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|  eExam Question Bank |  |
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|  |  | **Question Type** | **** | **Question** | **** | **A** | **** | **B** | **** | **C** | **** | **D** | **** | **Answer ** | **Remark ** |
|  | FBQ | Sodium metalon contact with water. | explode | explodes |  |  |  |  | **eExam** |
|  | FBQ | Aqueous ammonia should be used only in thehood. | fume |  |  |  |  |  | **eExam** |
|  | FBQ | NaOH isand can eat away living tissues. | caustic |  |  |  |  |  | **eExam** |
|  | FBQ | are used to heat small quantities of substances to very high temperatures. | crucibles |  |  |  |  |  | **eExam** |
|  | FBQ | A medicine dropper is calibrated by counting the number of drops it produces to make up a. | millilitre |  |  |  |  |  | **eExam** |
|  | FBQ | flasks are used to prepare solution of a specific concentration. | volumetric |  |  |  |  |  | **eExam** |
|  | FBQ | All edges of glass tubing must be fine-polished to round off theedges. | sharp |  |  |  |  |  | **eExam** |
|  | FBQ | Never place the litmus paperinto the solution. | directly |  |  |  |  |  | **eExam** |
|  | FBQ | is the container used to keep sample dry. | A desiccator | Desiccator |  |  |  |  | **eExam** |
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|  | FBQ | A simple oil bath can be made by heating aof oil on a hot plate. | dish |  |  |  |  | **eExam** |
|  | FBQ | The size of steam bath can be controlled by adding or removing. | rings |  |  |  |  | **eExam** |
|  | FBQ | Heating mantles must be used with variable. | transformers |  |  |  |  | **eExam** |
|  | FBQ | The heating mantle is safe because it does not produce . | flames | flame |  |  |  | **eExam** |
|  | FBQ | Below thepoint, solvent will be seen running back into the flask. | condensation |  |  |  |  | **eExam** |
|  | FBQ | is the process of boiling reactants while cooling the vapour and returning it to the flask as liquid. | reflux |  |  |  |  | **eExam** |
|  | FBQ | For micro-scale work, a Pasteur droppingcan be used instead of glass funnel. | pipette |  |  |  |  | **eExam** |
|  | FBQ | Filtration involves the separation ofsolid materials from a liquid. | insoluble | suspended |  |  |  | **eExam** |
|  | FBQ | When heating beakers with a burner,should be placed between the vessel and the flame. | wire guaze |  |  |  |  | **eExam** |
|  | FBQ | For temperature above 100oC,baths are generally used. | oil |  |  |  |  | **eExam** |
|  | FBQ | A stirrer hot plate keeps theat a constant temperature while stirring. | solution |  |  |  |  | **eExam** |
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|  | FBQ | Powerful pumps provide good heatand optimum temperature accuracy. | exchange |  |  |  |  | **eExam** |
|  | FBQ | Bunsen burner is used for heating, sterilisation and\_. | combustion |  |  |  |  | **eExam** |
|  | FBQ | Most laboratoryare equipped with multiple gas nozzles connected to a central gas source. | benches |  |  |  |  | **eExam** |
|  | FBQ | The most common methods of lighting the burner are using a match on alighter. | spark/flame | flame |  |  |  | **eExam** |
|  | FBQ | A Bunsen burner was named afterBunsen. | Robert |  |  |  |  | **eExam** |
|  | FBQ | Proper selection of a suitable type of stirrer requires that you certainvariables. | application |  |  |  |  | **eExam** |
|  | FBQ | The two types of magnetic stirrers are mechanical and\_. | electronic |  |  |  |  | **eExam** |
|  | FBQ | The most important applications of magnetic stirring is stirring in asystem. | closed |  |  |  |  | **eExam** |
|  | FBQ | The viscosity of most liquids varieswith temperature. | inversely |  |  |  |  | **eExam** |
|  | FBQ | Modern digital weighing scales have many types, styles andranges. | weigh |  |  |  |  | **eExam** |
|  | FBQ | Modern digital weighing scalesresults very precisely. | display |  |  |  |  | **eExam** |
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|  | FBQ | Precision andwere still missing with the use of spring balance. | accuracy |  |  |  |  | **eExam** |
|  | FBQ | The conventionalscale was the oldest weighing machine invented by man. | wooden | iron |  |  |  | **eExam** |
|  | FBQ | Modern weighing machines constitute of electronic circuits, digital\_, electronic and motion sensors. | chips |  |  |  |  | **eExam** |
|  | FBQ | Hydraulic scales make use of liquidtechnique to weigh the mass of heavy objects. | displacement |  |  |  |  | **eExam** |
|  | FBQ | Hydraulic scales are used mainly in the laboratories andunits. | industrial |  |  |  |  | **eExam** |
|  | FBQ | Usebalance if the experiment calls for accurate measurement of mass. | analytical |  |  |  |  | **eExam** |
|  | FBQ | Thebalance is more accurate than the top-loading balance. | analytical |  |  |  |  | **eExam** |
|  | FBQ | The top-loading balancedisplays a mass reading in grams. | digitally |  |  |  |  | **eExam** |
|  | FBQ | The uncertainty in a single reading on the top-loading balance is. | 0.05g |  |  |  |  | **eExam** |
|  | FBQ | To avoidof moisture, refrigerated materials must be allowed to come to room temperature before the container is opened. | condensation |  |  |  |  | **eExam** |
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|  | FBQ | Electronic analytical balance, has ancalibration system based on the applied load. | internal |  |  |  |  | **eExam** |
|  | FBQ | The power of the balance could be turned on and the balance allowed tofor at least one hour before proceeding with the calibration. | equilibrate |  |  |  |  | **eExam** |
|  | FBQ | Hysteresis of theparts occurs during weighing. | mechanical |  |  |  |  | **eExam** |
|  | FBQ | Balance drift can be present without thebeing aware of it. | operators | operator |  |  |  | **eExam** |
|  | FBQ | Drift is one of the most common\_. | errors | error |  |  |  | **eExam** |
|  | FBQ | When a balance is moved, it must be allowed to adjust to the temperature of its new environment and be . | re-calibrated |  |  |  |  | **eExam** |
|  | FBQ | To make sure that theof the air in the balance does not change, keep the balance doors closed. | temperature |  |  |  |  | **eExam** |
|  | FBQ | The weighing balance is levelled if the bubble in the levelis in the centre. | indicator |  |  |  |  | **eExam** |
|  | FBQ | Do not weigh cold objects on the balance because cold object usually givereadings. | high | large |  |  |  | **eExam** |
|  | FBQ | Weighing hot objects gives low reading due toof hot air. | buoyancy |  |  |  |  | **eExam** |
|  | FBQ | Ensure that you do notthe balance. | overload |  |  |  |  | **eExam** |

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|  | FBQ | After use, wash the Erlenmeyer flasks and do final rinsing withwater. | deionised |  |  |  |  | **eExam** |
|  | FBQ | The following items must be taken to the weighing room: Erlenmeyer flask,and pen. | report sheet |  |  |  |  | **eExam** |
|  | FBQ | Turn the analytical balance on and allow it to . | calibrate |  |  |  |  | **eExam** |
|  | FBQ | Read the balance and record thedirectly onto your record sheet. | mass |  |  |  |  | **eExam** |
|  | FBQ | To use the Top-loading balance, check the balance for dust,off any that you see. | brushing |  |  |  |  | **eExam** |
|  | FBQ | Throughout the weighing process, you should protect the Erlenmeyer flasks from your hand with atowel. | paper |  |  |  |  | **eExam** |
|  | FBQ | A simple distillation involves aequilibration between the liquid and vapour. | single | mono |  |  |  | **eExam** |
|  | FBQ | Azeotropesthe boiling behaviour of pure liquids. | mimic | copy |  |  |  | **eExam** |
|  | MCQ | In the laboratory, the most common measuring instrument is . | Graduated cylinder | Volumetric flask | Burette | Volumetric beaker | A | **eExam** |
|  | MCQ | When alcohol is dehydrated, product x is formed. To prevent x from reforming back to alcohol, x is preferably removed by . | crystallization | distillation | filtration | decantation | B | **eExam** |
|  | MCQ | Elimination of a molecule of water in alcohol results in Pi-bond formation of  | Alkynes and alkenes | Alkynes, alkenes and alkanes | Alkynes and alkanes | Alkenes and alkanes | A | **eExam** |
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|  | MCQ | Elimination reaction of an alcohol is called . | addition | substitution | catalysis | dehydration | D | **eExam** |
|  | MCQ | Calcium chloride is mostly used as . | Drying agent | Dehydrating agent | Reducing agent | Emulsifying agent | A | **eExam** |
|  | MCQ | In the reaction of KMnO4 and ethene, the KMnO4 is . | reduced | oxidized | neutralized | hydrolysed | A | **eExam** |
|  | MCQ | Bromine water is reacted with I. Butane II. Butene III. Butyne. In which of the/these reactions will bromine water be decolourised? | I and III | II,III | I,II | I,II,III | B | **eExam** |
|  | MCQ | Which of the following reactions (1) substitution (2) addition (3) reaction with sulphuric acid, is/are not common to alkanes? | 2&3 | 1&3 | 1&2 | 1,2&3 | A | **eExam** |
|  | MCQ | Compounds with at least one carbon-to-carbon triple bond are called | alkenes | alkanes | alkynes | aromatic | C | **eExam** |
|  | MCQ | Cyclic hydrocarbons are aliphatic compound that have carbon atoms linked . | By branch | In a closed polygon | Without ring | In a circle | B | **eExam** |
|  | MCQ | Hydrocarbons consisting of carbon linked in a single chain are chain aliphatic, those linked by branched chain are called . | Chain aliphatic | Cyclic hydrocarbon | Branched aliphatic | Cyclic aliphatic | A | **eExam** |
|  | MCQ | The simplest formular for representing hydrocarbon is called formular. | emperical | structural | molecular | homologous | A | **eExam** |
|  | MCQ | BrCH2CH2Br represent . | 1,4-dibromoethane | 1,2-dibromoethane | 1,1-dibromoethane | 2,3-dibromoethane | B | **eExam** |
|  | MCQ | One of the reasons for the vast array of organic compounds is the phenomenon of . | Allotropy | Azeotropes | Carbonation | Isomerism | D | **eExam** |
|  | MCQ | Isomers have different physical properties and chemical properties. | different | The same | Almost the same | All of the above | A | **eExam** |
|  | MCQ | To write the formula of hydrocarbon, the hydrogen atoms are grouped with their carbon atom. | emperical | structural | skeletal | condensed | D | **eExam** |
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|  | MCQ | Alkanes are saturated hydrocarbons, cycloalkanes are hydrocarbons. | saturated | unsaturated | Straight chain | None of the above | A | **eExam** |
|  | MCQ | Some solids begin to a few degrees below their melting point. | decompose | sweat | sublime | expand | B | **eExam** |
|  | MCQ | The shrinkage of a solid being heated is called . | sintering | recoiling | entectic | contraction | A | **eExam** |
|  | MCQ | When liquid is cooled less than its freezing point, it . | does solidify | expands | Does not solidify | Does not melt | C | **eExam** |
|  | MCQ | Supercooling occurs when a liquid is cooled its freezing point. | to | below | above | within | B | **eExam** |
|  | MCQ | The of a solid is the temperature at which the liquid and solid phases are in equilibrium. | Melting point | Freezing point | Melting point and freezing point | None of the above | C | **eExam** |
|  | MCQ | Which of these; ethanol and methanol, has higher boiling point and why? | Ethanol, it is polar | Methanol, has lower molecular mass | Methanol, it is non-polar | Ethanol, it has higher molecular mass | D | **eExam** |
|  | MCQ | What effect do impurities have on the melting point of solids? | Raises it | Reduces it | No effect | It depends on the solid | B | **eExam** |
|  | MCQ | A decrease in atmospheric pressure, the boiling point of a substance | increases | has no effect | reduces | None of the above | C | **eExam** |
|  | MCQ | 1. Polarity 2. Branching 3. Molecular weight. Which of the above features reduces the boiling point of a compound? | 2 only | 3 only | 1 only | 1 & 2 only | A | **eExam** |
|  | MCQ | 1. Polarity 2. Branching 3. Molecular weight. Which of the above features increases the boiling point of a compound? | 1&2 | 1&3 | 2&3 | 3 only | B | **eExam** |
|  | MCQ | What effect does formal charge in a molecule have on the boiling point of a substance? | Increases it. | No effect. | Reduces it. | It can either reduce or increase it. | A | **eExam** |
|  | MCQ | Calculate the boiling point of ethanol at 700mmHg when its normal points at 760mmHg is known to be 79oC, assuming the boiling point will change by 0.5oC for each 10mmHg. | 75.3oC | 76.0oC | 75.0oC | 77.0oC | B | **eExam** |
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|  | MCQ | 1. Polarity 2. Branching 3. Molecular weight. Which of the listed factors (1 - 3) affects the boiling points of substances? | 1 and 3 | 2 and 3 | 1,2 and 3 | 1 and 2 | C | **eExam** |
|  | MCQ | Mercury is traded by the “flask” with mass 34kg. What is the volume of flask of mercury, if the density of mercury is 13kg/ml. | 2.62ml | 0.382ml | 21ml | 47ml | A | **eExam** |
|  | MCQ | A bottle contains 5dm3 of metallic solid, the total mass of the bottle is 35g. The empty bottle weighs 14g. What is the density of the solid? | 9.8g/ dm3 | 4.2 g/ dm3 | 4.59 g/ dm3 | 4.0 g/ dm3 | B | **eExam** |
|  | MCQ | A cylinder is filled to the 40ml mark with oil, the masses of the cylinder before and after the addition of the oil are 124g and 159g. Calculate the density of the oil. | 0.915g/ml | 0.862g/ml | 0.951g/ml | 0.975g/ml | D | **eExam** |
|  | MCQ | Solvents for extraction should have reasonably high boiling point. | CORRECT | NOT CORRECT | MAYBE | NOT SURE | B | **eExam** |
|  | MCQ | Can form emulsion, easy to dry and remove heat hazard, suspected carcinogen are all properties of . | ETHYL ACETATE | CHLOROFORM | METHYLENE DICHLORIDE | ETHYL ETHER | B | **eExam** |
|  | MCQ |  is the most common extraction solvent. | methylene chloride | ethyl ether | dichloromethane | isobutyric acid | B | **eExam** |
|  | MCQ | In technical sense, extraction is based on the principle of the equilibrium of a substance. | distribution | redistribution | management | adjustment | A | **eExam** |
|  | MCQ | Which of the following separation method is sufficient to separate an organic substance from a mixture? | Isolation | Extraction | Purification | Dissolution | B | **eExam** |
|  | MCQ | Which of these separation techniques yield impure products? | Extraction | Recrystallization | Distillation | Crystallization | A | **eExam** |
|  | MCQ | The reciprocal of (solubility in hot solvent ÷ solubility in cold solvent) is same as . | Recovery of solid | Loss in cold solvent | Loss in hot solvent | Recovery of solvent | B | **eExam** |
|  | MCQ | Which of the following is the solubility in water increasing? | n-hexanol→n- heptanol→n- pentanol | n-pentanol→n- hexanol→n- heptanol | n-heptanol→n- hexanol→n- pentanol | n-hexanol→n- heptanol→n- pentanol | C | **eExam** |
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|  | MCQ | Which of the following is more soluble in water? | n-pentanol | n-butanol | n-heptanol | n-hexanol | B | **eExam** |
|  | MCQ | Which of the following is less soluble in polar solvent? | n-butanol | n-pentanol | n-heptanol | n-hexanol | C | **eExam** |
|  | MCQ | In polar solvent, the solubility of alcohol is proportional to the number of carbons per polar functional group. | inversely | directly | partially | not | A | **eExam** |
|  | MCQ | In selecting a good re- crystallization solvent, one should consider . | Expense and flammability | Toxicity, solubility and expense | Flammability, expense and solubility | Expense, toxicity and flammability | D | **eExam** |
|  | MCQ | The most basic technique for purifying organic solid is . | crystallization | emulsification | salting | decantation | A | **eExam** |
|  | MCQ | The purity of solid can be verified by checking the . | Molar mass | Standard density | Melting points | Crystallization | C | **eExam** |
|  | MCQ | Solids are purified by . | crystallisation | dehydration | drying | filtration | A | **eExam** |
|  | MCQ | To separate a mixture of miscible liquids with different boiling points, you employ . | Distillation | Fractional distillation | Distillation and Fractional distillation | Recrystallisation | C | **eExam** |
|  | MCQ | In distillation process, the distilled volume is usually measured in . | cm3 | dm3 | ml | None of the above | C | **eExam** |
|  | MCQ | Which of the following is true? | Methanol is flammable | Do not distil the flask to dryness | All glass wares must be clamped in space | All of the above | D | **eExam** |
|  | MCQ | Which of the following has the highest boiling point? | Bromoform | Water | Octane | Toluene | A | **eExam** |
|  | MCQ | Simple distillation can be used to separate the mixture of t-butyl alcohol, 2- propanol and ethanol. | That's true | not true | Not sure | None of the above | B | **eExam** |
|  | MCQ | Find the mole fraction of ethanol in the mixture of 95.0g of ethanol, CH3CH2OH and 5.0gwater. | 0.88 | 2.07 | 0.12 | 0.28 | A | **eExam** |
|  | MCQ | Calculate the mole fraction of water in the mixture of 95.0g ethanol, CH3CH2OH and 5.0g water. | 0.88 | 2.07 | 0.12 | 0.28 | C | **eExam** |
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MCQ

The normal boiling point of a liquid is the temperature at which the vapour pressure of a liquid equal

 pressure.

applied

atmospheric

partial

boiling

B

**eExam**

MCQ

The boiling point of a liquid

is a measure of its

purity

volatility

vapour pressure

boiling

temperature

B

**eExam**

MCQ

Which separation method purify a compound by separating if from less

volatile material?

crystallization

filtration

decantation

distillation

D

**eExam**

MCQ

At any given temperature, a liquid is in equilibrium with

its .

vapour

density

solid

volume

A

**eExam**

MCQ

Distillation is based on the difference in of

mixture.

density

boiling point

melting point

volatility

B

**eExam**

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