

Prayas JEE 2026

Chemistry

Solutions

DPP: 3

- Q1** If liquids A and B form an ideal solution, the
- (A) Enthalpy of mixing is zero
 - (B) Entropy of mixing is zero
 - (C) Free energy of mixing is zero
 - (D) Free energy as well as the entropy of mixing are each zero
- Q2** The mixture that forms maximum boiling azeotrope is:
- (A) Water + Nitric Acid
 - (B) Ethanol + Water
 - (C) Acetone + Carbon disulphide
 - (D) Heptane + Octane
- Q3** An azeotropic mixture of two liquids has boiling point lower than either of them, when it
- (A) Shows a negative deviation from Raoult's law
 - (B) Shows no deviation from Raoult's law
 - (C) Shows positive deviation from Raoult's law
 - (D) Is saturated
- Q4** A non-ideal solution was prepared by mixing 30 mL chloroform and 50 mL acetone. The volume of mixture will be
- (A) > 80 mL
 - (B) < 80 mL
 - (C) = 80 mL
 - (D) \geq 80 mL
- Q5** Azeotropic mixture of HCl and water has
- (A) 48% HCl
 - (B) 22.2% HCl
 - (C) 36% HCl
 - (D) 20.2% HCl
- Q6** Which one of the following is not correct for an ideal solution?
- (A) It must obey Raoult's law
 - (B) $\Delta H_{\text{mix}} = 0$
 - (C) $\Delta V_{\text{mix}} = 0$
 - (D) $\Delta H_{\text{mix}} = \Delta V_{\text{mix}} \neq 0$
- Q7** Which pair from the following will not form an ideal solution
- (A) $\text{CCl}_4 + \text{SiCl}_4$
 - (B) $\text{H}_2\text{O} + \text{C}_4\text{H}_9\text{OH}$
 - (C) $\text{C}_2\text{H}_5\text{Br} + \text{C}_2\text{H}_5\text{I}$
 - (D) $\text{C}_6\text{H}_{14} + \text{C}_7\text{H}_{16}$
- Q8** Which of the following form an ideal solution?
- (A) Ethyl Bromide + Ethyl iodide
 - (B) Ethyl alcohol + Water
 - (C) Chloroform + Benzene
 - (D) HCl + Water
- Q9** The azeotropic mixture of water (b. pt. 100°C) and HCl (b.pt. 85°C) boils at 108.5°C . When this mixture is distilled it is possible to obtain
- (A) Pure HCl
 - (B) Pure water
 - (C) Pure water as well as HCl
 - (D) Neither HCl nor H_2O in their pure states
- Q10** An aqueous solution of methanol in water has vapour pressure
- (A) Less than that of water
 - (B) More than that of water
 - (C) Equal to that of water
 - (D) Equal to that of methanol



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Answer Key

Q1 (A)

Q2 (A)

Q3 (C)

Q4 (B)

Q5 (D)

Q6 (D)

Q7 (B)

Q8 (A)

Q9 (D)

Q10 (B)



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