CH103

Question: The electrical conductivity of a semiconductor increases with _____.
Answer: Temperature

Question: When the temperature is lowered. gases tend to_____
Answer: Contract

Question: The gas that obeys the gas laws exactly for all conditions of pressure and temperature is referred to as an ____
Answer: Ideal gas

Question: Which law does the mathematical expression represents, PV = nRT,
Answer: Ideal gas law

Question: The total pressure exerted by a mixture of two different gases is equal to the sum of the individual pressures of the two different gases, Which gas law is this?
Answer: Dalton's Law of Partial Pressures

Answer: Dalton's Law

Question: _____ is the passage of a gas through a small opening into an evacuated chamber
Answer: Effusion

Question: The diffusion depends greatly on the ____ of the gas molecules.
Answer: Masses

Question: The absolute temperature of a gas is proportional to the mean kinetic energy of the molecules present in It. TRUE or FALSE
Answer: TRUE

Question: One application of Graham's law is the gaseous diffusion method of separating _____
Answer: Isotopes

Answer: Isotope

Question: If the _____ is reduced sufficiently, the boiling point of a liquid may even fall below the melting point of a solid whereby the substance is said to be sublime
Answer: Pressure

Question: The ____ rule with reference to phase study is that phase with the lowest chemical potential, is the stable phase
Answer: Golden

Question: The number _____ of a system is the smallest number of intensive variables which are to be specified to describe the state of the system completely
Answer: Degrees of freedom

Answer: Variance

Question: Intensive property is one whose magnitude is independent of the ___ of the system
Answer: Size

Question: An ____ is one whose magnitude is additive for subsystems
Answer: Extensive property

Question: The _____ in a system is the smallest number of substances in terms of which the composition of all the phases in the system can be described separately
Answer: Number of components

Question: Lowering of vapour pressure is not a colligative property. TRUE or FALSE
Answer: FALSE

Question: According to ____ law relative lowering of vapour pressure is equal to the mole fraction of the solute
Answer: Raoult's

Question: The ___ of the solution containing a non-volatile solute is higher than that of the pure solvent.
Answer: Boiling point

Question: The addition of a non-volatile solute to a solvent ____ the vapour pressure of the solvent
Answer: Decrease

Question: The temperature at which the solubility becomes complete is referred to as the _____
Answer: Consolute temperature

Answer: Critical solution temperature

Question: A pair of immiscible liquids boils at a temperature lower than the _____ of any of the liquids
Answer: Boiling points

Question: Water and carbon tetrachloride are miscible in all proportion. TRUE or FALSE
Answer: FALSE

Question: The _____ is a process of purifying organic liquids which have high boiling points and are immiscible with water
Answer: Steam distillation

Question: Non-ideal solutions do not obey Raoult's law. TRUE or FALSE
Answer: FALSE

Question: A _____ is a homogeneous part of a system which is susceptible to change on certain conditions
Answer: Phase

Question: the ratio of molar enthalpy of a liquid to its boiling point is known as _____
Answer: Trouton's rule

Question: <p/>_____ is the name given to the theoretical frame that throws light on the baseline of the experiment.
Answer: Theory

Question: _____ is the process of separating a pure solid from a solution.
Answer: Crystallization

Question: The constant bombardment of gas molecules against the walls of the

container gives rise to _____
Answer: Pressure

Answer: Gas pressure

Question: Convert 24 °C to Kelvin _____
Answer: 297.15 K

Question: Find the volume occupied by 0.0660 kg of carbon (IV) oxide gas at a temperature of 300.2 K and a pressure of 9.41 x I0 Pa assuming ideal behaviour._____
Answer: 0.0398

Question: The mass of the solute that can be dissolved in 0.100 kg of a solvent to form a saturated solution at a given temperature is called its _____.
Answer: Solubility

Question: In the band theory of metals, a crystalline metallic solid is considered as a _____.
Answer: Single giant molecule

Question: _____ is defined as the number of moles of solute present in one kilogram of solvent.
Answer: Molality

Question: The escape of molecules from the liquid surface to form vapour is called _____.
Answer: Evaporation

Answer: Vaporization

Question: A unit factor is a ratio that is equal to _____
Answer: I

Question: Which of these apparatus is basically used for determining the points at a solid substance turns to a liquid substance?
Answer: Melting point tube

Question: vapour pressure can be measured using one of the following apparatus
Answer: Barometer

Question: _____is for the measurement of the strength of an acid or base
Answer: pH meter

Question: mixtures are separated us1ng appropriate techniques which depend on all of the following except:
Answer: Percentage purity of the substance

Question: One of these is not a main separation process for separating mixtures
Answer: sieving

Question: The process in which the solid directly evaporates without it melting is known as ___
Answer: sublimation

Question: Which of these techniques is not a separation techniques for separating mixtures?
Answer: electroanalytical

Question: One of these substances cannot undergo sublimation
Answer: CaCl₂

Question: A substance which has mass and occupies space is appropriately described as____
Answer: Matter

Question: The ___ is defined as the temperature above which a substance can exist only in the gaseous state.
Answer: critical temperature

Question: A sample of H₂was prepared in the laboratory by the reaction: Mg(s) + 2 HCl (aq) → MgCl₂ (aq) + H₂(g). 456 mL of gas was collected at 22.0 ^oC and the total pressure in the flask was 742 torr. How many moles of H₂ were collected? The vapour pressure of H₂O at 22.0 ^oC is 19.8 torr.
Answer: 0.0179 mole

Question: The relationship between the volume and the pressure of a given mass of a gas at a given temperature is known as ___
Answer: Boyle's law

Question: For a certain amount of gas at a constant pressure, its volume (V) is directly proportional to its absolute temperature (T). The relationship between temperature and volume describes _____
Answer: Charles law

Question: _____ states that the rates at which gases effuse are inversely proportional to the square root of their densities or molar masses under similar conditions of temperature and pressure
Answer: Graham’s law

Question: One of these statements is incorrect about the postulate of kinetic theory of gas
Answer: At relatively low pressure. there are strong intermolecular forces between the molecules

Question: Which of these is a vector quantity?
Answer: Velocity

Question: One of these is not an intensive variables
Answer: Volume

Question: One of these is not correct about Colligative properties
Answer: Colligative properties are dependent of the nature of the solute

Question: Determination of Boiling Point Elevation may be done using one of the methods listed below:
Answer: Landsberger Method

Question: Determination of vapour pressure lowering can be achieved by one of the methods
Answer: Dynamic Method

Question: The temperature at which a pair of partially miscible liquid becomes completely miscible is called _____
Answer: critical solution temperature

Question: The distribution or partition coefficient, K, of the solute between the two solvents, depends on all the following except;
Answer: Pressure

Question: One of the following is incorrect about purification process of an impure compound by steam distillation.
Answer: Must be miscible in water

Question: An _____ solution is one which can be formed from two constituents

with no evolution or absorption of heat and whose volume is the sum of the volumes of each of the constituents
Answer: ideal binary

Question: _____ states that the partial vapour pressure of any volatile component in a solution is equal to the product of the vapour pressure of the pure constituent and its mole fraction in the solution
Answer: Raoult’s law

Question: Which of these is not a characteristic properties of liquids?
Answer: Closely parked and very orderly crystal structure

Question: All are factors affecting solubility of gases except
Answer: concentration

Question: One of the following pair cannot constitute suitable pair for n-type conductor?
Answer: Antimony: Arsenic

Question: A gas sample contains 4.0 g of CH₄ and 2.0 g of He; the volume of the sample at STP is _____dm³. (C = 12, H = 1, He = 4, G.M.V = 22.4 dm³
Answer: 5.6

Question: One of the following is not associated with the conductivity of semi conductors due to doping
Answer: o-type

Question: Calculate the volume occupied by 0.0660 kg of carbon (IV) oxide gas at a temperature of 300.2 K and a pressure of 9.41 x I0 Pa assuming ideal behaviour
Answer: 0.0398m³

Question: If 3.00 litre sample of gas at 1.00 atm is compressed to 0.600 litre at constant temperature. Calculate the final pressure of the gas
Answer: 5.0 atm

Question: The pressure exerted by 0.5 cm³ of gas is 1 Pa at 273 K. If the temperature of the gas changes to 546 K and its pressure to 3 Pa, what will be the new volume of the gas
Answer: 0.3 cm³

Question: One of the following is not a class of crystal solids
Answer: Hydrogen bonded