



1.5 / 5

Mid & Quize

Physical_Chemistry_2nd_YUGS_EV_ST

30 / 100 Thirty only
18-3-25
Abbb
26



Name of a student

علي زياد اسكنو

Signature

No. 26

Mustansiriyah University
Department of Chemistry

2nd SEM-2025_Bologna_Process
Mid_Exam_Class_A_Paper_C

01/ MCO test (Answer the following)

(Marks 50 %)

Q. 20 / 50

1: Depression of freezing point of a solution means increasing in?

- Answer: a) T b) H c) μ d) S
- انخفاض نقطة التجمد للمحلول يعني زيادة في

2: If you apply the reduced phase rule to condensed systems, then the expected value of pressure is -----?

- Answer: a) zero b) 1 c) 2 d) 3
- قيمة الضغط المتوقعة عند تطبيق قاعدة الطور المختزلة على الأنظمة المكثفة هي

3: The reduced phase rule can be applied when the number of components is -----?

- Answer: a) zero b) 1 c) 2 d) 3
- القاعدة المختزلة للطور يمكن تطبيقها عندما يكون عدد المكونات

4: Which One of the following formulas represents the right equation of negative 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) $P_A < \chi_A P_A^*$
- أي من الصيغ التالية تمثل المعادلة الصحيحة للانحراف السالب لقانون راؤول؟

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
- الفرق بين الخواص الفيزيائية للمذيب النقي والمذيب المخفف هو

6: The difference between pure and impure solvent is?

- Answer: a) $\mu^* = \mu$ b) $\mu^* > \mu$ c) $\mu^* < \mu$ d) $\mu^* \neq \mu$
- العلاقة بين الخواص الفيزيائية للمذيب النقي والمذيب المخفف هي

7: The relationship between ΔT_f and χ_B is?

- Answer: a) direct b) inverse c) disordered d) none of these
- علاقة ΔT_f بـ χ_B هي

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

- Answer: a) A + B b) A + solution c) B + solution d) A + eutectic
- إذا تم وصف نظام مكون من جزأين (A و B)، فإن جزء من الطور الصلب يتكون من

9: If you add a solute to a solvent, then there is a decrease in the ----- of the solution.

- Answer: a) S b) H c) T d) μ
- عند إضافة مذاب إلى مذيب، فإن هناك انخفاض في

10: Dalton's law is used to calculate the partial pressure of ----- phase?

- Answer: a) liquid b) gas c) solid d) plasma
- قانون دالتون يستخدم لحساب الضغط الجزئي لمرحلة

02 The Π of a solution containing 4.0 g of an unknown substance per 0.5 dm³ of solution is 10³ torr at 34.0 °C. Find the molar mass of this unknown. (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. --

Q2/

~~$\Pi = R T [B]$~~

$T = 34.0 + 273 = 307 K$

$10^3 = 8.314 \text{ J/K}\cdot\text{mol} \times 307 \text{ K} [B]$
 $0.582 \text{ Latm mol}^{-1}\text{K}^{-1} \times 1000 \text{ torr}$

$[B] = \frac{1000 \text{ torr}}{2552 \text{ J/mol}} = 0.3951 \text{ mol}$

$M = \text{armass} = \frac{w + B}{\text{...}}$

phase rule 5/9/6

Q2 5/25
Q3 5/25

Two component system ()

