

eExam Question Bank

Coursecode:

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<input type="checkbox"/>	Question Type	Question	A	B	C	D	Answer
<input type="checkbox"/>	FBQ	An undergraduate weighed out 20grams of sodium hydroxide pellets. If Na =23, O = 16 andH = 1, What is the mole of this sodium hydroxide. <input type="text"/>	0.25mole				
<input type="checkbox"/>	FBQ	The base unit of a measured liquid called volume is <input type="text"/>	Cubic meter				
<input type="checkbox"/>	FBQ	The base unit of a measured or weighed solid material in chemistry is <input type="text"/>	Kilogram				
<input type="checkbox"/>	FBQ	The technique of separation employed to purify an organic solid that may be contaminated by impurities is called <input type="text"/>	Recrystallization				
<input type="checkbox"/>	FBQ	The technique employed for the separation of colours is called <input type="text"/>	Chromatography				
<input type="checkbox"/>	FBQ	The separation technique employed to separate mixtures of two or more liquids with slightly different boiling points is called <input type="text"/>	Fractional distillation				
<input type="checkbox"/>	FBQ	The condensate collected during the vaporization of liquid is called <input type="text"/>	Distillate				
<input type="checkbox"/>	FBQ	An apparatus that can be used to remove traces of water from a substance is <input type="text"/>	Dessicator				

<input type="checkbox"/>							
<input type="checkbox"/>	FBQ	The process by which traces of water is removed by treating the liquid with suitable drying agents is called <input type="text"/> —	Dehydration				
<input type="checkbox"/>	FBQ	The separation technique employed to purify an organic liquid or to separate mixtures of liquids of different volatilities or boiling points is called <input type="text"/> —	Distillation				
<input type="checkbox"/>	FBQ	A separation technique that is used to isolate a desired solid from a solid -liquid mixture or for freeing a desired liquid of solid impurities is called <input type="text"/> —	Filtration				
<input type="checkbox"/>	FBQ	The reagent that will not make any significant contribution to the theoretical yield is <input type="text"/> —	Limiting reagent				
<input type="checkbox"/>	FBQ	A high percentage yield implies that <input type="text"/> —	successful reaction				
<input type="checkbox"/>	FBQ	The reagent with a stoichiometric amount (in moles) that limits the amount of desired product (in moles) formed is called <input type="text"/> —	Limiting reagent				
<input type="checkbox"/>	FBQ	The actual yield of product (in g or moles) expressed as a percentage of the theoretical yield (in g or moles) is called <input type="text"/> —	Percentage yield				
<input type="checkbox"/>	FBQ	The number of protons or electrons in the atom of an element is equal to the <input type="text"/> of the element.	Atomic number				
<input type="checkbox"/>	FBQ	Calculate the $[OH^-]$ of an aqueous solution of $pH=11$ <input type="text"/> —	$1 \times 10^{-3} M$				
<input type="checkbox"/>	FBQ	An acid HA has a pK_a of 4.5, what is the K_a value? <input type="text"/> —	3.2×10^{-5}				

<input type="checkbox"/>						
<input type="checkbox"/>	FBQ	An acid HA has a pka of 4.5. What is the concentration of H_3^{+} in 0.110M solution of the acid ? <input type="text"/>	1.876×10^{-3}			
<input type="checkbox"/>	FBQ	Calculate the $[H^{+}]$ of an aqueous solution with $[OH^{-}]$ of $1 \times 10^{-10} M$. What is the pH of the solution? Is the solution acidic or basic? <input type="text"/>	4			
<input type="checkbox"/>	FBQ	When two or more elements combine chemically in fixed proportion by mass, <input type="text"/> is formed	Compounds			
<input type="checkbox"/>	FBQ	A mixture in which the components are evenly distributed and the composition is uniform throughout the mixture is called <input type="text"/> mixture.	Homogeneous			
<input type="checkbox"/>	FBQ	Dissolution of sodium chloride in water results in <input type="text"/> type of mixture	Homogeneous			
<input type="checkbox"/>	FBQ	The types of mixtures are <input type="text"/> <input type="text"/> --- mixture.	Homogeneous, Heterogeneous			
<input type="checkbox"/>	FBQ	Convert 2 moles of NaOH to grams of NaOH. Answer is <input type="text"/> --	80g			
<input type="checkbox"/>	FBQ	The molar mass of Na_2CO_3 is <input type="text"/>	106g			
<input type="checkbox"/>	FBQ	When propane reacts with oxygen, the products are <input type="text"/> and <input type="text"/>	carbon dioxide, water.			
<input type="checkbox"/>	FBQ	Convert 500g of Na_2CO_3 to moles <input type="text"/>	4.717mol			

<input type="checkbox"/>							
<input type="checkbox"/>	FBQ	A compound in grams is converted to moles by dividing by <input type="text"/> —	Molar mass				
<input type="checkbox"/>	FBQ	The smallest unit of a compound that manifest all the chemical properties of the compound is called <input type="text"/> —	Molecule				
<input type="checkbox"/>	FBQ	A mixture in which the components are not evenly distributed and the composition is not uniform is called <input type="text"/> mixture.	Heterogeneous				
<input type="checkbox"/>	FBQ	Mixtures with particle sizes between 2 to 1000 nanometre are called <input type="text"/> —	colloids				
<input type="checkbox"/>	FBQ	The label on a stock bottle of acid reads : 56% by mass and 1.25 specific gravity. If the molar mass of the acid is 56, what is the the concentration in grams per dm ₃ <input type="text"/> —	700g				
<input type="checkbox"/>	FBQ	Mixtures with particle sizes greater than 1000 nanometres are called <input type="text"/> —	Suspensions				
<input type="checkbox"/>	FBQ	Mixture made up of sand and iron filing is a type of <input type="text"/> mixture	Heterogeneous				
<input type="checkbox"/>	FBQ	The formula for sodium carbonate is <input type="text"/> —	Na_2CO_3				
<input type="checkbox"/>	FBQ	The formula for caustic soda is <input type="text"/> —	NaOH				
<input type="checkbox"/>	FBQ	In balancing this equation $\text{Na}_2\text{CO}_3 \rightarrow ?$ $\text{NaOH} + \text{CaCO}_3$. ? is <input type="text"/> —	2				

<input type="checkbox"/>						
<input type="checkbox"/>	FBQ	In a solution , the component in smaller amount is called <input type="text"/> -	solute			
<input type="checkbox"/>	FBQ	In a solution, the component in larger amount is called <input type="text"/> .	solvent			
<input type="checkbox"/>	FBQ	A substance that is made up of two or more substances which are not chemically combined is called <input type="text"/> -	Mixture			
<input type="checkbox"/>	FBQ	Calculate the percentage by mass of Hydrogen in NH_3 <input type="text"/>	0.1775			
<input type="checkbox"/>	FBQ	Calculate the percentage by mass of Nitrogen in NH_3 <input type="text"/>	0.8225			
<input type="checkbox"/>	FBQ	0.0055 has <input type="text"/> significant figure(s)	2			
<input type="checkbox"/>	FBQ	The amount of product obtained from an experiment is called <input type="text"/> -	actual yield			
<input type="checkbox"/>	FBQ	The amount of product expected from given amounts of starting materials is called <input type="text"/> -	Theoretical yield			
<input type="checkbox"/>	FBQ	In a chemical reaction, the balanced chemical equation which shows the quantitative relationship between masses of reactants and products is known as <input type="text"/> -	Stoichiometry of the reaction			
<input type="checkbox"/>	FBQ	The amount of energy required to break a particular bond is called <input type="text"/> -	Bond dissociation energy			
<input type="checkbox"/>	FBQ	12.25mL has <input type="text"/> significant figure(s)	4			

<input type="checkbox"/>						
<input type="checkbox"/>	FBQ	Calculate the percentage by mass of Oxygen in CH_3OH	0.4995			
<input type="checkbox"/>	FBQ	Calculate the percentage by mass of Hydrogen in CH_3OH	0.1259			
<input type="checkbox"/>	FBQ	Calculate the percentage by mass of carbon in CH_3OH	0.3746			
<input type="checkbox"/>	FBQ	An organic compound was found by analysis to contain 42.90% carbon, 2.40% Hydrogen, 16.70% Nitrogen and 38.0% of oxygen. Calculate its empirical formula. (Relative atomic masses : C=12.00, H=1.008, N=14.00, O=16.00).	$\text{C}_3\text{H}_2\text{NO}_2$			
<input type="checkbox"/>	FBQ	6.02×10^{23} is called	Avogadro number			
<input type="checkbox"/>	FBQ	A chemical formula which shows the actual numbers and types of atoms present in one molecule of a compound is called	Molecular formula			
<input type="checkbox"/>	FBQ	A chemical formula which represents the elemental composition of a formula unit of the compound in terms of smallest whole number ratios of the atoms present is called	Empirical formula			
<input type="checkbox"/>	FBQ	The number of atoms in the atomic mass of every element is called	mole			
<input type="checkbox"/>	FBQ	The unit of mole is	mol			
<input type="checkbox"/>	FBQ	Calculate the formula mass of potassium carbonate. (Relative atomic masses : K=39.10 amu, C=12.01 amu, 16.00 amu).	138.21 amu			

<input type="checkbox"/>	FBQ	The empirical formula obtained for a compound is $C_3H_2NO_2$. The gram molecular mass of the compound is found to be 168g. Determine its molecular formula. (Relative atomic masses : C=12.00, H=1.008, N=14.00, O=16.00). <input type="text"/>	$C_6H_4N_2O_4$				
<input type="checkbox"/>	MCQ	A substance with a pH value of $>7 < 10$ is a ----- -----.	Strong acid	Weak acid	Weak base	Strong base	C
<input type="checkbox"/>	MCQ	If actual yield of an ester is 32.7g and theoretical yield is 35.1g .What is the percentage yield of the ester?	0.0932	0.932	0.0093	0.009	B
<input type="checkbox"/>	MCQ	The formula obtained by multiplying the number of each atom in the empirical formula by n is called ----- -----	Molecular formula	Structural formula	Chemical formula	None of the above	A
<input type="checkbox"/>	MCQ	There are _____ types of titrimetric analysis.	5	4	3	2	B
<input type="checkbox"/>	MCQ	In titration, the experimentally determined stoichiometric point of the titration is referred to as----- -----.	Flash point	Critical point	Equivalence point	stop point	C
<input type="checkbox"/>	MCQ	In a standardization titration involving hydrochloric acid and sodium carbonate, a student recorded the following results for the volume of hydrochloric acid used against 10.00mL of the sodium carbonate solution : 15.60; 14.50; 14.70 and 14.20. If the concentration of the Na_2CO_3 standard solution is 0.75 mol dm^{-3} , calculate the concentration of the HCl solution	1.02 Ml	1.03mL	1.07mL	1.04M	B
<input type="checkbox"/>	MCQ	The number of gram-equivalent weight of solute in one cubic decimeter of solution is _____.	Molality	Molarity	Normality	Norlality	C
<input type="checkbox"/>	MCQ	There are _____ different techniques for determination of an unknown sample in titrimetric analysis.	5	4	3	2	C
<input type="checkbox"/>	MCQ	The solution whose concentration is known is called _____.	titre value	titrant	supersaturated solution	saturated solution	B

<input type="checkbox"/>	MCQ	The concentration of the pure HCl used is 11.7 molar. If 20.0 cm^3 of 11.7 molar of HCl is diluted to 250 cm^3 of V_2 , then the new concentration C_2 will be _____.	$0.825\text{ moles dm}^{-3}$	$0.936\text{ moles dm}^{-3}$	$9.36\text{ moles dm}^{-3}$	$0.718\text{ moles dm}^{-3}$	B
<input type="checkbox"/>	MCQ	The procedure by which a solution of known concentration is added to another solution until the chemical reaction between the two solutions is complete is _____.	volumetric analysis	Gravimetric analysis	Titrimetric analysis	qualitative analysis	C
<input type="checkbox"/>	MCQ	From the equation $2\text{HCl} + \text{Na}_2\text{CO}_3 \rightarrow 2\text{NaCl} + \text{CO}_2 + \text{H}_2\text{O}$, given that 2 moles of HCl reacted with 1 mole of Na_2CO_3 . What was the concentration of the acid?	0.103 mol dm^{-3}	1.03 mol dm^{-3}	10.3 mol dm^{-3}	103 mol dm^{-3}	B
<input type="checkbox"/>	MCQ	The label on a stock bottle of an acid reads: 56% by mass and 1.25 specific gravity. If the molar mass of the acid is 56, find the volume of this acid that is required to prepare 250 cm^3 of 1.0 molar concentration of the acid.	2.0 cm^3	3.0 cm^3	4.0 cm^3	5.0 cm^3	A
<input type="checkbox"/>	MCQ	3.47g sodium carbonate was dissolved in a 250 millilitre standard flask. What is the concentration of the resulting solution	0.13M	0.52M	0.66M	0.40M	A
<input type="checkbox"/>	MCQ	The label on a stock bottle of an acid reads: 56% by mass and 1.25 specific gravity. If the molar mass of the acid is 56, find the moles per dm^3	12.5 mol dm^{-3}	25.5 mol dm^{-3}	35.5 mol dm^{-3}	45.5 mol dm^{-3}	A
<input type="checkbox"/>	MCQ	The residue of a chemical reaction is allowed to cool in a _____.	furnace	dessicator	oven	fume cupboard	B
<input type="checkbox"/>	MCQ	In this equation $\text{NaHCO}_3 \rightarrow \text{Na}_2\text{CO}_3 + ? + \text{CO}_2$, the compound represented by ? is _____.	NO	NO_2	N_2O	NO_3	C
<input type="checkbox"/>	MCQ	When a substance is not available in a pure form, its solution can be standardized by _____.	Re-crystallizing the substance and diluting it	Titrating against a substance of unknown concentration	Titrating against a substance of known concentration	Preparing a new solution of the substance	C
<input type="checkbox"/>	MCQ	A standard solution is a _____.	Dilute solution	Solution of known concentration	Concentrated solution	Measured solution	B

<input type="checkbox"/>	MCQ	A standard solution of a substance can be prepared if the substance can be obtained in _____ state.	impure state	pure state	neutral state	acidic state	B
<input type="checkbox"/>	MCQ	What is the oxidation state of chromium in potassium dichromate?	\$\$+1\$\$	\$\$+4\$\$	\$\$+6\$\$	\$\$+7\$\$	C
<input type="checkbox"/>	MCQ	\$\$The label on a stock bottle of an acid reads: 56% by mass and 1.25 specific gravity. If the molar mass of the acid is 56, find the concentration in grams per dm ³ .\$	\$\$500g/dm^3\$\$	\$\$600g/dm^3\$\$	\$\$700g/dm^3\$\$	\$\$900g/dm^3\$\$	C
<input type="checkbox"/>	MCQ	A solution of which the concentration is accurately known is _____.	Saturated solution	Super saturated solution	oversaturated solution	Standard solution	D
<input type="checkbox"/>	MCQ	\$\$Weight of solute in gram per volume of solutions in cm ³ multiplied by 100 is _____.	page of weightcent	percentage of volume	percentage weight by volume	percentage volume by weight	C
<input type="checkbox"/>	MCQ	Moles of solute per volume of solution in one cubic decimeter is _____.	Molality	Molarity	Normality	Norlality	B
<input type="checkbox"/>	MCQ	If \$\$15cm^3\$\$ of 10.25M HCl solution is made up to volume in a 500mL volumetric flask, what will be its new concentration?	0.306M	3.06M	5.13M	0.52M	B
<input type="checkbox"/>	MCQ	The pH scale range is _____.	0 to 10	0 to 12	0 to 14	0 to 16	C
<input type="checkbox"/>	MCQ	The product represented by the ? in the equation $\text{CH}_3\text{COO}^- + \text{H}^+ + \text{Na}^+ + \text{OH}^- \rightarrow ? + \text{H}_2\text{O}$ is _____.	\$\$\text{CH}_3\text{CONa}_+\$\$	\$\$\text{CH}_3\text{COONa}\$\$	\$\$\text{CH}_3\text{COO}^-\text{Na}^+\$\$	\$\$\text{CH}_3\text{COONa}\$\$	C
<input type="checkbox"/>	MCQ	The reactant represented by the ? in the equation $\text{H}_2\text{O}^+ + ? \rightarrow 2\text{H}_2\text{O}$ is _____.	\$\$\text{H}_2\text{O}\$\$	\$\$\text{OH}^-\$\$	\$\$\text{H}_2\$\$	\$\$\text{O}_2\$\$	B
<input type="checkbox"/>	MCQ	In a typical expeiment in a laboratory, 4.50g of sulphuric acid in \$\$250cm^3\$\$ of water was titrated with an impure solution of 5.24g of sodium hydroxide contained in \$\$1dm^3\$\$. If the titre values of the experiment were \$\$20.50\$\$, \$\$22.45\$\$, \$\$22.60\$\$ and \$\$22.50cm^3\$\$ respectively. Determine the amount in moles of the acid.	\$\$0.05mol\$\$	\$\$0.0013mol\$\$	\$\$0.058mol\$\$	\$\$0.131mol\$\$	B
<input type="checkbox"/>	MCQ	The oxidation state of cromium in $\text{Cr}_2\text{O}_7^{2-}$ is _____.	\$\$-3\$\$	\$\$+3\$\$	\$\$-6\$\$	\$\$+6\$\$	D

<input type="checkbox"/>							
<input type="checkbox"/>	MCQ	The heat of reaction is measured by the use of _____.	Thermometer	Barometer	Calorimeter	Ammeter	C
<input type="checkbox"/>	MCQ	What is the oxidation state of iodine in iodate ion?	\$\$+5\$\$	\$\$+6\$\$	\$\$+7\$\$	\$\$+8\$\$	C
<input type="checkbox"/>	MCQ	If the mass of an impure acid is 18.0g and mass of impurity is 12.3g, calculate the percentage impurity of the solution.	0.4833	0.5833	0.6833	0.7833	C
<input type="checkbox"/>	MCQ	The titrimetric analysis involving the titration of EDTA, an organic ligand with a calcium solution could be classified as ----- titration.	Acid -base	Redox	Precipitation	Complexometric	D
<input type="checkbox"/>	MCQ	The titration involving potassium permanganate, KMnO_4 and ferrous sulphate FeSO_4 is an example of a ----- titration.	Acid-base	Oxidation-reduction	Precipitation	Complexometric	B
<input type="checkbox"/>	MCQ	All these are examples of exothermic reactions EXCEPT _____.	Addition of concentrated acids to water	Neutralisation reactions	Addition of ammonium chloride to water	Addition of potassium hydroxide pellets to water	C
<input type="checkbox"/>	MCQ	A suitable indicator for titration between weak acid and strong base is _____.	Any indicator	Methyl orange	Phenolphthalein	No suitable	C
<input type="checkbox"/>	MCQ	A substance that loses an electron is said to be _____.	Reduced	Oxidized	Hydrolyzed	carbonized	B
<input type="checkbox"/>	MCQ	The reaction between aqueous sodium hydroxide and aqueous hydrochloric acid is a _____ reaction	Decomposition	Double decomposition	Neutralisation	Addition	C
<input type="checkbox"/>	MCQ	The pH of a solution is a measure of ----- concentration of the solution.	Hydrogen ion	Water	Carbon dioxide	Metal ion	A
<input type="checkbox"/>	MCQ	If a reaction is carried out at a constant pressure, the absolute value of the heat of reaction is equal to the absolute value of the _____ of the reaction	Enthalpy	Entropy	Exotherm	Endotherm	A
<input type="checkbox"/>	MCQ	A process that is accompanied by a heat gain is said to be _____.	Endothermic	Exothermic	symbiotic	none of the above	A
<input type="checkbox"/>	MCQ	The titration of a strong acid against a weak base is suitably carried out using -----	Any indicator	Methyl orange	Phenolphthalein	Bromothymol blue	B

<input type="checkbox"/>	MCQ	The oxidation state of C in $\text{H}_2\text{C}_2\text{O}_4$ is _____.	-2	$+2$	-4	$+4$	D
<input type="checkbox"/>	MCQ	Calculate the number of mole contained in a solution of tetraoxosulphate VI acid, if the titre value on titration against 20cm^3 0.5 M sodium carbonate is 20.24cm^3 .	0.02mol	0.04mol	0.01mol	0.15mol	C
<input type="checkbox"/>	MCQ	The sum of the oxidation states of all elements in a neutral compound add to _____.	zero	one	two	negative one	A
<input type="checkbox"/>	MCQ	A metal X that reacts with metal Y in a solution of Y but does not react with Z in a solution of Z means that - _____.	Metal Y is the least reactive	Metal X is the least reactive	Metal Z is the least reactive	Metal Y and metal Z have equal reactivity	A
<input type="checkbox"/>	MCQ	The SI designation candela is for _____base unit.	Electric current	Luminous intensity	Amount of substance	Temperature	B
<input type="checkbox"/>	MCQ	The pH of a solution is a measure of the _____.	Hydroxide ion concentration	Hydrogen ion concentration	carbon concentration	Nitrogen concentration	C
<input type="checkbox"/>	MCQ	The first aid given to a person that ingested poisonous chemical in the laboratory include all these EXCEPT _____.	cold water to drink	Cold milk to drink	inducing vomiting	seek emergency medical assistance	C
<input type="checkbox"/>	MCQ	The second action to perform to resuscitate a victim of gas inhalation in the laboratory is to _____.	Remove the victim from danger area	Apply artificial respiration	Loosen clothing	Immediately seek emergency medical assistance	C
<input type="checkbox"/>	MCQ	Towards the _____ point, both coloured forms will be present in appreciable quantities.	starting point	middle point	end - point	neutral	C
<input type="checkbox"/>	MCQ	A measure of the hydrogen ion concentration in a solution is _____.	acidity	basicity	Ph	Neutrality	C
<input type="checkbox"/>	MCQ	An indicator that is colourless in acidic solution is _____.	methyl orange	methyl red	phenophtalein	cresol blue	B
<input type="checkbox"/>	MCQ	When an alkalis chemical splashes into the eye, the second action to be carried out is _____.	Apply 1% sodium carbonate	Apply 1% boric acid solution	Flush the eye with a copious amount of clean lukewarm running water	Put eye drop	B
<input type="checkbox"/>	MCQ	Acid base titration involves a _____ reaction	Esterification	Neutralization	Redox	Decomposition	B
<input type="checkbox"/>	MCQ	When an acidic chemical splashes into the eyes, the first thing to do is _____	Apply 1% sodium carbonate	Apply 1% boric acid solution	Flush the eye with a copious amount of clean lukewarm running water	Put eye drop	C
<input type="checkbox"/>	MCQ	Do not use flat-bottomed flasks in in vacuum experiment is a _____ hazard	Explosion	Fire	Chemical	General safety	A

<input type="checkbox"/>							
<input type="checkbox"/>	MCQ	All these are safety precautions in a chemistry laboratory EXCEPT ----- -.	carefully read all labels before using chemicals	perform only experiments that have been authorized by the instructor	wear loose clothings when in the chemistry laboratory	never pour water into concentrated acid.	C

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