



Mid & Quiz  
Physical Chemistry 2<sup>nd</sup> YUGS EV ST

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2<sup>nd</sup> SEM-2025 Bologna Process  
Mid Exam Class A Paper D

Q1/MCQ test (Answer the following)

1: The Gibbs phase rule is interested in two variants?

- Answer:  a) p & T       b) F & T       c) p & conc.       d) T & conc.

2: What do you expect if you add NaCl to H<sub>2</sub>O, an increase in the?

- Answer:  a) LP       b) VP       c) FP       d) BP

3: The three phases of CO<sub>2</sub> in the phase diagram meets?

- Answer:  a) at 1 atm       b) over 1 atm       c) below 1 atm       d) at any pressure

4: The phase of super cooling is -----?

- Answer:  a) gas       b) liquid       c) solid       d) plasma

5: How many phases are there when the number of variants is two and the number of components is one?

- Answer:  a) zero       b) 1       c) 2       d) 3

6: The Clapeyron equation can be applied when there is an equilibrium between one of the following?

- Answer:  a) melt. & freez.       b) sub. & depo.       c) vap. & cond.       d) all of these

7: The relationship between VP and m is -----.

- Answer:  a) direct       b) inverse       c) disordered       d) none of these

8: If you add a ----- to a solvent, then there is a change in the colligative properties of the solvent.

- Answer:  a) non-volatile solute       b) volatile solute       c) pure solute       d) pure solvent

9: Osmotic process is used to push the solvent to the -----?

- Answer:  a) solute       b) impure solute       c) mixture       d) pure solvent

10- One of the most important benefits of measuring molar mass of the solute is to study the change in -----.

- Answer:  a) m       b) Π       c) V       d) p

Q2/ 0.5 mol of a non-P-solute was added to 12.0 mol of P-solvent, VP\* is 12.0 kPa at 295 K. What is the VP at 295 K? Determine the deviation of this solution from Raoult's law where VP<sub>ideal</sub> = 10 kPa. (Marks 25%)

Q3/ Plot the phase diagram of the system (A & B) assumed that (A & B) do not react with each other. A freezes at (-6 °C) and B freezes at (8 °C), and that an eutectic mixture is formed when the ratio is 60 wt % of A and that the eutectic melts at (-9 °C), then label all the parts (p & F) of the diagram? (Marks 25%)



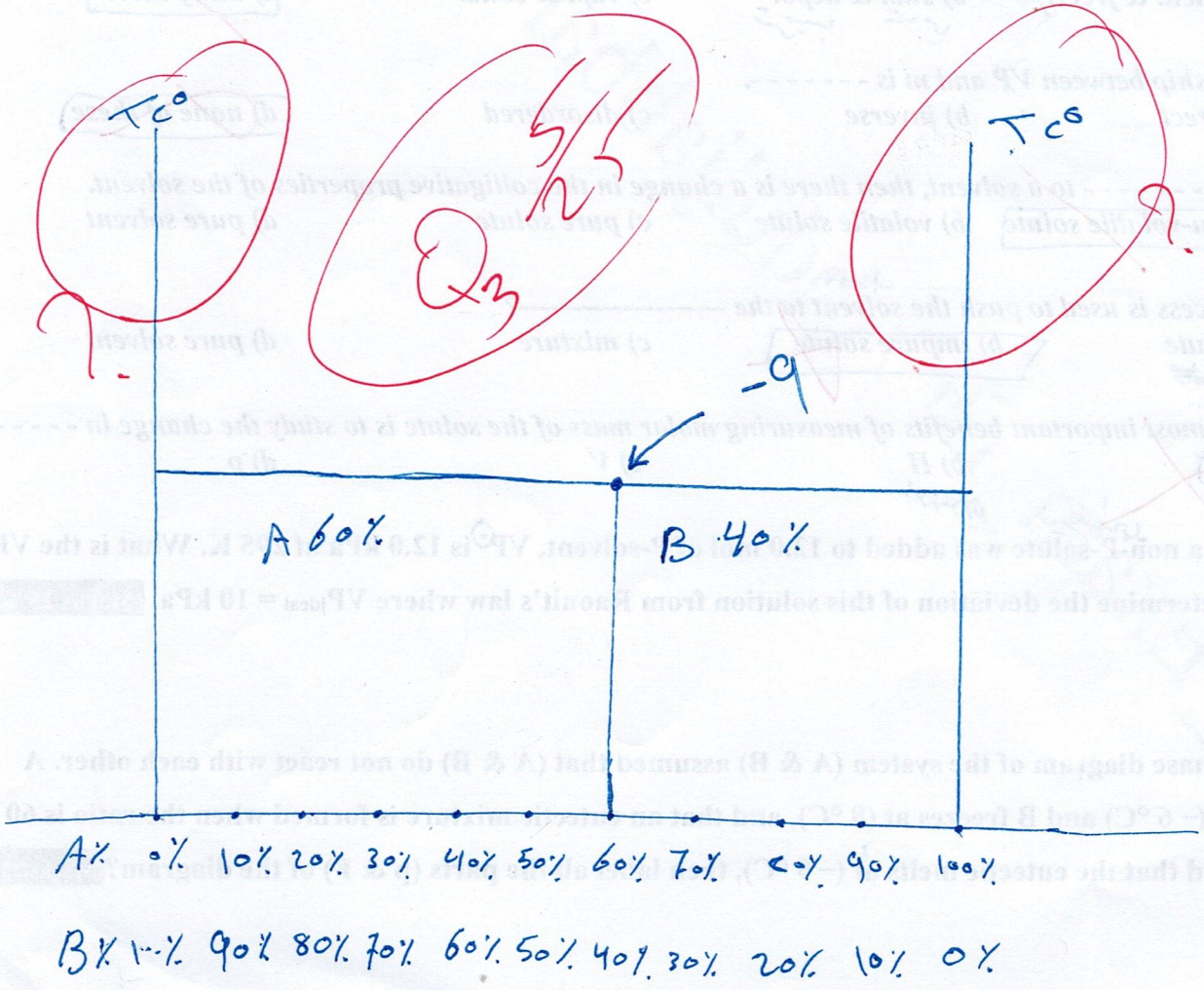
Q2

$V_{vape}$

NO ANSWER

$\frac{2 \times 20}{25}$   
Q2

Q3



Q2

Mo 17-03-2022

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Best wishes