



1/5

Mid Quiz

Physical Chemistry 2nd YUGS\_EV\_ST

90/100

Twenty only



Name of a student \_\_\_\_\_ Signature \_\_\_\_\_ No. \_\_\_\_\_

Mustansiriyah University  
Department of Chemistry

2nd SEM-2025\_Bologna\_Process  
Mid Exam\_Class\_A\_Paper\_C

01/ MCO test (Answer the following)

(Marks 50%)

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

- Answer: a) T      b) ~~H~~      c) ~~μ~~      d) S
- إذا تم تصفيف قاعوه الموقر المختزل للتظام المكنف قانت ب P =

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
- قاعدة الطور المختزل يمكن تطبيقها عندما يكون

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

- Answer: a) zero      b) 1      c) 2      d) 3
- اي من الصيغ تمثل للمعادلة الصحيحة للاحرف السالب عند قانون راؤولت

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)  $P_A < \chi_A P_A^*$
- انحراف سالب غير متطابق مع قانون راؤولت

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 المذيب النقي والمزيج

6: The difference between pure and impure solvent is?

- Answer: a)  $\mu^* = \mu$       b)  $\mu^* > \mu$       c)  $\mu^* < \mu$       d)  $\mu^* \neq \mu$
- التفرقة بين المذيب النقي والمزيج

7: The relationship between  $\Delta T_f$  and  $\chi_B$  is?

- Answer: a) direct      b) inverse      c) disordered      d) none of these
- علاقة بين  $\Delta T_f$  و  $\chi_B$

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
- اذا تم إضافة مذاب الى المذيب يصل الحفان مع المذلول

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)  $\mu$
- تأثير المذلول على خواص المذيب

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

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

02 The  $\pi$  of a solution containing 4.0 g of an unknown substance per 0.5 dm<sup>3</sup> of solution is 10<sup>3</sup> 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. --

$$\frac{P_A^* - P_A}{P_A^*} = \frac{w_B}{m_B} \frac{M_A}{W_A}$$

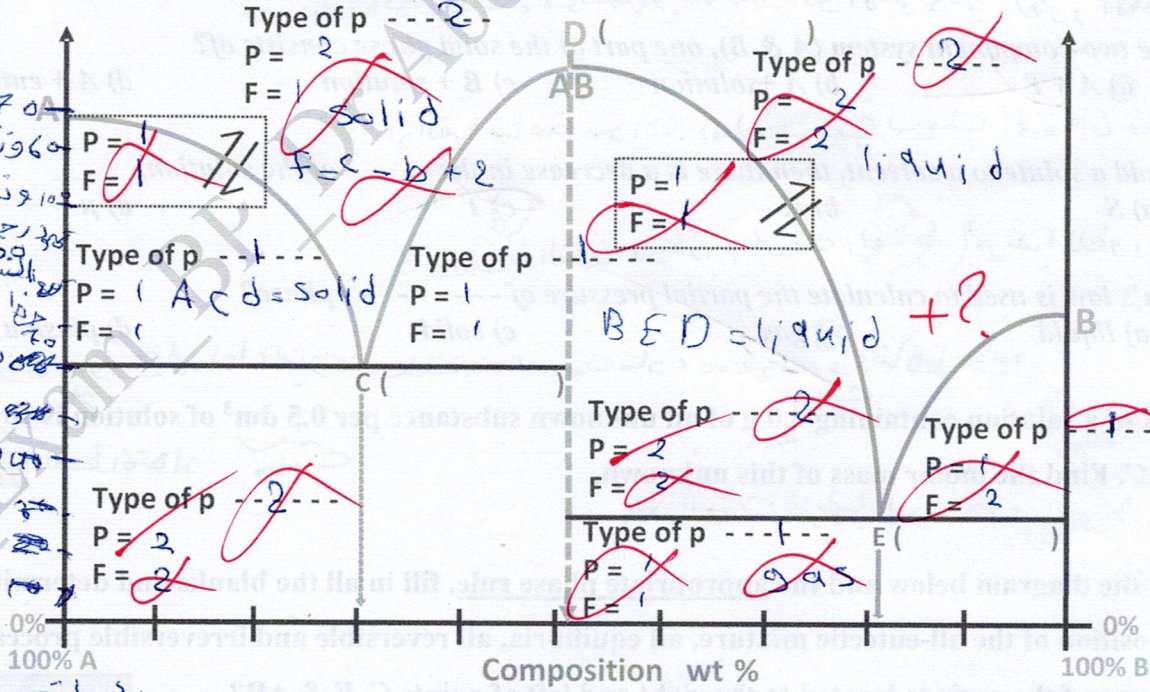
Wrong eq!

Zero  
Q2 25

Q3 25

Two component system ( )

نمذ الفراغات  
70  
60  
50  
40  
30  
20  
10  
0%



الخط الاول (A) 70% قاعدہ راؤولٹ  
الخط الثاني (A) 70% قاعدہ ہنری (الانحراف)