Exercise # 1

Q.1 The number of significant figures in the electrical charge 96500 are -

[1] three [2] four [3] five [4] can be any of these

Q.2 The number of significant figures in Avogadro's number, $N_0 = 6.022 \times 10^{23}$ are -

[1] three [2] four [3] five [4] can be any of these

Q.3 The correctly reported answer of the addition of 142.138, 3.214 and 17 will be -

[1] 162.352 [2] 162.35 [3] 162.4 [4] 162

Q.4 On dividing 0.366 by 12.523, the actual answer is 0.029236. The correctly reported answer will be -

[1] 0.02 [2] 0.029 [3] 0.0292 [4] 0.02924

Q.5 Two students X and Y report the weight of the same substance as 12.0 g and 12.00 g respectively. Which of the following statements is correct ?

[1] Both are equally accurate [2] X is more accurate than Y

[3] Y is more accurate than X [4] Both are inaccurate scientifically

Q.6 Which of the following is correct ?

[1] $1dm^3 = 10^3\ cm^3$ [2] $1L = 10\ dm^3$ [3] $1dm^3 = 10\ L$ [4] $1L = 1m^3$

Q.7 Planck's constant has a numerical value of 6.627×10^{-34} and the dimensions of

[1] force [2] work [3] angular momentum [4] torque

Q.8 100 g sample of methyl alcohol contains 0.002 g of water. The amount of pure methyl alcohol in terms of significant figures is reported as -

[1] 99.998 [2] 99.99 g [3] 99 g [4] 100 g

Q.9 The atmospheric pressure of one torr is equal to -

[1] 1 cm of Hg [2] 1 atm pressure [3] 1 mm of Hg [4] 1 m of Hg

Q.10 The number of significant figures in $\frac{h}{2\pi}$ are -

[1] three [2] infinite number [3] zero [4] one

Q.11 $kg\ m^{-1}\ s^{-2}$ is the unit of -

[1] Momentum [2] Velocity [3] Pressure [4] Acceleration

Q.12 Acceleration is the increase in velocity of a body per unit time. The correct unit for it are -

[1] $N\ kg^{-1}$ [2] m^2s^{-2} [3] Jm^{-1} [4] $kg\ m^{-3}$

Q.13 Which of the following is not a unit of length/distance ?

[1] Pico meter [2] Light-year [3] Meter [4] Radian

Q.14 Which of the following is not an element ?

[1] Diamond [2] Plastic sulphur [3] Silica [4] Graphite

Q.15 Which one of the following processes results in the formation of a new chemical compound ?

[1] Dissolving common salt in water [2] Sublimation of NH_4Cl

[3] Heating platinum rod [4] Heating iron rod

Q.16 Which one of the following statements is false ?

[1] An element of a substance contains only one kind of atoms

[2] A compound can be decomposed into its constituents

[3] Milk is a homogeneous mixture

[4] All homogeneous mixtures are called solutions

Q.17 Which one of the following is not a mixture ?

[1] Iodized table salt [2] Gasoline

[3] Sugar dissolved in water [4] Distilled water

Q.18 Which one of the following is not a compound ?

[1] Marble [2] Quicklime [3] Carborundum [4] Ozone

Q.19 Divide a piece of ice into half. Divide it further and keep on dividing it many times. The smallest piece of ice that you can get by this division is -

[1] An atom [2] A particle [3] A crystal [4] A molecule

Q.20 Which law of chemical combination is illustrated by the following data ? 0.5 g of lime stone on heating gave 0.28 g of calcium oxide and 112 mL of CO_2 at S.T.P. ?

[1] Law of definite proportions [2] Gay Lussac's

[3] Law of conservation of mass [4] Law of multiple proportions

Q.21 Which of the following best explains the law of conservation of mass ?

[1] No change in mass is observed when 2.0 g of Mg is heated in vacuum

[2] 1.2 g of carbon when burnt in excess of oxygen consumes only 3.2 g of it to form 4.4 g of carbon dioxide

[3] 12 g of carbon when heated in a limited supply of air produces only 20 g of carbon monoxide

[4] A sample of air on heating does not shown any change in mass but volume increases.

Q.22 Two samples of sodium chloride are produced when sodium combines separately with two isotopes of chlorine ^{35}Cl and ^{37}Cl. Which law is illustrated by the above facts ?

[1] Law of multiple proportions [2] Law of reciprocal proportions

[3] Law of constant volumes [4] None of the above

Q.23 The percentage of hydrogen in water and hydrogen peroxide is 11.1 and 5.9% respectively. These figures illustrate -

[1] Law of multiple proportions [2] Law of conservation of mass

[3] Law of reciprocal proportions [4] Law of combining volumes

Q.24 The balancing of chemical equation is based upon -

[1] Law of combining volumes [2] Law of multiple proportions

[3] Law of conservation of mass [4] Law of definite proportion

Q.25 A balanced chemical equation is in accordance with -

[1] Avogadro's law [2] Law of constant proportions

[3] Law of conservation of mass [4] Law of gaseous volumes

Q.26 Two gaseous samples were analyzed. One contained 1.2 g of carbon and 3.2 g of oxygen. The other contained 27.3% carbon and 72.7% oxygen. The experimental data are in accordance with -

[1] Law of conservation of mass [2] Law of definite proportions

[3] Law of reciprocal proportion [4] Law of multiple proportion

Q.27 Nitrogen forms five stable oxides with oxygen of the formula, N_2O, NO, N_2O_3, N_2O_4, N_2O_5. The formation of these oxides explains fully the -

[1] Law of definite proportions [2] Law of partial pressures

[3] Law of multiple proportions [4] Law of reciprocal proportions

Q.28 1L of N_2 combines with 3L of H_2 to form 2L of NH_3 under the same conditions. This illustrates the -

[1] Law of constant composition [2] Law of multiple proportions

[3] Law of reciprocal proportions [4] Gay Lussac's law of gaseous volumes

Q.29 Which one of the following represents Avogadro's hypothesis ?

[1] Gases react together in volumes which bear a simple ratio to one another

[2] Equal volumes of all gases under same conditions of temperature and pressure contain equal number of molecules

[3] Equal volumes of all gases under same conditions of temperature and pressure contain equal number of atoms

[4] The rates of diffusion of gases are inversely proportional to the square root of their densities

Q.30 Different proportions of oxygen in the various oxides of nitrogen prove the law of.

[1] Equivalent proportion [2] Multiple proportion

[3] Constant proportion [4] Conservation of matter

Q.31 Hydrogen and oxygen combine to form H_2O_2 and H_2O containing 5.93% and 11.2% hydrogen respectively. The data illustrates -

[1] Law of conservation of mass [2] Law of constant proportions

[3] Law of reciprocal proportions [4] Law of multiple proportions

Q.32 If water samples are taken from sea, rivers, clouds, lake or snow, they were be found to contain H and O in the approximate ratio of 1 : 8. This indicates the law of -

[1] Multiple proportion [2] Definite proportion

[3] Reciprocal proportion [4] None of these

Q.33 The law of multiple proportions is illustrated by -

[1] Carbon monoxide and carbon dioxide [2] Potassium bromide and potassium chloride

[3] Water and heavy water [4] Calcium hydroxide and barium hydroxide

Q.34 Percentage of copper and oxygen in sample of CuO obtained by different methods were found to be same. This proves the law of-

[1] Constant proportion [2] Multiple proportion [3] Reciprocal proportion [4] None of these

Q.35 The number of moles of KI required to produce 0.4 moles of K_2HgI_4 by reaction with $HgCl_2$ is -

[1] 0.4 [2] 0.8 [3] 3.2 [4] 1.6

Q.36 The mass of nitrogen in 1 kg of ammonium nitrate is -

[1] 700 g [2] 3.5×10^{-1} kg [3] 350 g [4] 35 g

Q.37 Which of the following will not have a mass of 10 g -

[1] 0.1 mol of $CaCO_3$ [2] 1.51×10^{23} Ca^{2+} ions

[3] 0.016 mole of CO_3^{2-} [4] 7.525×10^{23} atom of Br^-

Q.38 If atomic mass of oxygen is taken as 100, the molecular mass of water would be approximately -

[1] 6.25 [2] 112.5 [3] 102 [4] 106.25

Q.39 Atomic mass of an element is -

[1] The actual mass of one atom of the element [2] The relative mass of an atom of the element

[3] The average relative mass of different atoms of the element

[4] much different from the mass number of the element

Q.40 Which of the following statements is incorrect ?

[1] One gram atom of nitrogen contains Avogadro's number of atoms

[2] One mole of ozone gas contains Avogadro's number of molecules

[3] One mole of ozone contains Avogadro's number of atoms

[4] One mole of electrons stands for 6.02×10^{23} electrons

Q.41 One mole of nitrogen gas is the volume of -

[1] 1 litre of nitrogen at S.T.P. [2] 32 litres of nitrogen at S.T.P

[3] 22.4 litres of nitrogen atom S.T.P.

[4] 6.02×10^{23} molecules of oxygen at any temperature and pressure

Q.42 Which of the following pairs contains equal number of atoms -

[1] 11.2 cc of nitrogen and 0.015 g of nitric oxide

[2] 22.4 litres of nitrous oxide and 22.4 litres of nitric oxide

[3] 1 millimole of HCl and 0.5 millimole of H_2S

[4] 1 mole of H_2O_2 and 1 mole of N_2O_4

Q.43 Which of the following has maximum mass ?

[1] 0.1 g atom of nitrogen [2] 0.1 mol of ammonia

[3] 6.02×10^{23} molecules of helium gas [4] 1120 cc of carbon dioxide

Q.44 The mass of one amu is approximately -

[1] 1 g [2] 0.5 g [3] 1.66×10^{-24} g [4] 3.2×10^{-24} g

Q.45 Three flasks of equal volumes contain CH_4, CO_2 and Cl_2 gases respectively. They will contain equal number of molecules if -

[1] the mass of all the gases is same

[2] the moles of all the gas is same but temperature is different

[3] temperature and pressure of all the flasks are same

[4] temperature, pressure, and masses are same in the flasks

Q.46 Equal volumes of different gases at any definite temperature and pressure have -

[1] Equal atoms [2] Equal masses [3] Equal densities [4] Equal molecules

Q.47 Which one of the following statements is incorrect -

[1] Atoms of the same element may have different atomic weights

[2] Atoms can be created or destroyed

[3] Half of an atom can also take part in a reaction

[4] Elements can exist as atoms or molecules but compounds exist only as molecules

Q.48 What is not correct regarding 22 g of CO_2 ?

[1] It occupies always 11.2 L of volume at STP [2] It corresponds to 1 g molecule of carbon dioxide

[3] It contains one g-atom of oxygen [4] It contains 0.5 g-atom of carbon

Q.49 Two flasks of equal capacity contain argon and chlorine gases respectively at room temperature. What is true about them ?

[1] Both contain same number of atoms [2] Cl atoms are half of the Ar atoms

[3] Cl atoms are double the number of Ar atoms

[4] Chlorine molecules are double the number of argon molecules

Q.50 Which of the following does not occupy a volume of 4.48 L at S.T.P. ?

[1] 0.2 mol of H_2 [2] 12.8 g of SO_2 [3] 3.2 g of O_2 [4] 800 mg of He

Q.51 The Milli-equivalents of 1.0 M H_2SO_4 in 100 mL solution is -

[1] 10 [2] 100 [3] 1000 [4] 200

Q.52 The number of molecules in one cm^3 of oxygen gas at S.T.P. is found to be 2.6875×10^{19}. It is known as -

[1] Berzelius number [2] Avogadro number

[3] Gay Lussac's number [4] Loschmidt number

Q.53 The product of atomic weight and specific heat of any element is constant which is approximately 6.4. This is known as -

[1] Newton's law [2] Avogadro's law [3] Dalton's law [4] Dulong Petit's law

Q.54 20 litres of H_2 gas at S.T.P. weigh about.

[1] 12.2g [2] 448g [3] 1.8g [4] 20g

Q.55 Which of the following represents the formula of a substance which contains about 26% nitrogen and 74% oxygen.

[1] N_2O [2] NO [3] NO_2 [4] N_2O_5

Q.56 The empirical formula of an organic compound containing carbon and hydrogen is CH_2. The mass of one litre of this organic gas is exactly equal to that of one litre of N_2. Therefore, the molecular formula of the organic gas is-

[1] C_2H_4 [2] C_3H_6 [3] C_6H_{12} [4] C_4H_8

Q.57 How many g of H_2SO_4 are present in 0.25 mole of H_2SO_4.

[1] 2.45 [2] 24.5 [3] 0.245 [4] 0.25

Q.58 How many gram atoms of S are present in 80.25g of S.

[1] 2.5 [2] 32 [3] 5 [4] 80.25×32

Q.59 A sample of ammonium phosphate, $(NH_4)_3PO_4$, contains 3.18 mol of hydrogen atoms. The number of moles of oxygen atoms in the sample is -

[1] 0.265 [2] 0.795 [3] 1.06 [4] 3.18

Q.60 The number of moles of $BaCO_3$ which contains 1.5 moles of oxygen atoms is -

[1] 0.5 [2] 1 [3] 3 [4] 6.02×10^{23}

Q.61 How many moles of potassium chlorate is to be heated to produce 11.2 litre oxygen.

[1] $\frac{1}{2}$ mol [2] $\frac{1}{3}$ mol [3] $\frac{1}{4}$ mol [4] $\frac{2}{3}$ mol

Q.62 For the reaction A + 2B $\rightarrow$ C, 5 mole of A and 8 mole of B will produce -

[1] 5 mole of C [2] 4 mole of C [3] 8 mole of C [4] 13 mole of C

Q.63 Which one is a false statement -

[1] 11.2 litre of a gas at NTP weight equal to vapour density

[2] 22.4 litre of water vapour at NTP when condensed gives 18ml of liquid water

[3] 1 mole of H_2 at NTP occupies 11.2 litres of volume

[4] 5.6 litre of oxygen at NTP is equivalent to 0.25 moles

Q.64 Volume strength of H_2O_2 solution is equal to -

[1] Molarity $\times$ 5.6 [2] Molarity $\times$ 11.2 [3] Molarity $\times$ 2.8 [4] Molarity $\times$ 8.4

Q.65 Equal weight of NaCl and KCl are dissolved separately in equal volumes of solutions. Molarity of the two solutions will be -

[1] Equal

[2] That of NaCl will be less than that of KCl

[3] That of NaCl will be more than that of KCl solution

[4] That of NaCl will be half of than that of KCl solution

Q.66 How much water should be added to 200cc of seminormal solution of NaOH to make it exactly decinormal -

[1] 1000 cc [2] 400 cc [3] 800 cc [4] 600 cc

Q.67 Molarity of 720g of pure water -

[1] 40M [2] 4M [3] 55.5M [4] Unpredictable

Q.68 The number of moles of oxygen in one litre of air containing 21% oxygen by volume in standard condition is -

[1] 0.186 mole [2] 0.21 Mole [3] 2.10 mole [4] 0.0093 mole

Q.69 An elements X reacts with oxygen to form a compound X_2O_3. If the atomic mass of X is 91.5, the equivalent mass of X is -

[1] 30.5 [2] 45.75 [3] 61.0 [4] 91.5

Q.70 In m_1 grams of a metal A displaces m_2 gram of another metal B from its salt solution and if the equivalent weights are E_1 and E_2 respectively then the equivalent weight of A can be expressed by -

[1] $E_1 = \frac{m_1}{m_2} \times E_2$ [2] $E_1 = \frac{m_2}{m_1} \times E_2$ [3] $E_1 = \frac{m_1}{E_2} \times m_2$ [4] $E_1 = \sqrt{\frac{m_1}{m_2} \times E_2}$

Q.71 The weight of two elements which combine with one another are in the ratio of their -

[1] atomic weight [2] molecular weight [3] gram mole [4] equivalent weight

Q.72 If law of conservation of mass was to hold true, then 20.8g of $BaCl_2$ on reaction with 9.8g of H_2SO_4 will produce 7.3g of HCl and $BaSO_4$ equal to -

[2] 11.65g [2] 23.3g [3] 25.5g [4] 30.6g

Q.73 If a mixture containing 3 moles of hydrogen and 1 mole of nitrogen is converted completely into ammonia, the ratio of initial and final volumes under the same temperature and pressure would be-

[1] 3 : 1 [2] 1 : 3 [3] 2 : 1 [4] 1 : 2

Q.74 40ml of H_2S and 40ml of Cl_2 are mixed together. The volume of the resulting gas at the same temperature and pressure will be -

[1] 40ml [2] 80ml [3] 120ml [4] 160ml

Q.75 Calculate the weight of lime (CaO) obtained by heating 200kg of 95% pure lime stone ($CaCO_3$)

[1] 104.4kg [2] 105.4kg [3] 212.8kg [4] 106.4kg

Answer Key

Qus.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Ans.	4	2	4	3	3	1	3	3	3	2	2	1	4	3	4	3	4	4	4	3
Qus.	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Ans.	2	4	1	3	3	2	3	4	2	2	4	1	1	1	4	3	4	2	3	3
Qus.	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Ans.	3	1	4	3	3	4	3	2	3	3	4	4	4	3	4	1	2	1	3	1
Qus.	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75					
Ans.	2	2	3	2	3	3	3	4	1	1	4	2	3	2	4					

Exercise # 2

Q.1 The molecular weight of the compounds (a) Na_2SO_4 (b) $Na_3PO_4.12H_2O$ and (c) $Ca_3(PO_4)_2$ respectively are X, Y, and Z. The correct set of their equivalent weights will be -

[1] (a) $\frac{X}{2}$ (b) $\frac{Y}{3}$ (c) $\frac{Z}{6}$ [2] (a) X (b) $\frac{Y}{3}$ (c) $\frac{Z}{3}$ [3] (a) $\frac{X}{2}$ (b) Y (c) $\frac{Z}{3}$ [4] (a) X (b) Y (c) Z

Q.2 Haemoglobin contains 0.25% iron by weight. The molecular weight of haemoglobin is 89600. Calculate the number of iron atoms per molecule of haemoglobin.

[1] 2 atom [2] 3 atom [3] 4 atom [4] 6 atom

Q.3 What is the normality of a solution of ammonia, whose density is 0.885. It has 23% ammonia be weight

[1] 1.35 [2] 12.0 [3] 19.1 [4] 26.0

Q.4 50ml of 0.1N $KMnO_4$ solution is required to completely oxides 0.225g of anhydrous oxalic acid. Find out the equivalent weight of oxalic acid.

[1] 90 [2] 45 [3] 126 [4] 63

Q.5 A 500g tooth paste sample has 0.2g fluoride concentration. What is the concentration of F in terms of ppm level-

[1] 250 [2] 200 [3] 400 [4] 1000

Q.6 Element X reacts with oxygen to produce a pure sample of X_2O_3. In an experiment it is found that 1.000g of X produces 1.1596g of X_2O_3. Using the known atomic weight of oxygen 15.9994g mol^{-1} calculate the atomic weight of X -

[1] 20.70 [2] 66.85 [3] 100.2 [4] 150.4

Q.7 Two element X (at. wt.=75) and Y (at. wt.=16) combines to give a compound having 75.8% of X. The formula of the compound is -

[1] XY [2] X_2Y [3] X_2Y_2 [4] X_2Y_3

Q.8 Four containers of 2L capacity contains dinitrogen as described below. Which one contains maximum number of molecules under similar conditions -

[1] 2.5 g-molecules of N_2 [2] 4 g-atom of nitrogen

[3] 3.01×10^{24} N atoms [4] 82 g of dinitrogen

Q.9 6g of carbon combines with 32g of sulphur to form CS_2. 12g of C also combine with 32g of oxygen to form carbon di oxide. 10g of sulphur combines with 10g of oxygen to form sulphur dioxide. Which law is illustrated by the above example -

[1] Law of multiple proportions [2] Law of constant composition

[3] Law of reciprocal proportions [4] Gay Lussac's law

Q.10 4.4g of CO_2 and 2.24L of H_2 at STP are mixed in a container. The total number of molecules present in the container will be -

[1] 6.022×10^{23} [2] 1.2044×10^{23} [3] 2 moles [4] 6.023×10^{24}

Q.11 Which of the following illustrates the law of conservation of mass ?

[1] Mixing of 10 g of sulphur and 2 g of sand does not show a changes in mass

[2] The mass of platinum wire before and after heating remains constant

[3] 2.2 g of propane and 8 g of oxygen produces 10.2 g of gaseous mixture

[4] 3.8 g of CO and 1.6 g of oxygen gave only 2.24 L of CO_2 at S.T.P.

Q.12 The molecular formula of certain compound is M_4O_6. If 18.88g of the compound contains 10 g of M, the atomic mass of M is approximately -

[1] 40 g [2] 54 g [3] 27 g [4] 12 g

Q.13 C–12 and C–14 isotopes are found as 98% and 2% respectively in any sample. Then, the number C–14 atoms in 12 g of the sample will be -

[1] 1.5 moles atoms [2] 1.032×10^{22} atoms [3] 2.06×10^{21} atoms [4] 2g atom

Q.14 The mole fraction of solute in 1 molal aqueous solutions is -

[1] 0.0176 [2] 1.8 [3] 0.05 [4] 0.98

Q.15 510mg of a liquid on vaporization in victor Mayer's apparatus displaces 67.2ml of dry air (at NTP). The molecular weight of liquid is -

[1] 130 [2] 17 [3] 1700 [4] 170

Q.16 What will be present in the solution when 50ml. of 0.1(M) HCl is mixed with 50ml. of 0.1(M) NaOH.

[1] 4.5 mol of H^+ [2] 0.05 mol of OH^- [3] 0.05M. NaCl [4] 6M H^+

Q.17 0.2 mole of HCl and 0.1 mole of barium chloride were dissolved in water to produce a 500 mL solution. The molarity of the Cl^- ions is -

[1] 0.06M [2] 0.09M [3] 0.12M [4] 0.80M

Q.18 8 litre of H_2 and 6 litre of Cl_2 are allowed to react to maximum possible extent. Find out the final volume of reaction mixture. Suppose P and T remains constant throughout the course of reaction.

[1] 7 litre [2] 14 litre [3] 2 litre [4] None

Q.19 0.59g of a dibasic acid is completely neutralized by 100 c.c of $\frac{N}{10}$ NaOH solution. What is the molecular weight of the acid -

[1] 59 [2] 118 [3] 29.5 [4] 11.8

Q.20 0.84g of metal carbonate reacts completely with 40ml of $\frac{N}{2} H_2SO_4$. What is the equivalent weight of the metal carbonate is -

[1] 20 [2] 12 [3] 42 [3] 30

Q.21 10 Moles SO_2 and 15 moles O_2 were allowed to react over a suitable catalyst. 8 moles of SO_3 were formed. The remaining moles of SO_2 and O_2 respectively are -

[1] 2 mole, 11 mole [2] 2 mole, 8 mole [3] 4 mole, 5 mole [4] 8 mole, 2 mole

Q.22 A metal oxide is reduced by passing H_2 gas. 3.15g of oxide on complete reduction gives 1.05g metal. We concluded that -

[1] atomic weight of metal is 4 [2] equivalent weight of metal is 8

[3] equivalent weight of metal is 4 [4] atomic weight of metal is 8

Q.23 A sample of calcium carbonate is 80% pure. 25g of this sample is treated with excess of HCl. How much volume of CO_2 will be obtained at NTP.

[1] 4.48 litre [2] 5.6 litre [3] 11.2 litre [4] 2.24 litre

Q.24 In the electrolysis of H_2O, 11.2 litre of H_2 was liberated at cathode at NTP. How much O_2 will be liberated at anode under the same condition.

[1] 11.2 litre [2] 22.4 litre [3] 32g [4] 5.6 litre

Q.25 A silver coin weighing 11.34g was dissolved in nitric acid. When sodium chloride was added to the solution all the silver (present as $AgNO_3$) was precipitated as silver chloride. The weight of the precipitated silver chloride was 14.35g. Calculate the percentage of silver in the coin,

[1] 4.8% [2] 95.2% [3] 90% [4] 80%

Q.26 Cyclohexanol is dehydrated to cyclohexene on heating with conc. H_2SO_4. If the yield of this reaction is 75% how much cyclohexene will be obtained from 100g of cyclohexanol.

[1] 61.5g [2] 16.5g [3] 6.15g [4] 615g

Q.27 1g metal carbonate requires 200ml of 0.1 N HCl for complete neutralization. What is the equivalent weight of metal carbonate -

[1] 50 [2] 40 [3] 20 [4] 100

Q.28 When excess of $CaCO_3$ is treated with 100 ml of HCl solution, the CO_2 gas obtained was found to be 1.12 liter (at N.T.P) what is normality of HCl -

[1] 0.2N [2] 1N [3] 0.1N [4] 2N

Q.29 3.92g ferrous ammonium sulphate (FAS) consumes 50 ml of $\frac{N}{10}$ $KMnO_4$. What is the percentage purity of the sample of FAS-

[1] 50% [2] 78.4% [3] 80% [4] 39.2%

Q.30 1.7g of ammonium salt was treated with excess of NaOH. The ammonia released in the process neutralizes 100 c.c. solution of $\frac{N}{5}$ H_2SO_4. What is the percentage of ammonia in the salt -

[1] 17% [2] 20% [3] 25% [4] 34%

Q.31 What will be the molecular weight of the gas whose density is 0.55 g/litre at 27°C and 600 mm pressure

[1] 0.27g $mole^{-1}$ [2] 17.16g $mole^{-1}$ [3] 27.0g $mole^{-1}$ [4] 32.32g $mole^{-1}$

Q.32 The mass of oxygen that would be required to produce enough CO which completely reduces 1.6kg Fe_2O_3 (at mass of Fe=56) is -

[1] 240g [2] 480g [3] 720g [4] 960g

Q.33 In an experiment 10ml of $AgNO_3$ (0.1N) solution is added to 20ml of decinormal HCl. After the precipitation of AgCl, excess of HCl is titrated with decinormal NaOH solution. What is the volume of NaOH used in the titration-

[1] 10ml [2] 20ml [3] 5ml [4] 30ml

Q.34 A bottle of commercial sulphuric acid (density 1.787g/ml.) is labelled as 86% by weight. What is the molarity of the acid -

[1] $1.717 \times 86 \times 1000/100$ [2] $1.787 \times 86 \times 1000/100 \times 49$

[3] $1.787 \times 86 \times 1000/100 \times 98$ [4] None

Q.35 250ml of the solution contains 7.35g of dibasic acid 25ml of this solution requires 15ml of N- NaOH solution for complete neutralization Equivalent and molecular weight of acid would be respectively -

[1] 49, 98 [2] 63, 126 [3] 32, 64 [4] 50, 100

Q.36 Review the following reactions -

(i) $CaC_2 + H_2O \rightarrow CaO + C_2H_2$; (ii) $C_2H_2 + H_2 \rightarrow C_2H_4$; (iii) $nC_2H_4 \rightarrow (C_2H_4)_n$

What is the weight of polyethene obtained from 10kg CaC_2 -

[1] 4.375kg [2] 10kg [3] 15kg [4] 20kg

Q.37 1000g aqueous solution of $CaCO_3$ contains 10g of calcium carbonate. Concentration of the solution is-

[1] 10 ppm [2] 100 ppm [3] 1000 ppm [4] 10,000 ppm

Q.38 Which of the following should be done in order to prepare 0.40 M NaCl starting with 100ml of 0.30 M NaCl (mol. wt. of NaCl=58.5) -

[1] Add 5.85g NaCl [2] Add 20ml water [3] Add 0.10ml NaCl [4] Evaporate 10ml water

Q.39 A certain aqueous solution of $FeCl_3$ (formula mass =162) has a density of 1.1g/ml and contains 20.0% $FeCl_3$. Molar concentration of this solution is -

[1] 0.028 [2] 0.163 [3] 1.35 [4] 1.47

Q.40 An ore contains 1.34% of the mineral argentite, Ag_2S, by weight. How many grams of this ore would have to be processed in order to obtain 1.00g of pure silver. (Ag) -

[1] 74.6g [2] 85.7g [3] 107.9g [4] 134.0g

Q.41 The density of liquid ethanol is 0.7893g mL^{-1} at 20°C. If 1.2 mol of ethanol are needed for a particular experiment, what volume of ethanol should be measured out

[1] 55 ml [2] 58 ml [3] 70 ml [4] 79 ml

Q.42 An isotope of the element polonium, of atomic mass 210, is strongly radioactive and each day one two hundredth part of it changes into an inactive isotope of lead. Approximately, how many atoms of lead are formed in one day from one milligram of ^{210}Po -

[1] 1.5×10^{16} [2] 3×10^{18} [3] 1.23×10^{19} [4] 1.2×10^{22}

Q.43 If human blood contains 195 mg/ml of K^+ ion; the molarity of the solution is -

[1] $\frac{195\times1000}{39}$ [2] $\frac{195\times10^{-3}\times10^{3}}{39}$ [3] $\frac{195\times10^{-3}\times10^{3}}{38}$ [4] $\frac{195\times1000}{38}$

Q.44 The most abundant element dissolved in sea water is Cl at a conc. of 19 g/kg of sea water. The volume of earth's ocean is 1.4×10^{21}L. How many g atoms of Cl are potentially available from the oceans. (density of sea water is 1gm/cc)

[1] 7.6×10^{20} [2] 27×10^{21} [3] 27×10^{24} [4] 96×10^{23}

Q.45 100ml of 0.3N HCl solution is mixed with 200ml of 0.6N H_2SO_4 solution. What is the normality of H_2SO_4 in the final solution -

[1] 0.9 [2] 0.6 [3] 0.5 [4] 0.4

Q.46 If LPG cylinder contains mixture of butane and isobutane, then the amount of oxygen that would be required for combustion of 1kg of it will be -

[1] 1.8 kg [2] 2.7 kg [3] 4.5 kg [4] 3.58 kg

Q.47 4.0 g of caustic soda (molecular mass = 40) contains same number of sodium ions as are present in -

[1] 10.6g of Na_2CO_3 (molecular mass = 106) [2] 58.5 g of NaCl (formula mass 58.5)

[3] 100 ml of 0.5 M Na_2SO_4 (Formula mass 142) [4] 1gm-equivalent of $NaNO_3$ (equivalent mass 85)

Q.48 W_1g of an element combines with oxygen forming W_2g of its oxide. The equivalent weight of the element is

[1] $\left[\frac{W_1}{W_2}\right]x8$ [2] $\left[\frac{W_1}{W_2-W_1}\right]x8$ [3] $\left[\frac{W_2-W_1}{W_1}\right]x8$ [4] $\left[\frac{W_1}{W_1-W_2}\right]x8$

Q.49 20g of an acid furnishes 0.5 moles of H_3O^+ ions in its aqueous solution. The value of 1g equivalent of the acid will be-

[1] 40g [2] 20 g [3] 10 g [4] 100 g

Q.50 One mole of chlorine combines with certain weight of a metal giving 111g of its chloride. The same amount of metal can displace 2g of hydrogen from an acid. The atomic weight of the metal is -

[1] 40 [2] 20 [3] 80 [4] none

Q.51 Out of 1.0g dioxygen, 1.0 (atomic) oxygen and 1.0g of ozone, the maximum number of oxygen atoms are contained in -

[1] 1.0 g of atomic oxygen [2] 1.0g of ozone

[3] 1.0g of oxygen gas [4] All contains same number of atoms

Q.52 40 g of calcium carbonate was treated with 48 g of HCl. If the acid used was only of 30% strength. The amount of $CaCO_3$ unreacted is

[1] 30 g [2] 20 g [3] 32 g [4] 17 g

Q.53 Haemoglobin contains 0.33 % of iron by weigth. The molecular weight of haemoglobin is approximately 67200 The number of iron atoms (atomic weight of Fe is 56 amu) present in one molecule of haemoglobin is

[1] 2 [2] 5 [3] 4 [4] 3

Q.54 The impure 7 g of NaCl is dissolved in water and then treated with excess of silver nitrate solution. The weight of precipitate of silver chloride is found to be14 g. The % purity of NaCl solution would be-

[1] 81.5 % [2] 83 % [4] 93 % [4] 77 %

Q.55 $KMnO_4$ reacts with oxalic acid according to the reaction

$$2KMnO_4^- + 5C_2O_4^{2-} + 16H^+ \rightarrow 2Mn^{2+} + 10CO_2 \uparrow + 8H_2O$$

Then, 20 ml of 0.1 M $KMnO_4$ is equivalent to

[1] 30 ml of 0.5 M $C_2H_2O_4$ (Oxalic acid) [2] 50 ml of 0.1 M $C_2H_2O_4$ (Oxalic acid)

[3] 20 ml of 0.5 M $C_2H_2O_4$ (Oxalic acid) [4] 10 ml of 0.1 M $C_2H_2O_4$ (Oxalic acid)

Q.56 The percentage of Se in peroxidase anhydrous enzyme is 0.5 % by weight (atomic weight of Se=78.4 amu). Then, the minimum molecular weight of peroxidase anhydrous enzyme which containing not more than one atom of Se is

[1] 1.568×10^4 [2] 1.568×10^7 [3] 1.568×10^3 [4] 1.568×10^6

Q.57 In the following reaction $4NH_3(g) + 5O_2(g) \rightarrow 4NO(g) + 6H_2O(l)$

when 1 mole of ammonia and 1 mole of O_2 are mixed. Then

[1] 0.2 mole of H_2O is produced [2] 0.1 mole of NO is produced

[3] all the oxygen will be consumed

[4] all the ammonia will be consumed in order to form 1 mole NO

Q.58 1.12 mL of a gas is produced at STP by the action of 4.12 mg of alcohol (ROH) with Grignard's reagent CH_3MgI. The molecular mass of alcohol (in amu) is

[1] 16.0 [2] 41.2 [3] 82.4 [4] 156.0

Q.59 The equivalent weight of an element is 4 amu. What is the valency of the element, if the vapour density of its chloride is 59.50 ?

[1] 5 [2] 2 [3] 3 [4] 4

Q.60 When a mixture consisting of 10 moles of SO_2 and 16 moles of O_2 were passed over a catalyst, 8 moles of SO_3 were formed at equilibrium. The number of moles of SO_2 and O_2 which did not enter into the reaction were.

[1] 2, 12 [2] 12,2 [3] 3, 10 [4] 10, 3

Q.61 When 3.92 gL^{-1} of a sample of Mohr's salt reacts completely with 50 ml. $\frac{N}{10}$ $KMnO_4$ solution. The % purity of the sample of Mohr's salt is

[1] 50 [2] 70 [3] 37 [4] 40

Q.62 The number of equivalents of $Na_2S_2O_3$ required for the volumetric estimation of one equivalent of Cu^{2+} is

[1] $\frac{1}{3}$ [2] 2 [3] $\frac{3}{2}$ [4] $\frac{2}{3}$

Q.63 An aqueous solution of 6.3 g of oxalic acid dihydrate is made upto 250 ml. The volume of 0.1 N NaOH required to completely neutralise 10 ml of this solution is

[1] 40 ml [2] 20 ml [3] 100 ml [4] 400 ml

Q.64 What is the molecular formula of compound (gaseous) of boron with hydrogen if mass of 1 L of this compound (gas) is equal to the mass of 1 L of N_2 and the boron content in the compound is 78.2% ?

[1] BH_3 [2] B_2H_6 [3] B_3H_8 [4] B_4H_{10}

Q.65 A gaseous mixture of propane and butane of volume 3 L on complete combustion produces 10 L of CO_2 under standard conditions of temperature and pressure. The ratio of volume of propane to butane is

[1] 1:2 [2] 2:1 [3] 3:2 [4] 3:1

Q.66 The molecular mass of $K_2Cr_2O_7$ is 294 amu. It acts as an oxidising agent in acidic medium. Its equivalent weigth in acidic medium would be

[1] $N = \frac{M}{3}$ [2] N = M [3] $N = \frac{M}{6}$ [4] $N = \frac{M}{5}$

Q.67 For preparing 1 M solution of a compound from its impure sample, the weight of the substance required will be

[1] more than the theoretical weight [2] less than the theroretical weight

[3] equal to the theoretical weight [4] less or equal to the theoretical weight

Q.68 A solution of 10 mL of $\frac{M}{10}$ $FeSO_4$ was titrated with $KMnO_4$ solution in acidic medium, the amount of $KMnO_4$ used will be

[1] 10 mL of 0.5 M [2] 10 mL of 0.1 M [3] 5 mL of 0.1 M [4] 10 mL of 0.02 M

Q.69 When potassium permanganate is titrated against ferrous ammonium sulphate in acidic medium, the equivalent weight of potassium permanganate is

[1] $\frac{\text{molecular weight}}{3}$ [2] $\frac{\text{molecular weight}}{5}$ [3] $\frac{\text{molecular weight}}{2}$ [4] $\frac{\text{molecular weight}}{10}$

Q.70 Chlorine gas can be produced by reacting sulphuric acid with a mixture of MnO_2 and NaCl. The reaction follows the equation $2NaCl + MnO_2 + 3H_2SO_4 \rightarrow 2NaHSO_4 + MnSO_4 + Cl_2 + 2H_2O$

What volume of chlorine can be produced from 1 g of sodium chloride under standard conditions of temperature and pressure ?

[1] 1.915 L [2] 19.15 L [3] 20.22 L [4] 0.191 L

Answer Key

Qus.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Ans.	1	3	2	2	3	4	4	4	3	2	3	3	2	1	4	3	4	2	2	3
Qus.	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Ans.	1	3	1	4	2	1	3	2	1	2	2	2	1	3	1	1	4	1	3	2
Qus.	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Ans.	3	1	2	1	4	4	3	3	1	1	4	2	3	1	2	1	3	3	3	1
Qus.	61	62	63	64	65	66	67	68	69	70										
Ans.	1	2	1	2	2	3	1	4	2	4										

Exercise # 3

Q.1 Avogadro numbers is -

[1] Number of atoms in one gram of the element

[2] Number of milliliters which one mole of a gaseous substance occupies at N.T.P.

[3] Number of molecules present in one gram molecular mass of a substance

[4] All are correct **(IIT - 90)**

Q.2 The number of oxygen atoms in 4.4g of CO_2 is approximately -

[1] 1.2×10^{23} [2] 6×10^{22} [3] 6×10^{23} [4] 12×10^{23} **(CPMT- 90)**

Q.3 What is the volume strength of 1.5 N H_2O_2- **(I.I.T. 1991)**

[1] 4.8 [2] 8.4 [3] 3.0 [4] 8.0

Q.4 What would be the concentration and volume of $KMnO_4$ required for the complete reaction with 10mL of 0.1M sodium oxalate - **(P.E.T. 1991)**

[1] 0.05M of 8mL [2] 0.10M of 20mL [3] 0.05M of 10mL [4] 0.05M of 20mL

Q.5 The volume of 1.0 g of Hydrogen in liters at N.T.P. is -

[1] 2.24 [2] 22.4 [3] 1.12 [4] 11.2 **(CPMT -91)**

Q.6 0.84g of metal carbonate was completely neutralized by 40mL of N/2 H_2SO_4. The equivalent weight of metal will be - **(P.E.T. 1992)**

[1] 84 [2] 42 [3] 12 [4] 30

Q.7 The total number of protons in 10g of calcium carbonate is (N_A=6.023×10^{23}) **(CPMT- 92)**

[1] 1.5057×10^{24} [2] 2.0478×10^{24} [3] 3.0115×10^{24} [4] 4.0956×10^{24}

Q.8 360g of water is present in a one L mixture of ethanol and water. Molarity of water in the mixture is -

[1] 20.0 [2] 36.0 [3] 18.0 [4] None of these **(C.P.M.T. 1993)**

Q.9 The number of moles of oxygen in 1L of air containing 21% oxygen by volume, in standard conditions, is-

[1] 0.186 mol [2] 0.21 mol [3] 2.10 mol [4] 0.0093 mol **(CPMT- 95)**

Q.10 What volume of 0.1M H_2SO_4 is needed to completely neutralize 40mL of 0.2M NaOH solution -

[1] 10mL [2] 40mL [3] 20mL [4] 80 mL **(C.P.M.T. 1995)**

Q.11 What is the molarity of H_2SO_4 solution that has a density 1.84 g/cc at 35°C and contains 98% by weight-

[1] 4.18M [2] 8.14M [3] 18.4M [4] 18M **(C.B.S.E. 1996)**

Q.12 10 volume H_2O_2 means - **(C.P.M.T. 1996)**

[1] 3% [2] 5% [3] 7% [4] 9%

Q.13 The amount of zinc required to produce 224mL of H_2 at STP on treatment with dilute H_2SO_4 will be -

[1] 0.65g [2] 6.5g [3] 65g [4] 0.065g **(C.B.S.E. 1996)**

Q.14 Number of electrons present in 1.6g methane would be- **(P.M.T. 1996)**

[1] 1.6 N_A [2] 0.1 N_A [3] 1 N_A [4] 16 N_A

Q.15 Density of methane at 25°C and 6 atmospheric pressure would be (R = 0.082 L atm) - **(C.P.M.T. 1997)**

[1] 4g/L [2] 8g/L [3] 12g/L [4] 16g/L

Q.16 For the complete neutralization of 100mL. of 0.2N NaOH, what weight of hydrated oxalic acid would be required-

[1] 0.45g [2] 0.90g [3] 1.08g [4] 1.26g **(MP P.M.T. 1997)**

Q.17 250mL (6M HNO_3) and 350mL (8M HNO_3) are mixed to make the strength of the resulting solution 3N, what is the volume of water required to be added - **(P.E.T. 1998)**

[1] 833.3mL [2] 933.3mL [3] 1000mL [4] 500mL

Q.18 200mL of a solution contains 5.85g dissolved sodium chloride. The concentration of solution would be -

[1] 1 Molar [2] 2 Molar [3] 0.5 Molar [4] 0.25 Molar **(MP P.M.T. 1998)**

Q.19 50mL 10N H_2SO_4, 25mL 12N HCl and 40mL 5N HNO_3 were mixed together and the volume of the mixture was made 1000mL by adding water. The normality of the resultant solution will be - **(MP P.M.T. 1998)**

[1] 1N [2] 2N [3] 3N [4] 4N

Q.20 The number of molecules in 16g methane is - **(MP P.M.T. 1998)**

[1] 3.0×10^{23} [2] 6.02×10^{23} [3] $\frac{16}{6.02} \times 10^{23}$ [4] $\frac{16}{3.0} \times 10^{23}$

Q.21 What is the mole fraction of acetone for a solution containing 2.8 mole acetone and 8.2 mole chloroform -

[1] 0.20 [2] 0.350 [3] 0.255 [4] 0.10 **(P.E.T. 1998)**

Q.22 The number of moles of 500 cm^3 of hydrogen gas at 760 mm pressure and 300 K temperature are -

[1] 20.3×10^{-2} [2] 2.03×10^{-2} [3] 203×10^{-2} [4] None **(P.E.T. 1998)**

Q.23 If 1kg of common salt costs Rs. 7 and 1 kg of sugar costs Rs. 14. What would be the cost of 1 mole of salt and sugar - **(P.E.T. 1998)**

[1] Both will have the same cost

[2] The cost of sugar will be half the cost of salt

[3] The cost of sugar will be more than that of the salt

[4] The cost of sugar will be twice the cost of salt

Q.24 0.5 Faraday of electricity was passed through NaCl solution. The quantity of chlorine liberated would be -

[1] 71g [2] 35.5g [3] 17.75g [4] 53.0g **(P.E.T. 1999)**

Q.25 Pressure in a mixture of 4g of O_2 and 2g of H_2 confined in a bulb of 1L at 0^oC is - **(A.I.I.M.S. 1999)**

[1] 15.210 atm [2] 25.215 atm [3] 31.205 atm [4] 45.215 atm

Q.26 The weight of a molecule of the compound $C_{60}H_{22}$ is - **(A.I.I.M.S. 1999)**

[1] 1.09×10^{-21}g [2] 1.24×10^{-21}g [3] 5.025×10^{23}g [4] 16.023×10^{23}g

Q.27 Haemoglobin of a blood corpuscle contains 0.33% iron. The molecular weight of haemoglobin was found to be 67000. What is the number of iron atoms present in each molecule of haemoglobin - **(MP P.E.T. 2000)**

[1] 2 [2] 3 [3] 4 [4] 5

Q.28 12g of alkaline earth metal gives 14.8g of its nitride. Atomic weight of metal is - **(A.I.I.M.S. 2000)**

[1] 12 [2] 20 [3] 40 [4] 14.8

Q.29 Volume of CO_2 obtained by the complete decomposition of 9.85 g $BaCO_3$ is-

[1] 2.24L [2] 1.12L [3] 0.84L [4] 0.56L **(CPMT-2000)**

Q.30 The number of ions per mole of a complex ($CoCl_2.5NH_3$) in aqueous solution will be-

[1] NIne [2] Four [3] Three [4] Two **(MP PET-2000)**

Q.31 An aqueous solution of 6.3g oxalic acid dihydrate is made up to 250mL. The volume of 0.1N NaOH required to solution is- **(I.I.T Scr. 2001)**

[1] 40mL [2] 20mL [3] 10mL [4] 4mL

Q.32 Specific volume of cylindrical virus particle is 6.02×10^{-2} cc/g. whose radius and length are 7Å & 10Å respectively. If $N_A = 6.02 \times 10^{23}$. Then find molecular mass of virus - **(C.B.S.E. 2001)**

[1] 15.4 kg/mol [2] 1.54×10^4 kg/mol

[3] 3.08×10^4 kg/mol [4] 3.08×10^3 kg/mol

Q.33 2.5L NaOH of 1M solution is mixed with 3L NaOH of 0.5 M solution. What is the molarity of the resulting solution- **(C.B.S.E. 2002)**

[1] 0.80 M [2] 1.0 M [3] 0.73 M [4] 0.50 M

Q.34 How many moles of electrons weigh one kilogram : **(IIT Scr. 2002)**

[1] 6.02×10^{23} [2] $\frac{1}{9.108} \times 10^{31}$ [3] $\frac{6.023}{9.108} \times 10^{54}$ [4] $\frac{1}{9.108} \times \frac{10^8}{6.02}$

Q.35 MnO_4^{-2} (1 mole) in neutral aqueous medium disproportionate to : **(AIIMS 2003)**

[1] 2/3 mole of MnO_4^{-1} and 1/3 mole of MnO_2 [2] 1/3 mole of MnO_4^{-1} and 2/3 mole of MnO_2

[3] 1/3 mole of Mn_2O_7 and 2/3 mole of MnO_2 [4] 2/3 mole of Mn_2O_7 and 1/3 mole of MnO_2

Q.36 25 mL of a solution of $Ba(OH)_2$ on titration with a 0.1 M solution of HCl gave a titre value of 35 mL. The molarity of barium hydroxide solution was : **(AIEEE 2003)**

[1] 0.07 [2] 0.14 [3] 0.28 [4] 0.35

Q.37 To neutralize completely 20 mL of 0.1 M aqueous solution of phosphorus acid (H_3PO_3), the volume of 0.1 M aqueous KOH solution required is : **(AIEEE 2004)**

[1] 60 mL [2] 20 mL [3] 40 mL [4] 10 mL

Q.38 The vapour pressure of two liquids P and Q are 80 and 60 torr respectively. The total vapour pressure of solution obtained by mixing 3 mole of P and 2 mole of Q would be– **(CPMT 2005)**

[1] 72 torr [2] 140 torr [3] 68 torr [4] 20 torr

Q.39 The mole fraction of the solute in one molal aqueous solution is– **(CPMT 2005)**

[1] 0.009 [2] 0.018 [3] 0.027 [4] 0.036

Q.40 Two solutions of a substance (non electrolyte) are mixed in the following manner.480 ml of 1.5M first solution + 520 ml of 1.2 M second solution. What is the molarity of the final mixture? **(AIEEE 2005)**

[1] 1.20M [2] 1.50M [3] 1.344M [4] 2.70M

Q.41 If we consider that 1/6, in place of 1/2, mass of carbon atom is taken to be the relative atomic mass unit, the mass of one mole of a substance will– **(AIEEE 2005)**

[1] decrease twice [2] increase two fold

[3] remain unchanged [4] be a function of the molecular mass of the substance

Q.42 How many moles of magnesium phosphate, $Mg_3(PO_4)_2$ will contain 0.25 mole of oxygen atoms– **(AIEEE 2006)**

[1] 1.25×10^{-2} [2] 2.5×10^{-2} [3] 0.02 [4] 3.125×10^{-2}

Q.43 Density of a 2.05M solution of acetic acid in water is 1.02g/mL. The molality of the solution is– **(AIEEE 2006)**

[1] 2.28 mol kg^{-1} [2] 0.44 mol kg^{-1} [3] 1.14 mol kg^{-1} [4] 3.28 mol kg^{-1}

Answer Key

Qus.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Ans.	3	1	2	1	4	3	3	1	4	2	3	1	1	3	1	2	1	3	1	2
Qus.	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Ans.	3	2	3	3	2	2	3	3	2	4	1	1	3	2	1	1	3	1	2	3
Qus.	41	42	43																	
Ans.	1	1	2																	