



**BOARD ZONE**

# **PREVIOUS YEAR QUESTIONS**

**CHAPTERWISE**

**(ENGLISH MEDIUM)**

**CLASS 12 CHEMISTRY**

**ALL LAST 10 YEAR QUESTION OF  
RAJASTHAN BOARD**

- सभी प्रश्न **CHAPTERWISE**
- **BASED ON RATIONALISED NCERT 2023-24**
- **ERRORLESS PDF**
- **FOR RBSE EXAMINATION 2023-24**

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# SOLUTIONS

## CHAPTER-1

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1. 5g of NaOH are dissolved in 500 ml water. Find the molarity of the solution.[1M]  
(RBSE 2013)
2. 0.2 L of aqueous solution of a protein contains 1.26 g of the protein. The osmotic pressure of such a solution at 300 K is found to be  $2.57 \times 10^{-3}$  bar. Calculate the molar mass of the protein. [R=0.083 L bar mol<sup>-1</sup> K<sup>-1</sup>] [2M]  
(RBSE 2013)
3. (a)(i) What happens to vapour pressure of water if a tablespoon of sugar is added to it ?  
(ii) Which colligative property is preferred for the molar mass determination of macromolecules ?
- (b) Will the elevation in boiling point be same if 0.1 mole of sodium chloride or 0.1 mole of sugar is dissolved in 1 L of water ?
- (c) Can we separate the compounds of azeotropic mixture by fractional distillation ? Explain.[3M]  
(RBSE 2014)
4. Osmotic pressure of a solution is 0.0821 atm at a temperature of 400 K. Calculate the concentration of solution in mol/litre. [R=0.0821 L bar mol<sup>-1</sup> K<sup>-1</sup>][2M]  
(RBSE 2015)
5. Write the formula to calculate the molality.[1M]  
(RBSE 2015)
6. Write the formula to calculate the mole fraction.[1M]  
(RBSE 2016)
7. What will be the value of Van't Hoff factor for ethanoic acid in benzene?[1M]  
(RBSE 2016)

8. What happens when a raw mango placed in concentrated salt solution?[1M]  
(RBSE 2016)
9. (a) Due to low concentration of oxygen in blood, climber become weak and unable to think clear-  
(i) Write specific name of above condition.  
(ii) Explain the reason of such condition.
- (b) 30 gm of ethanoic acid present in 100gm of water, determine molality of ethanoic acid in water.[1+1=2M]  
(RBSE 2016)
10. Write definition of osmotic pressure.[1M]  
(RBSE 2018,RBSE 2023,RBSE 2020)
11. (a) Generally solution of gases in liquids is decreases as increasing temperature, Give reasons.  
(b) How many gram of NaCl is required to make 200mL aqueous solution of 5% (w/v) NaCl.[1+1=2M]  
(RBSE 2018)
12. Write definition of azeotropic mixture.[1M]  
(RBSE 2019)
13. Write definition of Osmosis.  
(RBSE 2018,RBSE 2023,RBSE 2020)
14. Calculate the osmotic pressure of 0.01 M solution of urea at 27 °C temperature.  
[R=0.0821 L bar mol<sup>-1</sup> K<sup>-1</sup>][2M]  
(RBSE 2020)
15. Explain the reason for exhibiting negative deviation from Raoult's law by the solution of chloroform and acetone.[1.2M]  
(RBSE 2022)
16. Calculate the molarity of 250mL solution formed by dissolving 5g of NaOH in water.  
[1.5M]  
(RBSE 2022)

17. 1.25g protein is present in 300mL aqueous solution of a protein. The osmotic pressure of such a solution at 300K is found to be  $2.50 \times 10^{-3}$  bar. Calculate the molar mass of protein.  $[R=0.0821 \text{ L bar mol}^{-1} \text{ K}^{-1}]$  [1.5M]

(RBSE 2022)

18. The compound having highest value of Van't Hoff factor (i) for complete dissociation of solute in aqueous solution is- [1M]

(a) KCl

(b) NaCl

(c)  $\text{K}_2\text{SO}_4$

(d)  $\text{MgSO}_4$

(RBSE 2023)

19. A 35% (V/V) solution of ethylene glycol is used in vehicle for cooling the engine. Determine the volume of water in millilitre. [1.5M]

(RBSE 2023)

20. Write definition of osmosis. Write name of method used in desalination of sea water. [1.5M]

(RBSE 2023)

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**CHAPTERWISE PYQ 2013-2023**  
**(HIN & ENG)**

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