

## بنك الأسئلة في مقرر الكيمياء الطبية 1 (108-تحض)

### (Chem 108 Chapter 7)

Ques. no.	Question
1	Which is not an example of a solution? A   A dental filling   B   Chicken soup   C   Gasoline   D   Sea water
2	An example of colloids is A   Milk   B   Hot coffee   C   Vinegar   D   Gasoline
3	A solution with water, H <sub>2</sub> O as the solvent is called..... A   Organic solution   B   Aqueous solution   C   Non aqueous solution   D   All of these
4	Milk is an example of..... A   Solution   B   Colloid   C   Heterogeneous mixture   D   All of these
5	Which one of the following compounds is water, H <sub>2</sub> O soluble? A   Steric acid, C <sub>18</sub> H <sub>36</sub> O <sub>11</sub>   B   CCl <sub>4</sub>   C   Glucose, C <sub>6</sub> H <sub>12</sub> O <sub>6</sub>   D   Octane, C <sub>8</sub> H <sub>18</sub>
6	Which of the following pairs of compounds will form a solution? A   C <sub>6</sub> H <sub>6</sub> and C <sub>6</sub> H <sub>14</sub>   B   NaCl and C <sub>6</sub> H <sub>14</sub>   C   H <sub>2</sub> O and CCl <sub>4</sub>   D   H <sub>2</sub> O and C <sub>6</sub> H <sub>6</sub>
7	Which of the following compounds is soluble in H <sub>2</sub> O? A   CCl <sub>4</sub>   B   C <sub>6</sub> H <sub>6</sub>   C   NaCl   D   CH <sub>4</sub>
8	The solution, in which maximum number of grams of solute dissolves, is called.... A   Saturated solution   B   Unsaturated solution   C   Supersaturated solution   D   All of these
9	Which substance is a non-electrolyte? A   KCl in H <sub>2</sub> O   B   KOH in H <sub>2</sub> O   C   H <sub>2</sub> O <sub>2</sub> in H <sub>2</sub> O   D   NaCl in H <sub>2</sub> O

## بنك الأسئلة في مقرر الكيمياء الطبية 1 (108-تحض)

10	Nonpolar compounds are soluble in.....						
A	Ionic compounds	B	Electrolytes	C	Polar solvents	D	Nonpolar solvents
11	Henry's law states that the solubility of a gas in a liquid is proportional to the						
A	Partial pressure of the gas above the liquid	B	Temperature of the liquid	C	Temperature of the gas above the liquid	D	Molecular weight of the gas above the liquid
12	The solubility of gases ..... with increasing temperature?						
A	Increases	B	Decreases	C	Remain the same	D	All of these
13	Which of the following is an electrolytes solution?						
A	H <sub>2</sub> O <sub>2</sub> in H <sub>2</sub> O	B	CCl <sub>4</sub> in H <sub>2</sub> O	C	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> in H <sub>2</sub> O	D	NaCl in H <sub>2</sub> O
14	A solution is made by dissolving 3.88 g of NaCl in enough water to make 67.8 mL of solution. What is the concentration of (w/v)% NaCl?						
A	5.41% (w/v) NaCl	B	5.72% (w/v) NaCl	C	94.3% (w/v) NaCl	D	0.0572%(w/v) NaCl
15	A 750 ml bottle of wine contains 105 ml ethanol. What is the (v/v) % concentration of ethanol?						
A	8.0%(v/v) Ethanol	B	20%(v/v) Ethanol	C	25% (v/v) Ethanol	D	10%(v/v) Ethanol
16	A saline solution used in intravenous drips for patients contains 0.92% (w/v) NaCl in water. How many grams of NaCl are contained in 575 mL of this solution?						
A	53 g NaCl	B	529 g NaCl	C	5.3 g NaCl	D	0.016 g NaCl
17	A particular wine contains 11.2% (v/v) ethanol. What volume of ethanol is in a 750 mL bottle of this wine?						
A	84.0 mL ethanol	B	0.840 mL ethanol	C	6.70 mL ethanol	D	14.9 mL ethanol
18	What is the concentration in parts per million (ppm) of DDT in 5.0 mg in 1 Kg, needlefish tissue?						
A	0.5 ppm	B	50 ppm	C	5.0 ppm	D	500 ppm

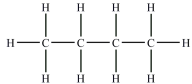
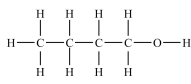
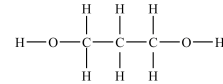
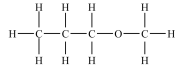
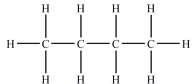
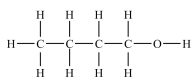
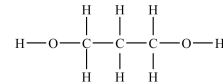
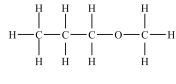
## بنك الأسئلة في مقرر الكيمياء الطبية 1 (108-تحض)

19	A sample of seawater contains 1.3 g of calcium ions in 3,100 kg of solution. What is the calcium ion concentration of this solution in units of ppm?	A	$4.2 \times 10^{-4}$ ppm Ca <sup>2+</sup> ions	B	0.42 ppm ions	C	$4.0 \times 10^3$ ppm Ca <sup>2+</sup> ions	D	420 ppm Ca <sup>2+</sup> ions
20	What is the molarity of a solution made by dissolving 3.09 moles of NaCl in 1.50 L of solution?	A	4.64 M NaCl	B	4.85 M NaCl	C	2.06 M NaCl	D	0.673 M NaCl
21	What is the molarity of a solution made by dissolving 3.09 moles of NaCl in 1.50 L of solution?	A	4.64 M NaCl	B	4.85 M NaCl	C	2.06 M NaCl	D	0.673 M NaCl
22	What is the molarity of a solution made by dissolving 4.88 g of KCl in 423 mL of solution?	A	0.0115 M KCl	B	11.5 M KCl	C	$1.55 \times 10^{-4}$ M KCl	D	0.155 M KCl
23	How many grams of glucose (C <sub>6</sub> H <sub>12</sub> O <sub>6</sub> ) are contained in 555 mL of a 1.77 M glucose solution?	A	0.982 g C <sub>6</sub> H <sub>12</sub> O <sub>6</sub>	B	0.555 g C <sub>6</sub> H <sub>12</sub> O <sub>6</sub>	C	177 g C <sub>6</sub> H <sub>12</sub> O <sub>6</sub>	D	0.177g C <sub>6</sub> H <sub>12</sub> O <sub>6</sub>
24	What is the concentration of a solution formed by diluting 25.0 mL of a 3.2 M NaCl solution to 135.0 mL?	A	17 M NaCl	B	0.59 M NaCl	C	0.50 M NaCl	D	2.7 M NaCl
25	Calculate the molarity of a solution made from 20.0 g of NaOH in 250 mL of solution	A	2.0 M	B	4.0 M	C	0.02 M	D	0.04 M
26	What is the concentration of a solution formed by diluting 5.0 mL of a 3.2 M glucose solution to 40.0 mL?	A	0.04 M	B	0.25 M	C	0.40 M	D	2.5 M

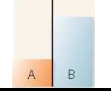
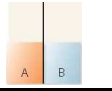
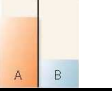
## بنك الأسئلة في مقرر الكيمياء الطبية 1 (108-تحض)

27	How many milliliters of a 6.0 M NaOH solution would be needed to prepare 750 mL of a 4.0 M solution	A   500 mL	B   250 mL	C   400 mL	D   40 mL
28	How many milliliters of a 4.0% (w/v) solution must be used to prepare 250 mL of a 0.080% (w/v) solution?	A   5.0 mL	B   2.5 mL	C   0.50 mL	D   25 mL
29	Which law is stated that, the solubility of a gas in a liquid is proportional to the partial pressure of the gas above the liquid?	A   Avogadro's law	B   Raoult's law	C   Henry's law	D   Boyel's law
30	How many milliliters of a 5.25% (w/v) HCl solution must be used to prepare 250 mL of a 0.175% (w/v) HCl solution?	A   8.3 mL HCl solution	B   240 mL HCl solution	C   8.6 mL HCl solution	D   230 mL HCl solution
31	The maximum level of lead ( $Pb^{+2}$ ) allowed in drinking water is 15 $\mu\text{g}/\text{kg}$ . What is this concentration in units of parts per million?	A   15 ppm $Pb^{+2}$	B   $1.5 \times 10^{-2}$ ppm $Pb^{+2}$	C   $1.5 \times 10^4$ ppm $Pb^{+2}$	D   3.1 ppm $Pb^{+2}$
32	Which of the following is an electrolytes solution?	A   $H_2O_2$ in $H_2O$	B   $CCl_4$ in $H_2O$	C   $C_{12}H_{22}O_{11}$ in $H_2O$	D   NaCl in $H_2O$
33	For most ionic and molecular solids, solubility generally ..... as temperature increases.	A   Remains the same	B   Increases	C   Decreases	D   All of these
34	.....is defined as the number of moles of solute per liter (L) of solution?	A   Molality (m)	B   Molarity (M)	C   Normality (N)	D   Mole fraction

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35	Which compound will be the most soluble in water?						
A		B		C		D	
36	Which compound will be the least soluble in water?						
A		B		C		D	
37	The attraction of an ion with a dipole in a molecule is called.....						
A	A dipole-dipole interaction	B	London dispersion forces	C	An ion-dipole interaction	D	Van der Waals forces
38	Two solutions with the same osmotic pressure are said to be.....						
A	Hypotonic solutions	B	Isotonic solutions	C	Hypertonic solutions	D	Isomeric solution
39	Swelling and rupture of red blood cells is called.....						
A	Hemolysis	B	Crenation	C	Osmosis	D	Reverse Osmosis
40	A hypotonic solution has a .....than body fluids						
A	Lower osmotic pressure	B	Higher osmotic pressure	C	negligible osmotic pressure	D	All of these
41	What happens if a red blood cell is placed in a hypertonic solution, resulted in.....						
A	The cell rupture (Homolysis)	B	the cell shrivels (Crenation)	C	The cell keeps its normal volume	D	All of these
42	What happens if a red blood cell is placed in a hypotonic solution, resulted in						
A	The cell rupture (Homolysis)	B	the cell shrivels (Crenation)	C	The cell keeps its normal volume	D	All of these
43	A hypertonic solution has a .....than body fluids						
A	Lower osmotic pressure	B	Higher osmotic pressure	C	negligible osmotic pressure	D	All of these

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44	A 0.1 M glucose solution is separated from a 0.2 M glucose solution by a semipermeable membrane. Which solution exerts the greater osmotic pressure?						
A	0.1 M glucose solution	B	0.2 M glucose solution	C	0.3 M glucose solution	D	0.4 M glucose solution
45	A flask contains two compartments (A and B) with equal volumes of solution separated by a semi permeable membrane. Which diagram represents the final level of the liquids if A is initially a 10% (w/v) glucose solution and B is initially a 20% (w/v) glucose solution?						
A		B		C		D	All of these
46	Osmosis is the passage of water and small molecules across a semipermeable membrane from .....						
A	a solution of low solute Conc. to a solution of higher solute Conc.	B	a solution of high solute Conc. to a solution of lower solute Conc.	C	Both (A) and (B)	D	All of these
47	Air is a .....of gases, primarily N <sub>2</sub> and O <sub>2</sub> ?						
A	Mixture	B	Solution	C	Colloid	D	All of these
48	A solution that has less than the maximum number of grams of solute is said to be.....						
A	Supersaturated	B	Saturated	C	Unsaturated	D	All of these
49	Octane (C <sub>8</sub> H <sub>18</sub> ) dissolves in CCl <sub>4</sub> because both are nonpolar liquids that exhibit.....						
A	London dispersion forces	B	Hydrogen bonding	C	Ion - dipole interactions	D	All of these
50	What volume of a 5.0% (w/v) solution of ketamine contains 75 mg?						
A	1.5 mL	B	3.5 mL	C	5.4 mL	D	2.2 mL

## بنك الأسئلة في مقرر الكيمياء الطبية 1 (108-تحض)

### (Chem 108 Chapter 8)

Ques. no.	Question						
1	<b>An Arrhenius acid is</b>						
A	A compound that contains hydroxide and dissolves in H <sub>2</sub> O to form OH <sup>-</sup>	B	A compound that is a proton donor	C	A compound that is a proton acceptor	D	A compound that contains hydrogen and dissolves in H <sub>2</sub> O to form H <sup>+</sup>
2	<b>A Brønsted-Lowry acid is</b>						
A	A compound that contains hydroxide and dissolves in H <sub>2</sub> O to form OH <sup>-</sup>	B	A compound that is a proton donor	C	A compound that is a proton acceptor	D	A compound that contains hydrogen and dissolves in H <sub>2</sub> O to form H <sup>+</sup>
3	<b>Which species can act as a Brønsted-Lowry acid?</b>						
A	CO <sub>3</sub> <sup>2-</sup>	B	HBr	C	Br <sub>2</sub>	D	LiOH
4	<b>Which species can act as a Brønsted-Lowry base?</b>						
A	CO <sub>3</sub> <sup>2-</sup>	B	HBr	C	H <sub>2</sub> CO <sub>3</sub>	D	NH <sub>4</sub> <sup>+</sup>
5	<b>Which of the following species cannot be a Brønsted - Lowry acid?</b>						
A	HF	B	HSO <sub>3</sub> <sup>-</sup>	C	NH <sub>3</sub>	D	HI
6	<b>Which of the following species cannot be a Brønsted - Lowry base?</b>						
A	Al(OH) <sub>3</sub>	B	Br <sup>-</sup>	C	NH <sub>4</sub> <sup>+</sup>	D	CN <sup>-</sup>
7	<b>Which of the following is conjugate acid of the NH<sub>3</sub>?</b>						
A	NH <sub>2</sub> <sup>-</sup>	B	H <sub>3</sub> O <sup>+</sup>	C	NH <sub>4</sub> <sup>+</sup>	D	HCl
8	<b>Draw the conjugate base of the acid HCO<sub>3</sub><sup>-</sup>?</b>						
A	CO <sub>3</sub> <sup>-2</sup>	B	H <sub>2</sub> CO <sub>3</sub>	C	H <sub>3</sub> CO <sub>3</sub>	D	H <sub>2</sub> O
9	<b>Draw the conjugate acid of the base NO<sub>3</sub><sup>-</sup>?</b>						
A	H <sub>2</sub> NO <sub>3</sub>	B	HNO <sub>3</sub>	C	H <sub>3</sub> NO <sub>3</sub>	D	HNO <sub>2</sub>

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10	Which of the following acid is secreted by stomach to digest food?						
A	$H_2SO_4$	B	$H_3PO_4$	C	$HNO_3$	D	HCl
11	Which species is the conjugate base of $NH_3$ ?						
A	$NH_4^+$	B	$H_2O$	C	$NH_2^-$	D	$NH_3$
12	Which species is the conjugate acid of $NH_3$ ?						
A	$NH_2^-$	B	$H_3O^+$	C	$NH_4^+$	D	$NH_3$
13	Which species is a diprotic acid?						
A	$Mg(OH)_2$	B	$CH_3COOH$	C	$H_2$	D	$H_2CO_3$
14	Which compound is an example of weak acid?						
A	$HNO_3$	B	HBr	C	$CH_3COOH$	D	$H_2SO_4$
15	Ammonia, $NH_3$ is an example of a.....?						
A	Strong acid	B	Strong base	C	Weak acid	D	Weak base
16	Which ion is the strongest base?						
A	$Br^-$	B	$F^-$	C	$I^-$	D	$NO_3^-$
17	Rank the increasing strength of the acids HI, HBr and HCl?						
A	$HI < HBr < HCl$	B	$HCl < HBr < HI$	C	$HI < HCl < HBr$	D	$HBr < HCl < HI$
18	Increasing order of the acids is $CH_3COOH < HF < H_3PO_4$ . Rank the conjugate bases in increasing order?						
A	$CH_3COO^- < F^- < H_2PO_4^-$	B	$F^- < CH_3COO^- < H_2PO_4^-$	C	$H_2PO_4^- < F^- < CH_3COO^-$	D	$H_2PO_4^- < CH_3COO^- < F^-$
19	Which acid is the strongest?						
A	$HSO_4^- (K_a=1.2 \times 10^{-2})$	B	$HCN (K_a=4.9 \times 10^{-10})$	C	$HF (K_a=7.2 \times 10^{-4})$	D	$NH_4^+ (K_a=5.6 \times 10^{-10})$
20	Which acid is the weakest?						
A	$HSO_4^- (K_a=1.2 \times 10^{-2})$	B	$HCN (K_a=4.9 \times 10^{-10})$	C	$HF (K_a=7.2 \times 10^{-4})$	D	$NH_4^+ (K_a=5.6 \times 10^{-10})$



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Ques. no.	Question
21	What is the expression of $K_w$ , the ion-product constant for water? A   $K_w = [\text{H}_2\text{O}]^2$   B   $K_w = [\text{H}_3\text{O}^+][\text{OH}^-]$   C   $K_w = \frac{[\text{H}_3\text{O}^+][\text{OH}^-]}{[\text{H}_2\text{O}]^2}$   D   $K_w = \frac{[\text{H}_3\text{O}^+]}{[\text{OH}^-]}$
22	The $[\text{H}_3\text{O}^+]$ in a wine is $5.9 \times 10^{-4} \text{ M}$ . What is the $[\text{OH}^-]$ in this wine? Given ( $K_w = 1.0 \times 10^{-14} \text{ M}$ ) A   $5.9 \times 10^{-4} \text{ M}$   B   $1.0 \times 10^{-14} \text{ M}$   C   $1.7 \times 10^{-11} \text{ M}$   D   $5.9 \times 10^{-18} \text{ M}$
23	The $[\text{OH}^-]$ in a sample of egg whites is $6.3 \times 10^{-7} \text{ M}$ . What is the $[\text{H}_3\text{O}^+]$ in egg whites? A   $6.3 \times 10^{-7} \text{ M}$   B   $1.6 \times 10^{-8} \text{ M}$   C   $.0 \times 10^{-7} \text{ M}$   D   $1.0 \times 10^{-14} \text{ M}$
24	Which solution has the highest $pH$ ? A   $4.3 \times 10^{-8} \text{ M H}_3\text{O}^+$   B   $1.0 \times 10^{-7} \text{ M H}_3\text{O}^+$   C   $1.9 \times 10^{-8} \text{ M H}_3\text{O}^+$   D   $1.0 \times 10^{-2} \text{ M H}_3\text{O}^+$
25	Which solution has the lowest $pH$ ? A   $4.3 \times 10^{-8} \text{ M H}_3\text{O}^+$   B   $1.9 \times 10^{-6} \text{ M H}_3\text{O}^+$   C   $1.0 \times 10^{-7} \text{ M H}_3\text{O}^+$   D   $1.0 \times 10^{-2} \text{ M H}_3\text{O}^+$
26	If the $[\text{H}_3\text{O}^+]$ in a cup of coffee is $1.0 \times 10^{-5} \text{ M}$ , Calculate the $[\text{OH}^-]$ ? A   $1.0 \times 10^{-9} \text{ M}$   B   $1.0 \times 10^{-6} \text{ M}$   C   $1.0 \times 10^{-11} \text{ M}$   D   $1.0 \times 10^{-14} \text{ M}$
27	If $[\text{H}_3\text{O}^+]$ in blood sample is $4.0 \times 10^{-8} \text{ M}$ , what is the value of $[\text{OH}^-]$ ? A   $2.5 \times 10^{-9} \text{ M}$   B   $3.5 \times 10^{-7} \text{ M}$   C   $2.5 \times 10^{-7} \text{ M}$   D   $3.5 \times 10^{-8} \text{ M}$
28	In human blood, $[\text{OH}^-] > [\text{H}_3\text{O}^+]$ , it means that blood is.....? A   Neutral   B   Acidic   C   Basic   D   All of these
29	Calculate the value of $[\text{H}_3\text{O}^+]$ in $0.0001 \text{ M HCl}$ solution? A   $1.0 \times 10^{-3} \text{ M}$   B   $1.0 \times 10^{-8} \text{ M}$   C   $1.0 \times 10^{-4} \text{ M}$   D   $1.0 \times 10^{-14} \text{ M}$

## بنك الأسئلة في مقرر الكيمياء الطبية 1 (108-تحض)

30	Calculate the value of $[H_3O^+]$ in 0.001 M NaOH solution?	A	$1.0 \times 10^{-9} M$	B	$1.0 \times 10^{-11} M$	C	$1.0 \times 10^{-3} M$	D	$1.0 \times 10^{-14} M$
31	What is the formula of pH?	A	$pH = -\log[H_2O]$	B	$pH = -\log[OH^-]$	C	$pH = -\log[H_3O^+]$	D	$pH = -\log[H_2O_2]$
32	Which of the following is Not True for a neutral solution?	A	$pH = 7$	B	$[H_3O^+] = 10^{-7}$	C	$[OH^-] = 10^{-7}$	D	$[H_3O^+] = 10^{-14}$
33	What is the pH of a urine sample that has $[H_3O^+] = 1.0 \times 10^{-5} M$ ?	A	$pH = 5$	B	$pH = 7$	C	$pH = 8$	D	$pH = 9$
34	What is the pH of wine that has an $[H_3O^+] = 3.2 \times 10^{-4} M$ ?	A	3.49	B	4.20	C	3.79	D	2.20
35	What is the pH of a cleaning solution with a $[H_3O^+] = 7.4 \times 10^{-9} M$ ?	A	5.9	B	7.13	C	8.13	D	5.87
36	Which one of the following solutions has $pH = 3$ ?	A	3.0 M $CH_3COOH$	B	0.001M NaOH	C	0.001M HCl	D	0.001M NaCl
37	What is the $pH$ of a urine sample that has $[H_3O^+] = 1.0 \times 10^{-5} M$ , and classify as acid, basic or neutral solution?	A	$pH = 5$ , basic	B	$pH = 7$ , neutral	C	$pH = 5$ , acid	D	$pH = -5$ , acid
38	A sample of blood has a $pH = 7.4$ , which of the following is NOT True for the blood sample?	A	Basic	B	$[OH^-] > [H_3O^+]$	C	$[H_3O^+] > 10^{-7}$	D	$[OH^-] > 1.0 \times 10^{-7}$

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39	What is the concentration $[H_3O^+]$ in sweat that has a $pH=6$ ?						
A	$1 \times 10^{-6} M$	B	$2 \times 10^{-6} M$	C	$3 \times 10^{-7} M$	D	$3 \times 10^{-8} M$
40	Normal gastric juice has a $pH$ of about 2 and the gastric juice is aqueous $HCl$ . What is the concentration of $HCl$ in the stomach?						
A	2 M $HCl$	B	$1.0 \times 10^2 M HCl$	C	0.01 M $HCl$	D	0.14 M $HCl$

Ques. no.	Question						
41	What is the $[H_3O^+]$ of a sweat sample that has a $pH = 5.8$ ?						
A	$2 \times 10^{-6} M$	B	$3 \times 10^{-6} M$	C	$3 \times 10^{-7} M$	D	$3 \times 10^{-8} M$
42	The $pH$ of a lime is 1.90. What is the $[H_3O^+]$ ?						
A	$1.3 \times 10^{-2} M$	B	$7.9 \times 10^{-13} M$	C	$[H_3O^+] = 1.9 M$	D	$7.9 \times 10^{-13} M$
43	...is a solution whose $pH$ changes very little, when acid or base is added to it?						
A	Hypotonic	B	Hypertonic	C	Buffer	D	Amphoteric
44	Most buffers are solutions composed of approximately equal amount of -----?						
A	Strong acid and strong base	B	Weak acid and the salt of its conjugate base	C	Weak acid and weak base	D	all of these
45	Which of the following substances is a buffer solution						
A	$HBr$ and $NaBr$	B	$HF$ and $KF$	C	$CH_3COOH$ alone	D	$HCl$ and $NaCl$
46	Which buffer solution has the lowest $pH$ ( $HF$ has $K_a = 7.2 \times 10^{-4}$ )?						
A	0.10 M $HF$ and 0.10 M $NaF$	B	0.20 M $HF$ and 0.10 M $NaF$	C	0.20 M $HF$ and 0.20 M $NaF$	D	0.10 M $HF$ and 0.20 M $NaF$

## بنك الأسئلة في مقرر الكيمياء الطبية 1 (108-تحض)

47	If two different solutions of $\text{HCl}_1$ and $\text{HCl}_2$ have $\text{pH}_1 = 3$ and $\text{pH}_2 = 5$ , respectively. What is the different in their strength $[\text{H}_3\text{O}^+]$ ?	A	$[\text{HCl}_1]=2\times[\text{HCl}_2]$	B	$[\text{HCl}_2]=2\times[\text{HCl}_1]$	C	$[\text{HCl}_1]=10^2\times[\text{HCl}_2]$	D	$[\text{HCl}_2]=10^2\times[\text{HCl}_1]$
48	A hydronium ion has the formula	A	$\text{H}_2\text{O}^+$	B	$\text{OH}^-$	C	$\text{H}_3\text{O}^+$	D	$\text{H}_2^+$
49	A strong acid in solution is	A	Mostly molecules	B	Mostly ions	C	Both molecules and ions	D	Mostly water
50	The pH of a carbonated drink is	A	Less than 7	B	More than 7	C	Equal to 7	D	Approx.~7.8

## بنك الأسئلة في مقرر الكيمياء الطبية 1 (108-تحض)

### (Chem 108 Chapter 9)

Ques. no.	Question
1	If the reaction quotient $Q > K$ the reaction will .....
A	be at equilibrium
B	Proceed in reverse direction
C	Proceed in forward direction
D	None of the above
2	Which of the following reactions has the equilibrium constant ( $K_p$ ) equal to partial pressure of $CO_2$ ( $K_p = P_{CO_2}$ )?
A	$C_{(s)} + O_{2(g)} \rightleftharpoons CO_{2(g)}$
B	$CaCO_{3(s)} \rightleftharpoons CaO_{(s)} + CO_{2(g)}$
C	$CO_{2(g)} \rightleftharpoons C_{(g)} + O_{2(g)}$
D	$2CO_{(g)} + O_{2(g)} \rightleftharpoons 2CO_{2(g)}$
3	Increasing pressure for the reaction $N_{2(g)} + O_{2(g)} \rightleftharpoons 2NO_{(g)}$ its equilibrium will shifted to?
A	Forward
B	Reverse
C	no effect
D	None of the above
4	Increasing temperature for the reaction $N_{2(g)} + 3H_{2(g)} \rightleftharpoons 2NH_{3(g)}$ ( $\Delta H = -ve$ ) its equilibrium will shifted to .....
A	Forward
B	Reverse
C	no effect
D	None of the above
5	If The actual ratio $Q$ ( reaction quotient) = 0 that means ..... for the reaction
A	pure reactant
B	pure product
C	equilibrium
D	None of the above
6	Consider system at $100^\circ C$ $N_2O_{4(g)} \rightleftharpoons 2NO_{2(g)}$ at $100^\circ C$ $K = 11$ What is the value of $Q$ starting with 0.2 mole $N_2O_4$ , 0.2 mole $NO_2$ in 4 L container.
A	1.5
B	15
C	0.15
D	1
7	If a chemical system at equilibrium is disturbed, the reaction will proceed in such a direction to overcome the effect of the change. This is .....principle
A	Boyl's
B	Avogadro's
C	Le Chatelier's
D	welium's
8	Write the equilibrium expression for the reaction For the reaction: $SiH_{4(g)} + 2O_{2(g)} \rightleftharpoons SiO_{2(g)} + 2H_2O_{(g)}$ $K$ is.....
A	$\frac{[SiO_{2(g)}][2H_2O]^2}{[SiH_{4(g)}][2O_2]^2}$
B	$\frac{[SiH_{4(g)}][O_2]^2}{[SiH_{4(g)}][O_2]^2}$
C	$\frac{[SiH_{4(g)}][O_2]^2}{[SiH_{4(g)}][O_2]^2}$
D	Non of previous

## بنك الأسئلة في مقرر الكيمياء الطبية 1 (108-تحض)

9	If $Q < K$ This means that the reaction proceeds in the forward direction ?	A   True	B   False				
10	If $Q > K$ This means that the reaction proceeds in the reverse direction?	A   True	B   False				
11	If $Q = K$ This means that the forward direction equal the reverse direction?	A   True	B   False				—
12	If $Q < K$ This means that the reaction proceeds in the reverse direction?	A   True	B   False				
13	If $Q > K$ This means that the reaction proceeds in the forward direction?	A   True	B   False				
14	If a chemical system at equilibrium is disturbed or changed, the reaction will proceed in the direction to overcome the effect of the change.	A   True	B   False				
15	Increasing the pressure on the following equilibrium, which way does the equilibrium shift. $N_{2(g)} + 3 H_{2(g)} \rightleftharpoons 2 NH_{3(g)}$	A   right	B   Left	C   no shift	D   None of the above		
16	Increasing the pressure on the following equilibrium, which way does the equilibrium shift. $SO_{2(g)} + \frac{1}{2} O_{2(g)} \rightleftharpoons SO_{3(g)}$	A   right	B   Left	C   no shift	D   None of the above		
17	Increasing the pressure on the following equilibrium, which way does the equilibrium shift. $C_{(s)} + H_2O_{(g)} \rightleftharpoons CO_{(g)} + H_2_{(g)}$	A   right	B   Left	C   no shift	D   None of the above		



## بنك الأسئلة في مقرر الكيمياء الطبية 1 (108-تحض)

18	Increasing the pressure on the following equilibrium, which way does the equilibrium shift. $\text{N}_{2(g)} + \text{O}_{2(g)} \rightleftharpoons 2\text{NO}_{(g)}$	<b>A</b>   right	<b>B</b>   Left	<b>C</b>   no shift	<b>D</b>   None of the above
19	Increasing the pressure on the following equilibrium, which way does the equilibrium shift. $2\text{CO}_{2(g)} \rightleftharpoons 2\text{CO}_{(g)} + \text{O}_{2(g)}$	<b>A</b>   right	<b>B</b>   Left	<b>C</b>   no shift	<b>D</b>   None of the above
20	Increasing the pressure on the following equilibrium, which way does the equilibrium shift. $\text{H}_{2(g)} + \text{I}_{2(s)} \rightleftharpoons 2\text{HI}_{(g)}$	<b>A</b>   right	<b>B</b>   Left	<b>C</b>   no shift	<b>D</b>   None of the above