Quiz on Learning Prerequisites - Dilute Solution

Which of the following is the correct statement of the second law of thermodynamics?

- It is impossible to transfer heat from a body at a lower temperature to a higher temperature, without the aid of an external source.
- There is a definite amount of mechanical energy, which can be obtained from a given quantity of heat energy.
- It is impossible to construct an engine working on a cyclic process, whose sole purpose is to convert heat energy into work.
- All of the above

In an isothermal process

- There is no change in enthalpy
- There is no change in temperature
- There is no change in internal energy
- All of these

The measurement of a thermodynamic property known as temperature is based on

- Zeroth law of thermodynamics
- First law of thermodynamics
- Second law of thermodynamics
- None of these

In an irreversible process, there is a

- No loss of heat
- Gain of heat
- Loss of heat
- No gain of heat

The sum of internal energy (U) and the product of pressure and volume (pV) is known as

- Enthalpy
- Entropy
- Workdone
- none of these

The thermodynamic quantity that is a function of both the internal energy and entropy of a system at equilibrium, is

- the free energy showing a minimum
- the heat showing a maximum
- the temperature at phase transition
- the free energy showing a maximum

What measures a material's resistance to flow?

- Matter
- Volume
- Hardness
- Tensile Strength
- Viscosity

What happens to the viscosity of a liquid when its temperature is raised?

- The viscosity of the liquid increases.
- The viscosity of the liquid stays the same.
- The viscosity of the liquid decreases.
- The temperature of a liquid does NOT raise.
- Answer is not a choice

When friction increases what else increases?

- Matter
- Density
- Elasticity
- Viscosity
- Number of molecules

Viscosity is determined mostly by what?

- Density
- The shape of the molecules the liquid.
- What the liquid is specificaly.
- Mass/Volume
- Density*Volume

Osmotic pressure is a type of

- force
- friction
- work
- none of above

What is osmotic pressure?

- The pressure caused by the movement of water across a membrane from low concentration of solute to high concentration of solute
- The pressure caused by the movement of water across a membrane from high concentration of solute to low concentration of solute.
- The pressure caused by the movement of a solute across a membrane from high concentration to low concentration.
- The pressure caused by the movement of a solute across a membrane from low concentration to high concentration.