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NEET SOLUTIONS — IDEAL SOLUTIONS, NON-IDEAL SOLUTIONS AND AZEOTROPES — PYQS

Max. Marks: 52 **Questions:** 13

Section A (MCQ) — 13 questions

Q.1 Mixture of chloroform and acetone forms a solution with negative deviation from Raoult's law due to : [NEET (UG) 2026]

(1) Stronger intermolecular forces between chloroform molecules than those between chloroform and acetone molecules

(2) Formation of hydrogen bonding between acetone and chloroform

(3) Repulsive forces

(4) Increase in escaping tendency of molecules of each component

Scan or tap for the full solution

Q.2 Consider the following statements about the solutions formed by mixing two liquids.

A. An ideal solution thus formed obeys Raoult's law throughout the composition range.

B. Mixture of chloroform and acetone shows negative deviation from Raoult's law.

C. Mixture of aniline and phenol shows positive deviation from Raoult's law

[RE-NEET (UG) 2026]

(1) A and C only (2) A and B only

(3) B and C only (4) A only

Scan or tap for the full solution

Q.3 **Assertion (A):** For an ideal solution formed by mixing liquids P and Q, $\Delta_{mix}H = 0$ and $\Delta_{mix}V = 0$

Reason (R): No interactions occur between P and Q

In the light of the above statements, choose the most appropriate answer from the options given below. [RE-NEET (UG) 2026]

(1) A is not correct but R is correct

(2) Both A and R are correct and R is the correct explanation of A

(3) Both A and R are correct but R is NOT the correct explanation of A

(4) A is correct but R is not correct

Scan or tap for the full solution

Q.4 5 moles of liquid X and 10 moles of liquid Y make a solution having a vapour pressure of 70 torr. The vapour pressures of pure X and Y are 63 torr and 78 torr respectively. Which of the following is true regarding the described solution? [NEET (UG) 2025]

(1) The solution is ideal.

(2) The solution has volume greater than the sum of individual volumes.

(3) The solution shows positive deviation.

(4) The solution shows negative deviation.

Scan or tap for the full solution

Q.5 The mixture which shows positive deviation from Raoult's law is : [NEET (UG) 2020]

(1) Benzene + Toluene

(2) Acetone + Chloroform

(3) Chloroethane + Bromoethane

(4) Ethanol + Acetone

Scan or tap for the full solution

Q.6 For an ideal solution, the **correct** option is : [NEET (UG) 2019]

(1) $\Delta_{mix}H = 0$ at constant T and P

(2) $\Delta_{mix}G = 0$ at constant T and P

(3) $\Delta_{mix}S = 0$ at constant T and P

(4) $\Delta_{mix}V \neq 0$ at constant T and P

Scan or tap for the full solution

Q.7 The mixture that forms maximum boiling azeotrope is : [NEET (UG) 2019]

(1) Ethanol + Water

(2) Acetone + Carbon disulphide

(3) Heptane + Octane

(4) Water + Nitric acid

Scan or tap for the full solution

Q.8 Which one of the following is incorrect for ideal solution? [NEET 2016 (Phase 2)]

(1) $\Delta H_{mix} = 0$
(2) $\Delta U_{mix} = 0$
(3) $\Delta P = P_{obs} - P_{calculated\ by\ Raoult's\ law} = 0$
(4) $\Delta G_{mix} = 0$

Scan or tap for the full solution

Q.9 Which of them is not equal to zero for an ideal solution? [AIPMT 2015 (Cancelled)]
(1) ΔV_{mix}
(2) $\Delta P = P_{observed} - P_{Raoult}$
(3) ΔH_{mix}
(4) ΔS_{mix}

Scan or tap for the full solution

Q.10 Which condition is not satisfied by an ideal solution? [NEET 2013 (Karnataka)]
(1) $\Delta_{mix}V = 0$
(2) $\Delta_{mix}S = 0$
(3) Obeyance to Raoult's Law
(4) $\Delta_{mix}H = 0$

Scan or tap for the full solution

Q.11 A solution of acetone in ethanol [AIPMT 2006]
(1) obeys Raoult's law
(2) shows a negative deviation from Raoult's law
(3) shows a positive deviation from Raoult's law
(4) behaves like a near ideal solution.

Scan or tap for the full solution

Q.12 Formation of solution from two components can be considered as
(i) Pure solvent $\longrightarrow$ separated solvent molecules, ΔH_1
(ii) Pure solute $\longrightarrow$ separated solute molecules, ΔH_2
(iii) Separated solvent and solute molecules $\longrightarrow$ solution, ΔH_3

Solution so formed will be ideal if [AIPMT 2003]
(1) $\Delta H_{soln} = \Delta H_1 + \Delta H_2 + \Delta H_3$
(2) $\Delta H_{soln} = \Delta H_1 + \Delta H_2 - \Delta H_3$
(3) $\Delta H_{soln} = \Delta H_1 - \Delta H_2 - \Delta H_3$
(4) $\Delta H_{soln} = \Delta H_3 - \Delta H_1 - \Delta H_2$

Scan or tap for the full solution

Q.13 A solution containing components A and B follows Raoult's law when [AIPMT 2002]
(1) A–B attraction force is greater than A–A and B–B
(2) A–B attraction force is less than A–A and B–B
(3) A–B attraction force remains same as A–A and B–B
(4) volume of solution is different from sum of volumes of solute and solvent

Scan or tap for the full solution

ANSWER KEY

Ques.	1	2	3	4	5	6	7	8	9	10	11
Ans.	**2**	**2**	**4**	**4**	**4**	**1**	**4**	**4**	**4**	**2**	**3**
Ques.	12	13									
Ans.	**1**	**3**									