

**LPUNEST- Ph.D. Chemical Engineering**  
**(Sample Questions)**

- QUESTION 1**      Gases diffuse faster compared to liquids because of the reason that the liquid molecules
- Option A      are held together by stronger inter-molecular forces  
Option B      move faster  
Option C      have no definite shape  
Option D      are heavier
- QUESTION 2**      Pick out the wrong statement
- Option A      'Reduced temperature' of a substance is the ratio of its existing temperature to its critical temperature, both expressed on celsius scale  
Option B      'Reduced pressure' is the ratio of the existing pressure of a substance to its critical pressure  
Option C      'Reduced volume' is the ratio of the existing molal volume of a substance to its critical molal volume  
Option D      None of these
- QUESTION 3**      With rise in pressure, the solubility of gases in solvent, at a fixed temperature
- Option A      increases  
Option B      decreases  
Option C      remains unchanged  
Option D      decreases linearly
- QUESTION 4**      A very dilute solution is prepared by dissolving 'x1' mole of solute in 'x2' mole of a solvent. The mole fraction of solute is approximately equal to
- Option A       $x_1/x_2$   
Option B       $x_2/x_1$   
Option C       $1 - (x_1/x_2)$   
Option D       $1/x_2$
- QUESTION 5**      Fenske equation determines the
- Option A      maximum number of ideal plates  
Option B      height of the distillation column  
Option C      minimum number of theoretical plates  
Option D      optimum reflux ratio

