5$
 $\Rightarrow x = 2.5$
 $K_{c} = \frac{(7.5)^{2}}{2.5 \times 5} = 4.5$
15
Ans-3
Sol: Solid does not effect
 $P_{c_{1}} = P_{r_{2}}$
 $\Rightarrow 2 \times 0.40 = 0.80 atm$
 $P_{r_{2}} = 2 \times 0.2 = 0.40 atm$
 $\therefore K_{\mu} = \frac{P_{r_{2}}P_{r_{2}}}{P_{r_{2}}}$
 $= \frac{0.80 \times 0.80}{0.40}$
 $= 1.6 atm$
16 Ans-3
Sol: $AB_{1}(g) \rightleftharpoons AB_{2}(g) + \frac{1}{2}B_{2}(g)$
 $At eqm = 800 - x = x = x/2$
 $800 - x + x + \frac{x}{2} = 900 \Rightarrow x = 200$
 $\sqrt[3]{0}Dissociated} = \frac{200}{800} \times 100 = 25$
17 Ans-2
Sol: $K_{\mu} = 156.27 = \frac{P_{\mu 0}^{2} \times 0.25}{P_{\mu 07}^{2}}$

18	
	Ans-2 Sol: $N_2O_4 \rightleftharpoons 2NO_2$
	$1-\alpha$ 2α
	$K = -\frac{\left(\frac{2\alpha}{1+\alpha} \times P\right)^2}{\left(\frac{1+\alpha}{1+\alpha} \times P\right)^2}$
	$\frac{1}{1+\alpha} \left(\frac{1-\alpha}{1+\alpha} \times P\right)$
19	Ans-4
	Sol: $K_c = \frac{K_p}{RT} = \frac{0.002 / 760}{0.0821 \times 300}$
20	Ans-3
	Sol: $\log \frac{K_2}{K_1} = \frac{\Delta H}{2.303R} \times \frac{I_2 - I_1}{T_1 \times T_2}$
21	A 1
	Ans-1 Sol: Less K more stable
22	
	Ans-1 Sol: Relation between constants
23	Ans-3
	Sol: $N_2 + 3H_2 \rightleftharpoons 2NH_3$
	At .eq.st $0.125 0.125 0.25$
	$K_C = \frac{(0.25)}{(0.125)(0.125)^3} = 256$
24	Ans-3
47	Sol: $SO_2 + NO_2 \rightleftharpoons SO_3 + NO$
	0.1 - x 0.1 - x x x
	$33 = \frac{1}{(0.1 - x)^2}$
25	Ans-3
	Sol: (c) : Initially only A is present so at eqm B and C should be present in 2:1 $2A(g) \rightleftharpoons 2B(g) + C(g)$
	At eqm 400mL 200mL 100mL
	For ideal gases volume $\% = \text{mole }\%$
	$K_{p} = \frac{(\overline{700} \times 10)^{2} (\overline{700} \times 10)}{100} = \frac{10}{10} = 0.133 \text{ atm}$
	$(\frac{400}{700}X10)^2$ 28
L	

26	Ans-1
	Sol: $K_c = 5 = \frac{[CO_2]}{[CO_2]}$
	$K_c = S = [CO]$
27	Ans-4
	Sol: K is constant
28	Ans-2
	Sol: $PCl_5 \rightleftharpoons PCl_3 + Cl_2$
	2 - 0.8 0.8 0.8
	$\overline{2}$ $\overline{2}$ $\overline{2}$
29	Ans-3
	Sol: $2SO_3(g) \rightleftharpoons 2SO_3(g) + O_3(g)$
	Moles at eqn $l = 2r$ $2r$ r
	Only SO (O) No = 4) Will be oxidined so equivalent of SO = equivalent of KMnO ₄
	$2r_{\rm X} 2 = 0.2 \times 5$
	$2x \times 2 = 0.2 \times 3$ $\Rightarrow 2r = 0.5$
	$\rightarrow 2x = 0.5$
	$\left[\frac{0.5}{2}\right]^2 \left[\frac{0.25}{2}\right]$
	$K_0 = \frac{2}{0.5} = 0.125$
	$\left[\frac{0.5}{2}\right]$
	2
20	Δnc.2
30	Sol. relation between K
31	Ans-3
01	Sol: $1-x+3-3x+2x$
32	Ans-3
	Sol: $2KClO_{3(s)} \rightleftharpoons 2KCl_{(s)} + 3O_{2(g)}$ decomposition reaction in open vessel irreversible reaction
33	Ans-4
00	85 1000
	Sol: NH_3 active mass = $\frac{0.5}{17} \times \frac{1000}{250} = 2ML^{-1}$.
34	1/ 250
54	Ans-4
	Sol: Solid and liquid concentration is taken as unity
25	Δnc_1
55	$[Droduct] = [N_{c}Cl]^{2}$
	Sol: $K_C = \frac{[Product]}{r_C} = \frac{[NaCt]}{r_C}$
	$[\operatorname{Re} ac \tan t] [NO]^{2}[Cl_{2}]$
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36	ANS-4 Sol: $AB_{(g)} \rightleftharpoons A_{(g)} + B_{(g)}$ 1 0 0 $1 - \frac{1}{3} \frac{1}{3} \frac{1}{3}$ $P_{(AB)} = \frac{2/3}{4/3} \times P = \frac{P}{2} P_{(A)} = P_{(B)} = \frac{1/3}{4/3} \times P = \frac{P}{4}$ $K_p = \frac{P/4 \times P/4}{P/2} = \frac{P}{8}$ $P = 8K_p$
37	ANS-4 Sol: $K_C = \frac{[C]}{[A][B]^2} = \frac{0.216}{[0.06][0.12]^2} = \frac{0.216}{0.864 \times 10^{-3}}$ = 250
38	ANS-3 Sol: $K_C = \frac{2}{(4)^2 \times 2} = \frac{2}{32} = 0.0625$
39	ANS-4 Sol: Temperature changes, pressure changes then K_P also changes.
40	ANS-4 Sol: $Fe^{+3} + SCN^{\Theta} \rightleftharpoons FeSCN^{+2}$ $t_{inital} 3.1 3.2 0$ $t_{eq} \frac{0.1}{1} \frac{0.2}{1} \frac{3}{1}$ $K_{C} = \frac{[FeSCN^{+2}]}{[Fe^{+3}][SCN^{-}]} = \frac{3}{0.1 \times 0.2} = 150$
41	ANS-3 Sol: $K_C = \frac{1}{\sqrt{K_{C_1}}} = \frac{1}{\sqrt{100}} = \frac{1}{10} = 0.1$
42	ANS-3 Sol: $K_p = K_C (RT)^{\Delta n}$ $\Delta n = 2 - 3 = -1$ $K_p = K_C (RT)^{-1}$ $K_p.RT = K_C$ $\therefore K_P < K_C$
43	ANS-3 Sol: Temperature
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44	ANS-1
	Sol: $H_2 + I_2 \rightleftharpoons 2HI$
	15 52 0
	15-5-5-2-5 10
	100
	$K_c = \frac{100}{10,02} = 50$
	10×0.2
4 -	
45	ANG 2
	ANS-2
	Sol: K_c value remains same but it varies with temperature.
46	ANS-1
	mol/L
	Sol: $K_c = \frac{mor/L}{m-1/L} = mol^{-1}L$
	$mor/L \times mor/L$
47	
	ANS-2
	$(atm)^2$
	Sol: $K_p = \frac{(um)}{(um)^3} = atm^{-2}$
	atm×(atm)
48	
	ANS-1
	Sol: K_c value should nearer to 10^{-3} favours for product formation
49	ANS-3
	Sol: Vapour density decreases in thermal dissociation.
50	
	ANS-3
	Sol: For 100% dissociation density is reduces too half of the initial value
51	ANS-2
	Sol: In open vessel decomposition reactions are irreversible
52	ANS-4
	$(P_{CO})^2 (4)^2 16$
	Sol: $K_p = \frac{1}{(P_1)} = \frac{1}{2} = \frac{1}{2} = \delta$
	$(^{1}CO_{2})$ – –
53	ANS-4
	Sol: All type of systems which are may be physical or chemical equilibrium
54	ANS-2
	Sol: $K_p = K_c (RT)^1$
	$K = -26 \times 0.0821 \times 523$
	$r_p = 20 \times 0.0021 \times 320$
	$=\frac{260.08}{0.00}=0.6$
	0.0821

55	
	ANS-2 Sol: Low temperature and high pressure
56	ANS-2 Sol: Pressure is decreased
57	ANS-1 Sol: Decrease the value of K _c
58	ANS-4 Sol: $K_p = K_c (RT)^1 \Delta n = 4 - 3 = 1$ $K_c = \frac{K_p}{RT} = \frac{0.05}{R \times 1000} = \frac{5 \times 10^{-5}}{R}$
59	ANS-1 Sol: $XY_{2(g)} \rightleftharpoons XY_{(g)} + Y_{(g)}$ 600-X X X 600+X=800 or X =200 $K_p = \frac{200 \times 200}{400} = \frac{40000}{400}$
60	ANS-3 Sol: $P\alpha \frac{1}{V}$
61	ANS-2 Sol: $\Delta n = 1 - 1\frac{1}{2} = -\frac{1}{2}$ $K_p = K_c (RT)^{-\frac{1}{2}}$ $\frac{K_p}{K_c} = \frac{1}{\sqrt{RT}}$
62	ANS-1 Sol: $\frac{\begin{bmatrix} B \\ A \end{bmatrix}}{\begin{bmatrix} A \end{bmatrix}} = 1; \frac{\begin{bmatrix} C \\ B \end{bmatrix}}{\begin{bmatrix} B \end{bmatrix}} = 3; \frac{\begin{bmatrix} D \\ C \end{bmatrix}}{\begin{bmatrix} C \end{bmatrix}} = 5$ $\frac{\begin{bmatrix} D \\ A \end{bmatrix}}{\begin{bmatrix} A \end{bmatrix}} = \frac{\begin{bmatrix} B \\ A \end{bmatrix} \times \frac{\begin{bmatrix} C \\ B \end{bmatrix}}{\begin{bmatrix} B \end{bmatrix}} \times \frac{\begin{bmatrix} D \\ C \end{bmatrix}}{\begin{bmatrix} C \end{bmatrix}}$ $= 1 \times 3 \times 5$ $= 15$
63	ANS-2 Sol: K _c value does not vary with any factor but varies with temperature

64	ANS-2 Sol: $K_p = K_c (RT)^{\Delta n}$
65	
05	ANS-1 K^1 ALL $\begin{bmatrix} 1 & 1 \end{bmatrix}$
	Sol: $\operatorname{Log} \frac{K_p}{K_p} = \frac{-\Delta \Pi}{2.303 R} \left[\frac{1}{T_2} - \frac{1}{T_1} \right]$
	$\Delta H = -Ve$ hence T_2 is higher than T_1 So, $LogK_p^1 - logK_p = -Ve$
	$LogK_p > LogK_p^1$
	Or $K_p > K_p^1$
66	ANS-3
	Sol: $Q_c > K_c$ reaction proceeds backward direction
67	ANS-2 Sol: $PCl_{3(g)} + Cl_{2(g)} \longrightarrow PCl_{5(g)}$
	$\Delta n = -1$ $K = 0.01 \text{ star}^{-1}$
	$K_p = 0.61 \text{ atm}$ $K_c = K_p (RT)^{-\Delta n} = 0.61 (0.0821 \times 523)$
	= 26 mol / litre
68	ANS-4 Sol: K - P - constant
<u> </u>	Sol. $R_p = \Gamma_{CO_2} = \text{constant}$
69	ANS-1
	Sol: $H_2S \rightleftharpoons H^+ + HS$ $HS^- \rightleftharpoons H^+ + S^{2-}$
	$H_2S \rightleftharpoons 2H^+ + S^{2-}$ when equilibriums are added resultant equilibrium constant is
	equal to product of K_{eq} of added equations
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	70	
		ANS-3
		Sol: $A + B \rightleftharpoons C + D$
		1 1 3 3
		$1-x \ 1-x \ 3+x \ 3+x$
		$K_e = \frac{\lfloor C \rfloor \lfloor D \rfloor}{\lfloor A \rfloor \lfloor B \rfloor}$
		$K_e = \frac{(3+x)^2}{(1-x)^2} = 2.25 = (1.5)^2$
		$\frac{3+x}{1-x} = 1.5$
		3 + x = 1.5 - 1.5 x
		2.5 x = -1.5
		$x = \frac{-1.5}{2.5} = \frac{-3}{5}$
		$\begin{bmatrix} 4 \end{bmatrix} = 1 = 1 + \frac{3}{2} = 8 = 2$
		$\frac{[A]}{[C]} = \frac{1-x}{3+x} = \frac{5}{2} = \frac{6}{12} = \frac{2}{3}$
		$\begin{bmatrix} 0 \end{bmatrix} = 5 + 3 = \frac{1}{5} = \frac{12}{5} = 5$
-	771	
	/1	
		ANS-4
		Sol: $2 SO_2 + O_2 \rightleftharpoons 2 SO_3$
		2 1 2
		$\Rightarrow K_C = \frac{\left[SO_3\right]^2}{\left[SO_3\right]^2} = \frac{4}{4} = 1$
		$[SO_2] [O_2] 4$
		2-2x 1-x 2+2x
		3^2
		$K_C = \frac{1}{1^2 \times y} = 1$
		<i>y</i> = 9
		\therefore additional O_2 required $y - x = 9 - 0.5 = 8.5$
	72	
		ANS-1
		Sol: $I_2 + I^- \rightleftharpoons I_3^-$
		2 2 0
		$2-x \ 2-x \ x$
		1.75 1.75 0.25
		$k_c = \frac{0.23}{1.75 \times 1.75} = 0.08$
		1.10/1.10
1		

73 ANS-2 Sol: $H_2 + I_2 \rightleftharpoons 2 HI$ $K_{C} = \frac{2 \times 2}{3} = 1.33$ 74 ANS-1 Sol: $NH_4HS \Longrightarrow NH_3 + H_2S$ (s) (g) (g) $P_t = P_{NH_3} + P_{H_2S} = 0.66$ $\therefore P_{NH_3} = P_{H_2S} = 0.33$ $Kp = P_{NH_3} \cdot P_{H_2S} = 0.33 \times 0.33$ = 0.10975 ANS-1 Sol: $2 HI \Longrightarrow H_2 + I_2$ 1 0 0 1-2x x x1-0.5 0.25 0.25 $K_C = \frac{0.25 \times 0.25}{0.5 \times 0.5} = 0.25$ 76 ANS-1 Sol: $N_2 + 3 H_2 \rightleftharpoons 2 NH_3$ $K_p = K_C \cdot \left(RT\right)^{\Delta n}$ $= 26(0.0821 \times 523)^{-2}$ = 0.014