

JEE MAIN SOLUTIONS — IDEAL SOLUTIONS, NON-IDEAL SOLUTIONS AND AZEOTROPES — PYQS

Max. Marks: 16

Questions: 4

Section A (MCQ) — 4 questions

Q.1 Given below are two statements :
 Given : Molar mass of C, H, O, Cl are 12, 1, 16 and 35.5 g mol⁻¹, respectively

Statement-I: In 30% (w/w) solution of methanol in CCl₄ (at T K), the mole fraction of CCl₄ is equal to 0.33.

Statement-II: Mixture of methanol and CCl₄ shows positive deviation from Raoult's law.

In the light of the above statements, choose the correct answer from the options given below :

[JEE Main 2026 (Online) 8th April Evening Shift]

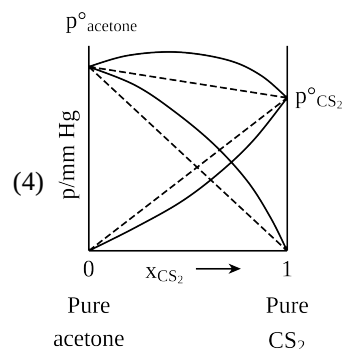
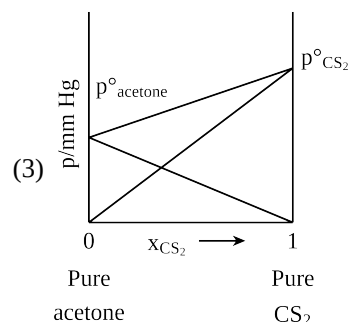
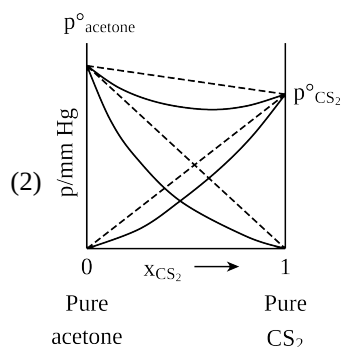
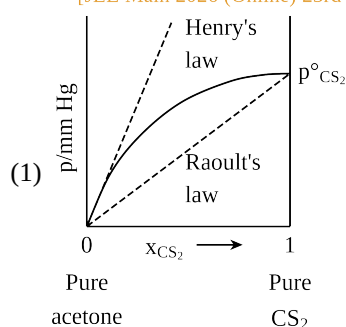
- (1) Both Statement-I and Statement-II are true
- (2) Both Statement-I and Statement-II are false
- (3) Statement-I is true but Statement-II is false
- (4) Statement-I is false but Statement-II is true

Scan or tap for the full solution



Q.2 Which one of the following graphs accurately represents the plot of partial pressure of CS₂ vs its mole fraction in a mixture of acetone and CS₂ at constant temperature?

[JEE Main 2026 (Online) 23rd January Morning Shift]



Scan or tap for the full solution



Q.3 Which of the following binary mixtures does not show the behaviour of minimum boiling azeotropes?

[JEE Main 2025 (Online) 8th April Evening Shift]

- (1) CH₃OH + CHCl₃ (2) C₆H₅OH + C₆H₅NH₂
- (3) H₂O + CH₃COC₂H₅ (4) CS₂ + CH₃COCH₃

Scan or tap for the full solution



Q.4 Match List - I with List - II.

Choose the correct answer from the options given below :

[JEE Main 2025 (Online) 7th April Evening Shift]

List - I		List - II	
A.	Solution of chloroform and acetone	I.	Minimum boiling azeotrope
B.	Solution of ethanol and water	II.	Dimerizes
C.	Solution of benzene and toluene	III.	Maximum boiling azeotrope
D.	Solution of acetic acid in benzene	IV.	$\Delta V_{\text{mix}} = 0$

(1) A-III, B-I, C-IV, D-II (2) A-III, B-IV, C-I, D-II
(3) A-II, B-I, C-IV, D-III (4) A-II, B-IV, C-I, D-III

Scan or tap for the
full solution



ANSWER KEY

Ques.	1	2	3	4							
Ans.	1	1	2	1							