

FBQ1: $ML^{-1}T^{-2}$ is the dimensional formula for _____.

Answer: *pressure*

FBQ2: Logarithmic functions are _____ quantities and hence have no units.

Answer: *dimensionless*

FBQ3: _____ are often used in weighing substances.

Answer: *Balance*

FBQ4: It is always advisable to _____ data for effective management.

Answer: *Tabulate*

FBQ5: In application, only _____ gases obey Boyle's and Charles laws.

Answer: *Ideal*

FBQ6: At $0.2^{\circ}C$, Nitrogen gas in a $0.05m^3$ container has a pressure of $5.065 \times 10^5 Pa$, the number of moles is _____

Answer: *11.15*

FBQ7: If at $0.2^{\circ}C$, Nitrogen gas in a $0.05m^3$ container has a pressure of $5.065 \times 10^5 Pa$, its mass will be _____

Answer: *312.2g*

FBQ8: In line with Dalton's law, in a gaseous mixture, the pressure of a gas is the product of its _____ and total pressure.

Answer: *Mole fraction*

FBQ9: _____ is the number of molecules of a gas in a unit volume.

Answer: *Number density*

FBQ10: At any given instant, the molecules in a sample of a gas have a range of _____

Answer: *Velocities*

FBQ11: In _____ equation, the pressure is represented as power series of VM.

Answer: *Virial*

FBQ13: The critical volume is inversely proportional to critical _____

Answer: *density*

FBQ14: If the temperature of the gas is above its inversion temperature, Joule Thompson expansion results in _____

Answer: *heating*

FBQ15: Linde's method of liquefaction is _____ efficient than Claude's method.

Answer: *Less*

FBQ16: _____ polarity is a temporary dipolar arrangement of charge.

Answer: *Instantaneous*

FBQ17: A lattice is a regular _____ arrangement of points in space.

Answer: *periodic*

FBQ18: Every _____ is identical in orientation, arrangement and composition.

Answer: *basis*

FBQ19: Metallic solids can be seen as having _____ bonds between adjacent atoms.

Answer: *covalent*

FBQ20: The bond model is the same as the _____ bond approach.

Answer: *Valence*

FBQ21: The bcc crystal can be defined in terms of two _____ positions in the cell.

Answer: *unique*

FBQ22: When a germanium is doped with gallium, the gallium (impurity) is called the _____

Answer: *Acceptor*

FBQ23: Due to strong hydrogen bonding, water has _____ vapour pressure than benzene.

Answer: *Lower*

FBQ24: The successive twist in structure makes the _____ liquid crystals coloured.

Answer: *cholesteric*

FBQ25: _____ rule is applicable to liquids in which there is no hydrogen bonding.

Answer: *Trouton's*

FBQ26: _____ is the number of moles of solute present in one kilogram of the solvent.

Answer: *Molality*

FBQ27: The solubility of a gas in a liquid is measured in terms of absorption coefficient or _____ coefficient.

Answer: *Bunsen*

FBQ28: The concentration of gases that pollute the atmosphere are expressed in _____

Answer: *Parts per million*

FBQ29: _____, ideal solutions are those in which volume change is zero.

Answer: *Thermodynamically*

FBQ30: A solution is said to show _____ deviation from Raoult's law, when the vapour pressure of the solution is lower than that of an ideal solution of the same concentration.

Answer: *negative*

FBQ31: According to _____, the mole fraction of a more volatile component in an ideal solution is more in the vapour phase than in the liquid phase.

Answer: *Raoult's law*

FBQ32: Fractional distillation is a _____ process

Answer: *Continuous*

FBQ33: Another name for critical solution temperature is _____ temperature.

Answer: *Consolute*

FBQ34: Differential _____ is employed in the static method of lowering vapour pressure.

Answer: *Manometer*

FBQ35: In _____, Gibbs deduced a simple relationship among the number of phases in equilibrium.

Answer: *1876*

FBQ12: The volume of gas that liquefies at critical pressure and temperature is the critical volume. True or False?

Answer: *False*

Multiple Choice Questions (MCQs):

MCQ1: $M^2L^{-2}T^{-2}$ is the dimensional formula for _____.

Answer: Work

MCQ2: Which of this/these representations of force is/are correct?
I. 50N II. 50NIII III. 50NewtonIV IV. 50newton

Answer: I, III

MCQ3: The SI unit factor of 2.5km in M/KM is _____.

Answer: $1/1000$

MCQ4: Steam bath is employed in which of the separation methods?

Answer: sublimation

MCQ5: Which of the following is false about gases?

Answer: They expand at high temperature

MCQ6: Which of these have definite volume?

Answer: Solids

MCQ7: Which of the following is false?

Answer: Gas pressure can vary inversely with its volume

MCQ8: If a fixed mass of gas is transferred from a 50cm^3 container to a 150cm^3 container, then its pressure will be

Answer: Tripled

MCQ9: Charles law is not linked with which of the following?

Answer: $P \propto T$

MCQ10: One of the following has no contribution to the kinetic theory?

Answer: James Clark

MCQ11: Gaseous diffusion method can be used to separate _____.

Answer: Isotopes

MCQ12: Considering CO, HCl and NH_3 at 400K, which conclusion is true regarding their average kinetic energies?

Answer: $\text{HCl} \propto \text{CO} \propto \text{NH}_3$

MCQ13: Gases behave ideally at _____
I Low pressure
II High pressure
III High temperature
IV Low temperature.

Answer: I and IV

MCQ14: All the following are true of the density of a liquid except _____.

Answer: Increases with temperature

MCQ15: One of these is not a refrigerant.

Answer: Ammonia

MCQ16: Vander waals forces includes the following

except _____.

Answer: Dipole-dipole interactions

MCQ17: <p style="text-align:left">The under-listed can be linked to dispersion interactions except .

Answer: Low liquefaction temperature

MCQ18: <p style="text-align:left">The effect of attractive and repulsive interactions on the energy of a system can be understood by plotting _____ against _____.

Answer: r.v

MCO19: <p style="text-align:left">The basic shape of a unit cell is described by the

1

Answer: All of the options

MCQ20: <p style="text-align:left">From the relationships among the axis angles and the edge length, there are crystal systems only.

Answer: 5

MCQ21: The density of crystal depends on _____.
 I Mass of atoms
 II Structure of atoms
 III Number of atoms
 IV Volume of the unit cell.

Answer: I,II,III

MCQ22: <p style="text-align:left">NaCl is composed of _____ interpenetrating lattices.

Answer: Two, bcc

MCQ23: Polonium metal is an example of _____ structure.

Answer: Single cubic

MCQ24: Which of the following is not inversely related to temperature?

Answer: Semi-conductor resistance

MCQ25: <p style="text-align:left">Viscosity of liquids depends on the following except

Answer: Temperature

MCQ26: Which of these has the least vapour pressure?

Answer: Mercury

MCQ27: <p style="text-align:left">Zinc amalgam is a solution of

Answer: Solid-solid

MCO28: <p style="text-align:left">The solubility of gas in liquid is directly related to

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Answer: Temperature

MCQ29: <p style="text-align:left">The ratio of the number of moles of a solute to the total number of moles of the solvent in solution is ____.

Answer: Normality

MCQ30: <p style="text-align:left">According to Raoult's, when a non volatile solute is dissolved in a solvent, the vapor pressure of the solute_____.

Answer: Decreases

MCQ31: <p style="text-align:left">If x, y, and z are solutions with high vapor, low vapor and atmospheric pressure respectively, if equal amount of heat is supplied to x, y and z, at which order will they boil?

Answer: z, y, x

MCQ32: <p style="text-align:left">Which of these processes is not found in fractional distillation?

Answer: Condensation

MCQ33: <p style="text-align:left">Which of these liquid pairs shows both the lower and upper critical solution temperature?

Answer: Water and nicotine

MCQ34: <p style="text-align:left">A system of totally immiscible liquids has/have how many phase{s}?

Answer: One

MCQ35: <p style="text-align:left">Phase equilibria containing ice, water and its vapour is a _____ component system.

Answer: Three