بنك الأسئلة في مقرر الكيمياء العامة (101-كيم)

(Chem-101- Chapter 1)

Ques. no.	Questions					
1	The matter which has definite shape and definite volume					
	A	solid	B	liquid	C	gas
2	Intermolecular distance in the liquid state is					
	A	small	B	moderate	C	large
3	The molecular weight in grams is					
	A	weight	B	M.wt.	C	mole
4	Force per unit area					
	A	volume	B	pressure	C	mole
5	Volume of ¼ litter of a gas =					
	A	200 cm^3	B	250 cm^3	C	300 cm^3
6	The volume of ½ mole of H2 (H= 1)at STP is					
	A	22.4 L	B	11.2 L	C	5.1 L
7	The atmospheric pressure can be measured by					
	A	manometer	B	barometer	C	viscometer
8	For two gases A and B the rate of diffusion of each are:					
	A	$\frac{Rate_A}{Rate_B} = \frac{\sqrt{Mwt_A}}{\sqrt{Mwt_B}}$	B	$\frac{Rate_A}{Rate_B} = \frac{T_A}{T_B}$	C	$\frac{Rate_A}{Rate_B} = \frac{\sqrt{Mwt_B}}{\sqrt{Mwt_A}}$
9	At constant temperature, Volume of gas sample is inversely proportional to the pressure.					
	A	Boyl	B	Charle	C	Avogadro
10	At constant temperature, $V \propto T$					
	A	Boyl	B	Charle	C	Avogadro
11	Standard Temperature & Pressure (STP)					
	A	P = 1 atm	B	P = 2 atm	C	700 mmHg
12	The volume of 32 grams of O_2 (O =16) at STP is					
	A	22.4 L	B	44.8 L	C	32 L
13	The number of molecules in 28 grams of N_2 (N=14) at STP are					
	A	6.02×10^{23}	B	3.01×10^{23}	C	12.04×10^{23}
14	The average kinetic energy is directly proportional to pressure.					
	A	√	B	×	C	

بنك الأسئلة في مقرر الكيمياء العامة (101-كيم)

15	A gas occupies 12 L under a pressure of 1.2 atm, What is the volume if the pressure was increased to 2.4 atm?					
	A	6 L	**B**	12 L	**C**	3 L
16	A gas occupies 10 L under a pressure of 1.2 atm, What is the pressure if the volume was decreased to 5 L?					
	A	0.6 atm	**B**	1.2 atm	**C**	2.4 atm
17	How many molecules in 64 grams of oxygen gas O_2 (O = 16)are there in a sample at STP?					
	A	6.02×10^{23}	**B**	3.01×10^{23}	**C**	12.04×10^{23}
18	Calculate the density of NO_2 gas (N=14, O=16), at 1.24 atm and 50°C?					
	A	2.32 g/L	**B**	2.5 g/L	**C**	3 g/L
19	What is the partial pressure of CO_2 gas in a mixture of N_2, O_2 and CO_2 gases? If the total pressure of the mixture is 1.2 atm.					
	A	0.3 atm	**B**	0.6 atm	**C**	0.2 atm
20	A mixture of 2 moles of O_2 gas, 3 moles of N_2 gas and 1 mole of CO_2 gas has total pressure is 1.2 atm. What is the partial pressure of O_2 gas?					
	A	0.4 atm	**B**	0.6 atm	**C**	0.2 atm
21	Avogadro's Law is relation between ……					
	A	V and n at constant P,T	**B**	T and n at constant P,V	**C**	V and P at constant n,T
22	SF_6 is a gas used in modification of eyes. If 2.5 g of this gas introduced in evacuated 500ml container at 83°C What is the pressure in atmosphere?					
	A	992 atm	**B**	0.992 atm	**C**	9.92 atm
23	Which of the following is not a common state of matter under ambient conditions?					
	A	solid	**B**	liquid	**C**	plasma
24	A solid can be referred to as having					
	A	indefinite volume and definite shape	**B**	indefinite shape and definite volume	**C**	definite volume and definite shape
25	The pressure of a sample of helium in a 1.0 L container is 0.857 atm. What is the new pressure if the sample is placed in a 0.5 L container? (Assume the temperature is constant.)					
	A	0.143 atm	**B**	0.429 atm	**C**	1.71 atm

بنك الأسئلة في مقرر الكيمياء العامة (101-كيم)

26	**A 0.5-L container of nitrogen gas is heated under constant pressure to the boiling point of water. What is its new volume?**					
	A	0.5 L	**B**	0.63 L	**C**	0.79 L
27	**How can gases be defined?**					
	A	a physical state of matter that does not have a fixed shape or a fixed volume	**B**	a physical state of matter that does not have a fixed shape but has a fixed volume	**C**	a physical state of matter that has a fixed volume and a fixed shape
28	**How can the relationship between a gas at two sets of conditions be expressed mathematically by Boyle's law?**					
	A	$P_1V_1 = P_2V_2$	**B**	$P_1/V_1 = P_2/V_2$	**C**	$V_1/T_1 = V_2/T_2$
29	**A gas occupies a volume of 1.0 L at 1.0 atm pressure. What is the pressure when the gas expands to fill 2.0 L?**					
	A	0.50 atm	**B**	2.0 atm	**C**	1.0 atm
30	**A gas occupies a volume of 1.0 L at 25°C. What volume will the gas occupy at 100°C?**					
	A	1.0 L	**B**	1.3 L	**C**	0.80 L

بنك الأسئلة في مقرر الكيمياء العامة (101-كيم)

(Chem 101 – Chapter 2)

Ques. no.	Questions
1	The resistance of flow of a liquid is A wetting B viscosity C surface tension
2	The force that decreases the surface area of a liquid A wetting B viscosity C surface tension
3	The forces bind the liquid molecules together A cohesion B adhesion C attraction
4	The forces bind liquid molecules and solid surface A cohesion B adhesion C attraction
5	If adhesion forces > the cohesion forces A wetting B boiling C evaporation
6	The temperature at which Vapor pressure of a liquid = outside pressure A wetting B boiling C evaporation
7	The viscosity ……. with increasing temperature. A increases B decreases C not affect
8	The viscosity of a liquid is measured by …….. A boiler B Heater C Viscometer
9	Conversion of liquid to gas state is A wetting B boiling C evaporation
10	At lower pressure, water boils at …… A > 100°C B < 100°C C 100°C
11	The relative viscosity of a liquid its density = 0.92 gm/cm3 and the flow time of this liquid = 3 min. The flow time of the same quantity of water at the same temperature = 1 min.? (water density = 1 gm/cm3) A 1.64 B 3.27 C 2.65
12	The highest of a liquid in a capillary tube with radius 0.05 cm. The density of the liquid is 0.82 gm/cm3. and its surface tension is 68 dyne/cm? A 4.25 cm B 3.38 cm C 2.79 cm

بنك الأسئلة في مقرر الكيمياء العامة (101-كيم)

13	The molecules in a liquid are					
	A	Closer together than in a solid and further apart than in a gas.	B	are spaced the same as in solids and gases	C	closer than in gases but further apart than in solids
14	The force that holds molecules in a liquid together is called					
	A	cohesion	B	adhesion	C	surface tension
15	The process of molecules of a liquid going from the surface of a liquid into the air is					
	A	condensation	B	coagulation	C	evaporation

بنك الأسئلة في مقرر الكيمياء العامة (101-كيم)

(Chem 101- Chapter 3)

Ques. no.	Questions					
1	For the reaction, $3\ H_2(g) + N_2(g) \rightleftharpoons 2\ NH_3(g)$					
	A	Kp = K	B	Kp > K	C	Kp < Kc
2	For the reaction, $N_2(g) + 2\ O_2(g) \rightleftharpoons 2\ NO_2(g)$					
	A	Kp = Kc	B	Kp > K	C	Kp < Kc
3	For the reaction, $H_2(g) + I_2(g) \rightleftharpoons 2\ HI(g)$					
	A	Kp = Kc	B	Kp > K	C	Kp < Kc
4	Increasing temperature shifts the $(C + O_2 \rightleftharpoons CO_2 + Heat)$					
	A	Right	B	Left	C	No effect
5	Increasing temperature shifts the $(A + B - Heat \rightleftharpoons C)$					
	A	Right	B	Left	C	No effect
6	Increasing pressure shifts the $(N_2(g) + 2\ O_2(g) \rightleftharpoons 2\ NO_2(g))$					
	A	Right	B	Left	C	No effect
7	Increasing pressure shifts the $(H_2(g) + I_2(g) \rightleftharpoons 2\ HI(g))$					
	A	Right	B	Left	C	No effect
8	Increasing pressure shifts the $(3\ H_2(g) + N_2(g) \rightleftharpoons 2\ NH_3(g))$					
	A	Right	B	Left	C	No effect
9	Adding more H_2 gas shifts the $(3\ H_2(g) + N_2(g) \rightleftharpoons 2\ NH_3(g))$					
	A	Right	B	Left	C	No effect
10	Adding more Cl_2 gas shifts the $(PCl_3\ (g) + Cl_2\ (g) \rightleftharpoons PCl_5\ (g))$					
	A	Right	B	Left	C	No effect
11	Adding more O_2 gas shifts the $(2CO\ (g) + O_2\ (g) \rightleftharpoons 2\ CO_2\ (g))$					
	A	Right	B	Left	C	No effect
12	Remove NH_3 gas shifts the $(3\ H_2(g) + N_2(g) \rightleftharpoons 2\ NH_3(g))$					
	A	Right	B	Left	C	No effect
13	Equilibrium constant of $(3\ H_2(g) + N_2(g) \rightleftharpoons 2\ NH_3(g))$					
	A	$\frac{[NH_3]^2}{[N_2]^1 \times [H_2]^3}$	B	$\frac{[NH_3]^1}{[N_2]^3 \times [H_2]^2}$	C	$\frac{[N_2]^1 \times [H_2]^3}{[NH_3]^2}$
14	Equilibrium constant of $(2CO\ (g) + O_2\ (g) \rightleftharpoons 2\ CO_2\ (g))$					
	A	$\frac{[CO_2]^2}{[O_2]^1 \times [CO]^2}$	B	$\frac{[CO]^2}{[O_2]^1 \times [CO_2]^1}$	C	$\frac{[O_2]^1 \times [CO]^2}{[CO_2]^2}$

بنك الأسئلة في مقرر الكيمياء العامة (101-كيم)

15	Factors effect on the reaction equilibrium.				
	A	pressure	B	both	C	Temperature
16	Factors effect on the reaction equilibrium.				
	A	pressure	B	both	C	Concentration
17	Relation between K_P and K_c				
	A	$K_c=K_c(RT)^{\Delta n}$	B	$K_c=K_c(RT)^{n}$	C	$K_p= K_c (RT)^{\Delta n}$

بنك الأسئلة في مقرر الكيمياء العامة (101-كيم)

(Chem 101- Chapter 4)

Ques. no.	Questions
1	Compounds that ionized completely in solution A non-electrolyte B strong electrolyte C weak electrolyte
2	Compounds that ionized partially in solution A non-electrolyte B strong electrolyte C weak electrolyte
3	Strong base solutions are considered A non-electrolyte B strong electrolyte C weak electrolyte
4	The negative logarithm of the H_3O^+ ion concentration A pKa B pH C pOH
5	The pH of neutral pure water is equal A 7 B 14 C 0
6	The sum of pH + pOH of a solution is equal A 7 B 14 C 0
7	The NaCl salt is ..... salt type A acidic B basic C neutral
8	The Na_2CO_3 salt is ..... salt type A acidic B basic C neutral
9	The NH_4Cl salt is ..... salt type A acidic B basic C neutral
10	The pH of acidic solution is A = 7 B < 7 C > 7
11	The pH of basic solution is A = 7 B < 7 C > 7
12	The solution composed of weak acid + its salt A covalent B buffer C electrolyte
13	Solution maintain its pH at constant value A covalent B buffer C electrolyte
14	The product of concentrations of springily soluble salt constituent ions A constant B Buffer C solubility product

بنك الأسئلة في مقرر الكيمياء العامة (101-كيم)

15	The pH of a solution contains 0.05 M H^+ concentration					
	A	5	**B**	1.3	**C**	3.1
16	The pH of a solution contains 0.05 M OH^- concentration					
	A	1.3	**B**	12.7	**C**	3.1
17	The pH of 0.01 (10^{-2}) M HCl solution					
	A	2	**B**	4	**C**	6
18	The pOH of 0.02 M HCl solution					
	A	1.69	**B**	12.3	**C**	2.0
19	The pH of 0.02 M NaOH solution					
	A	1.69	**B**	12.3	**C**	2.0
20	The pOH of 0.01 M Acetic acid ($K_a=10^{-4}$)					
	A	3	**B**	5	**C**	11
21	The pH of 0.001 M NH4OH ($K_b=10^{-5}$)					
	A	4	**B**	10	**C**	5
22	The pH of (0.2M acetic + 0.3M sodium acetate) ($K_a=10^{-4}$)					
	A	4.1	**B**	7.5	**C**	11
23	Concentration of Ag^+ in saturated AgCl solution ($K_{sp} = 10^{-8}$)					
	A	10^{-8}	**B**	10^{-4}	**C**	10^{-2}

بنك الأسئلة في مقرر الكيمياء العامة (101-كيم)

(Chem 101- Chapter 5)

Ques. no.	Questions					
1	The sum of protons + neutrons = ……..					
	A	isotope	B	atomic number	C	atomic weight
2	Atomic number of element is the number of					
	A	protons	B	neutrons	C	electrons
3	Atomic number of Sodium ($^{23}Na_{11}$) is the number of					
	A	11	B	23	C	12
4	Number of neutrons in Iron ($^{56}Fe_{26}$) is ……					
	A	26	B	56	C	30
5	The different atoms of oxygen $^{16}O_8$, $^{17}O_8$ and $^{18}O_8$ are					
	A	isobar	B	isotope	C	isomersim
6	In Rutherford experiment "*A beam of ……. was directed to thin sheet of gold*"					
	A	∝-particles	B	β-particles	C	γ-ray
7	In Rutherford experiment " …… of the *beam passed through thin sheet of gold*"					
	A	95 %	B	5 %	C	0.001 %
8	In Rutherford experiment " …… of the *beam were deflected through thin sheet of gold*"					
	A	95 %	B	5 %	C	0.001 %
9	In Rutherford experiment " …… of the *beam were reflected from thin sheet of gold*"					
	A	95 %	B	5 %	C	0.001 %
10	Rutherford Theory stated that:					
	A	Atom consists of electrons revolves around the positive nucleus.	B	There is a large empty space inside the atom.	C	Both A & B are correct.
11	Bohr Theory stated that:					
	A	The electron is controlled by attraction force with the nucleus.	B	The electron is controlled by centrifugal force due to its revolving	C	Both A & B are correct.

بنك الأسئلة في مقرر الكيمياء العامة (101-كيم)

12	Lyman group of H-spectrum is electron falls from upper levels to					
	A	one	**B**	two	**C**	three
13	Bfund group of H-spectrum is electron falls from upper levels to					
	A	three	**B**	four	**C**	five
14	The ..... quantum number, [n = 1, 2, 3, 4, . . .]					
	A	principal	**B**	angular	**C**	magnetic
15	The ..... quantum number, [l = 0, 1, 2, ... , (n – 1)].					
	A	principal	**B**	angular	**C**	magnetic
16	The ..... quantum number, [m =– l , . . . , 0 , . . . , l]					
	A	principal	**B**	angular	**C**	magnetic
17	No two electrons in an atom may have identical sets of four quantum numbers.					
	A	Pauli Exclusion	**B**	Hund's rule	**C**	Bohr's rule
18	For electron in 3p the value of quantum numbers are:					
	A	n=3 , l =2 , m = +2,+1,0,-1,-2 , S=± 1/2	**B**	n=3 , l =1 , m = +1,0,-1 , S=± ½	**C**	n=2, l =0 , m = 0, S=± 1/2
19	Electrons occupy all the orbitals of a given sub-shell singly before pairing begins					
	A	Pauli Exclusion	**B**	Hund's rule	**C**	Bohr's rule
20	The electronic configuration of Ni_{28}					
	A	$1s^2$, $2s^2$, $2p^6$, $3s^2$, $3p^6$, $3d^{10}$	**B**	$1s^2$, $2s^2$, $2p^6$, $3s^2$, $3p^6$, $4s^4$, $3d^8$	**C**	$1s^2$, $2s^2$, $2p^6$, $3s^2$, $3p^6$, $4s^2$, $3d^8$
21	The electronic configuration of $_{23}Na_{11}$					
	A	$1s^2$, $2s^2$, $2p^6$, $3s^1$	**B**	$1s^2$, $2s^2$, $2p^6$, $3s^2$, $3p^6$, $4s^2$, $3d^3$	**C**	$1s^2$, $2s^2$, $2p^6$, $3s^2$, $3p^6$, $4s^2$, $4p^3$

بنك الأسئلة في مقرر الكيمياء العامة (101-كيم)

(Chem 101- Chapter 6)

Ques. no.	Questions
1	The energy required to remove electron from an atom is A affinity B ionization C negativity
2	Modern periodic Table's arrangement of the elements according to atomic A weight B size C number
3	The rows of the periodic table are A groups B periods C blocks
4	The columns of the periodic table are A groups B periods C blocks
5	In periodic table's groups, atomic size increases A up to down B down to up C left to right
6	In periodic table's groups, metallic properties increases A up to down B down to up C left to right
7	In periodic table's periods, metallic properties increases A up to down B right to left C left to right
8	In periodic table's groups, ionization energy increases A up to down B down to up C left to right
9	Mendeleev arranged the elements by increasing A atomic weight B Atomic number C electrons
10	The elements are arranged in periodic table based on A atomic weight B Atomic number C electrons
11	Periodic Table is classified into A four blocks B three blocks C five blocks
12	Periodic Table consists of seven A rows B groups C columns
13	Periodic Table consists of 18 A rows B groups C periods
14	On descending a group, size of the atoms A increases B decrease C not changed
15	On ascending a group, ionization energy A increases B decrease C not changed

بنك الأسئلة في مقرر الكيمياء العامة (101-كيم)

16	From left to right in the period, ionization energy						
	A	increases	B	decrease	C	not changed	
17	On ascending a group, electron affinity						
	A	increases	B	decrease	C	not changed	
18	From left to right in the period, electron affinity						
	A	increases	B	decrease	C	not changed	
19	On ascending a group, metallic properties						
	A	increases	B	decrease	C	not changed	
20	From left to right in the period, metallic properties						
	A	increases	B	decrease	C	not changed	

From Periodic Table Complete the following:

1 H																2 He
3 Li	4 Be											5 B	6 C	7 N	8 O	9 F	10 Ne
11 Na	12 Mg											13 Al	14 Si	15 P	16 S	17 Cl	18 Ar
19 K	20 Ca	21 Sc	22 Ti	23 V	24 Cr	25 Mn	26 Fe	27 Co	28 Ni	29 Cu	30 Zn	31 Ga	32 Ge	33 As	34 Se	35 Br	36 Kr
37 Rb	38 Sr	39 Y	40 Zr	41 Nb	42 Mo	43 Tc	44 Ru	45 Rh	46 Pd	47 Ag	48 Cd	49 In	50 Sn	51 Sb	52 Te	53 I	54 Xe
55 Cs	56 Ba	*	72 Hf	73 Ta	74 W	75 Re	76 Os	77 Ir	78 Pt	79 Au	80 Hg	81 Tl	82 Pb	83 Bi	84 Po	85 At	86 Rn
87 Fr	88 Ra	**	104 Rf	105 Db	106 Sg	107 Bh	108 Hs	109 Mt	110 Ds	111 Rg	112 Cn	113 Uu	114 Uq	115 Up	116 Uh	117 Us	118 Uo

21	Sr_{38} . . . . . I_{53} in atomic size.						
	A	<	B	>	C	=	
22	Ca_{20} . . . . . Br_{35} in Ionization energy.						
	A	<	B	>	C	=	
23	Mg_{12} . . . . . Ba_{56} in Metallic properties.						
	A	<	B	>	C	=	
24	The bond between Mg_{12} and Cl_{17} in $MgCl_2$ is						
	A	ionic	B	covalent	C	metallic	
25	The bond between C and O in CO_2 is						
	A	0.143 atm	B	0.429 atm	C	1.71 atm	
26	Sharing electron pairs between two atoms …. Bond						
	A	ionic	B	covalent	C	metallic	

بنك الأسئلة في مقرر الكيمياء العامة (101-كيم)

27	Electrostatic attraction of between metal and non-metal ions					
	A	ionic	**B**	covalent	**C**	metallic
28	All the ionic compounds are					
	A	solids	**B**	liquids	**C**	gases
29	All the ionic compounds have melting point					
	A	> 400°C	**B**	< 400°C	**C**	= 400°C
30	All the ionic compounds are soluble in					
	A	water	**B**	benzene	**C**	hexane
31	Molten covalent compounds are …….. conduct electricity					
	A	good	**B**	poor	**C**	not
32	Solutions of covalent compounds are … conduct electricity					
	A	good	**B**	poor	**C**	not
33	Ionic compounds are formed between metal and …….					
	A	metal	**B**	mineral	**C**	non-metal
34	Covalent compounds are formed between non-metal and …					
	A	metal	**B**	mineral	**C**	non-metal
35	All covalent compounds have melting point					
	A	> 300°C	**B**	< 300°C	**C**	= 300°C