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Mid Quiz

Physical Chemistry 2nd YUGS_EV_ST

20
100

Twenty only



Name of a student

Abduljabbar

Signature

14-03-2025

No. 31

Mustansiriyah University
Department of Chemistry

2nd SEM-2025 Bologna Process
Mid Exam Class B Paper B

01/ MCO test (Answer the following)

(Marks 50 %)

10
150

1: If the relation between the amount of solute and the Π is proportional, then the right equation is?

Answer: a) $\Pi \propto VP$ b) $\Pi \propto BP$ c) $\Pi \propto V$ d) $\Pi \propto [B]$

2: If the deposition is dominated, then one of the following will be true.

Answer: a) $\Delta_{vap}H = +ve$ b) $\Delta_{vap}H = -ve$ c) $\Delta_{sub}H = +ve$ d) $\Delta_{sub}H = -ve$

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

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

4: Which One of the following formulas represents the right equation of positive deviation from Raoult's law?

Answer: a) $P_A^* \neq \chi_A P_A$ b) $P_A = \chi_A P_A^*$ c) $P_A > \chi_A P_A^*$ d) $P_A < \chi_A P_A^*$

5: Addition of a non-volatile solute to the pure solvent causes a change in?

Answer: a) $\Delta_{mix}H$ b) $\Delta_{mix}S$ c) $\Delta_{mix}V$ d) all of these

6: How many p and F of CO_2 when it is positioned at the boundary of the phase?

Answer: a) $p = 2$ & $F = 1$ b) $p = 3$ & $F = 0$ c) $p = 1$ & $F = 2$ d) $p = 2$ & $F = 2$

7: Liquid water and ice are formed from?

Answer: a) 1 C b) 2 C c) 3 C d) 4 C

8: With the two-component system (Pb & Ag), one part of the solid phase consists of?

Answer: a) pb + Ag b) Pb + solution c) Ag + solution d) Pb + eutectic

9: If you add a non-polar solute to a non-polar solvent, then the expected type of mixture will be --- law.

Answer: a) Van't Hoff's b) Raoult's c) -ve form Raoult's d) +ve form Raoult's

10: If it is required to calculate the Y_A , then one of the following laws will be applicable?

Answer: a) Raoult b) Henry c) Dalton d) Van't Hoff

02: The VP of pure benzene is 75 mmHg at 20 °C, and VP of pure toluene is 25 mmHg at 20 °C. The mole fraction of each pure component is 0.5. What is the partial VP of each component after mixing?

(Marks 25%)

03: Using the diagram below and the appropriate phase rule, fill in all the blanks and determine the composition of the all-eutectic mixture, all equilibria, all reversible and irreversible processes, and the name of the regions located to the right and left of points C, E & AB?

(Marks 25%)



Name of a student _____

Signature _____

No. _____

Q1

~~$P_{benzene} = x_B * P_B^*$~~ wrong law

Q2 zero/25

$75 = 0.5 * P_b \Rightarrow P_b = \frac{75}{0.5}$

$P_b = 150 \text{ mm Hg}$

~~$P_{Toluene} = x_T * P_T^*$~~

$25 = 0.5 * P_T \Rightarrow P_T = \frac{25}{0.5} \Rightarrow P_{Toluene} = 50 \text{ mm Hg}$

~~$P_T = \sum P_i$~~

~~$P_T = 150 + 50$~~

~~$P_T = 200 \text{ mm Hg}$~~

Q3 10/25

Two component system ()

