

CHEMISTRY

BOOKS - SURA CHEMISTRY (TAMIL ENGLISH)

SOLUTIONS

Textbook Evaluation Choose The Correct Answer

1. A solution is a mixture.

- A. Homogeneous
- B. heterogeneous
- C. homogeneous and heterogeneous
- D. non homogeneous

Answer: A



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2. The number of components in a binary solution is _____.

- A. 2
- B. 3
 - C. 4
- D. 5

Answer: A



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3. which of the following is the universal solvent?

- A. Acetone
- B. Benzene
- C. Water
- D. Alcohol

Answer: C



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4. A solution in which no more solute can be dissolved in a definite amout of solvent at a given termperature is called ____

- A. Saturated solution
- B. Unsaturated solution
- C. super saturated solution
- D. Dilute solution

Answer: A



- **5.** Identify the non aqueous solution.
 - A. soldium chloride in water

- B. glucose in water
- C. Copper sulphate in water
- D. sulphur in carbon di sulphide

Answer: D



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6. when pressure is increaed at constant temperature the solubility of gases in liquid

- A. No change
- B. increases
- C. decreass
- D. no reaction

Answer: B



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7. Solubility of NaCl in 100 ml water is 36 g. If

25 g salt is dissolved in 100 ml of water how

much more salt is required for saturation? A. 12 g B. 11 g

C. 16 g

D. 20 g

Answer: B



- 8. A 25 % alcohol solution means
 - A. 25 ml alcohol in 100 ml of water
 - B. 25 ml alcohol in 25 of water
 - C. 25 ml alcohol in 75 ml of water
 - D. 75 ml alcohol in 25 ml of water

Answer: C



- **9.** Deliquescence is due to _____
 - A. strong affinity to water
 - B. less affinity to water
 - C. strong hatred to water
 - D. inerness to water

Answer: A



10. Which of the following is hygroscopic in nature?

A. Ferric chloride

B. copper sulphate pentahydrate

C. silica gel

D. none of the above

Answer: C



Textbook Evaluation Fill In The Blanks

1. the component present in lesser amount , in a solution is called .



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2. Example for liquid in solid type solution is

____·



3. solubility is the amount of solute dissolved in ____ g of solvent .



4. Polar compounds are soluble in ____ solvents



5. Volume percentage decreases with increases in temperature because ____.



Textbook Evaluation Match The Following





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Textbook Evaluation True Or False If False Give
The Correct Statement

1. Solutions which contain three components are called binary solution .



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2. In a solution the component which is present in lesser amount is called solvent .



3. Sodium chloride dissolved in water forms a non - aqueous solution .



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4. The molecular formula of green vitriol is Mg $SO_4.\ 7H_2O$.



5. When silica gel is kept open , it absorbs moisture from the air , because it is hygroscopoic in nature



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Textbook Evaluation Short Answer Questions

1. Define the term: solution.



2. What is meant by binary solution?



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3. Give an example each gas in liquid



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4. Give an example each solid in liquid



5. Give an example each solid in solid



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6. Give an example each gas in gas



7. What is aqueous and non - aqueous solution ?



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8. Define Volume percentage.



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9. The aquatic animals live more in cold region Why?



10. Define Hydrated salt.



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11. A hot saturated solution of copper sulphate forms crystals as it cools . Why?



12. Classify the following substances into deliquescent, hygroscopic.

Conc . Sulphuric acid , copper sulphate penta hydrate , silica gel , Calcium chloride and Gypsum salt .



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Textbook Evaluation Long Answer Questions

1. Write notes no

Saturated solution



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2. Write notes no

unsaturated solution



3. Write notes on various factors affecting solubility.



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4. What happens when $MgSo_4, 7H_2O$ is heated? Write the appropriatte equation



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5. Define solubility

6. In what way hygroscopic substances differ from deliquescent dubstances .



7. A solution is prepared by dissolving 45g of sugar in 180g of water. Calculate the mass percentage of solute.



8. 3.5 litres of ethanol is present in 15 litres of aquesous solution of ethanol .Calculate volume percent of ethanol solution .



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Textbook Evaluation Hot

1. Vinu dissolves 50 g of sugar in 250 ml of hot water, sarath dissolves 50g of same sugar in

250 ml of cold water. Who will get faster dissolution of sugar? And why?



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2. A' is a blue coloured crystaline salt . On heating it loses blue colour and to give 'B' when water is added ,'B' gives back to 'A' Identify A and B, write the equation .



3. Will the cool drinks give more fizz at top of the hills or at the foot ? Explain .



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Government Exam Questions Answers

1. Common name of copper (II) sulphate pentahydrate is ______.

A. Green Vitriol

- B. blue Vitriol
- C. Gypsum
- D. Epsom salt

Answer:



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2. 1.5 g of solute is dissolved in 15 g of water to form a saturated solution at 298K .Find out the solubility of the solute at the temperature



Additional Questions Answers Choose The Correct Answer

1.40 G of sodium chloride in 100 g of water at

 25° C forms ____ solution.

A. super saturated

B. Unsaturated

C. Saturated

D. Both (a) and (b)

Answer: B



- **2.** 8% of NaCl solution is _____.
 - A. 8g of NaCl in 100 g of water
 - B. 8g of NaCl in 92 g of water
 - C. 92 g NaCl in 8 g of water
 - D. 92 g of NaCl in 100 g of water

Answer: A



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3. The molecular formula of white vitriol is

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A. $CaSO_4.7H_2O$

B. $MgSO_4.7H_2O$

 $\mathsf{C.}\,K_2SO_{4.7}H_2O$

D. $ZnSO_4.7H_2O$

Answer: B



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- **4.** Anhydrous copper sulphate is _____.
 - A. blue
 - B. bluish green
 - C. colourless
 - D. black

Answer: D



5. Hygroscopic substances are used as

A. oxidizing

B. reducing

C. decarbocyleting

D. drying

Answer: D

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6. Solubulity of a solute is governed by ____.

A. nature of solute and solvent

B. temperature

C. pressure

D. all the above

Answer: D



7. salt solution containg common salt in water is an example for _____.

- A. binary solution
- B. trinary solution
- C. suspension
- D. colloidal solution

Answer: A



8. Under which of the following cases dissolution of sugar will be rapid?

A. sugar crystal in hot water

B. sugar crystal in cold water

C. powdered sugar in hot water

D. powdered sugar in cold water

Answer: C



9. A beaker contains a solutions of copper sulphate . Recipitaion of copper sulphate takes place when small amount of it added to solution .

A. saturated

B. super saturated

C. Unsaturated

D. concentreated

Answer: A



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10. Quick lime is dissolved in water is a ____ process .

A. exothermic

B. endothermic

C. reversible

D. Both (a) and (b)

Answer: A



11. Example for solid in solid _____

A. soda water

B. camphor in air

C. charcoal

D. alloy

Answer: D



12.	In	exo	ther	mic	pro	ces	s,	as	the	ten	nper	atu	re
incr	rea	ses	, sol	ubil	ity c	of th	ie	sal	t is _			_	

- A. decreases
- B. increases
- C. no change
- D. increase and then remains constant

Answer: A



13. The	solubility	of	gases	in	liquid	increases
with	•					

- A. incresed volume
- B. increased pressure
- C. decreased pressure
- D. none of these

Answer: B



14.	The	number	of	components	in	а	binary
solı	ution	is					

A. one

B. two

C. three

D. four

Answer: B



A. sugar in water
B. common salt in water
C. sulphur in carbon disulphide
D. none
Answer: C
Watch Video Solution
16. Non -aqueous solvent is

15. Which is a non-aqueous solution?

- A. benzene
- B. ether
- $\mathsf{C}.\,CS_2$
- D. All the above

Answer: D



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17. Which of the following is a saturated solution?

- A. 5g NaCl in 100 g water
- B. 10 g NaCl in 100 g water
- C. 20 g NaCl in 100 g water
- D. 36 g NaCl in 100 g water

Answer: D



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18. In which of the following solutions , both solute and solvent are solvent ?

A. cork
B. cheese
C. alloys
D. smoke
Answer: C Watch Video Solution
19. An Example for a solution containing liquid
solute in gas solvent is

- A. soda water
- B. cloud
- C. cork
- D. smoke

Answer: B



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20. Which of the following factors affect solubility?

A. temperature
B. pressure
C. nature of solvent and solvent
D. all the above
Answer: D
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21. Solubility of KNO_3 with the
increases in temperature .

A. increases	
B. decreases	
C. remains constant	
D. None of these	

Answer: A



Watch Video Solution

22. Solubility of CaO _____ with the increases in temperature .

B. decreases

C. remains constant

D. none of these

Answer: B



Watch Video Solution

23. Solubility of CO_2 gas in water ____ with the increase in pressure

- A. increaes
- B. decreases
- C. remains constant
- D. none of these

Answer: A



Watch Video Solution

24. Which of the following is a dehydrating agent (absorbs moistone)?

- A. sodium hydroxide
- B. anhydrous calcium chloride
- C. sugar
- D. none of these

Answer: B



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Additional Questions Answers Fill In The Blanks

1. Iodine dissolved in carbon retrachloride is an example of _____.



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2. The effect of pressure on the solubility of a gas in liquid is given by .



3. Volume pressure on the solubility of a gas in
liquid is given by
Watch Video Solution
4. Blue vitriol contains molecules of
water of crystallisation.
Watch Video Solution
5. Blue vitriol is



6. Magnesium sulphate heptahydrate is called



Watch Video Solution

7. Deliquescent substances are .



8. Conc H_2SO_4 is _____ in nature .



9. Caustic potash is an example of ______substance.



10. The number of water molecules found in the crystalline substance is called _____.



11. The substance present in lesser amount , in a solution is called



12. A solution that contain more solute than the saturated solution at a given termperature ____ solution .



13. Benzene is an example of _____.



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14. Molecular formula of white vitriol is _____.



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15. substances that absorb moisture from atmossphere, they dissolve in the absorbed

water and form solution is called
Watch Video Solution
16. The colour of Iron (II) sulphate is
Watch Video Solution
17. Example of liquid in gas
Watch Video Solution

18. In endothermic process, soluublity _____ with increase in temperature.



19. IN exothermic process , solubility ____ with increase in temperature .



20. A solution comtaining less amount of solute is known in termperature .



21. Concentration of a solution is amount of solute dissolved in .



22. Solution in a _____ mixture of two or more substances .



23. The solution containing two components is called _____.

Watch Video Solution

24. True solution containing two components is called _.



25. Polar compound dissolves in _____.

Watch Video Solution
26. Polar compound dissolves in
Watch Video Solution

27. ____ is an example for solid in gas .

28. _____ is an example for liquid in liquid .



29. _____ is an example of liquid in gas .



Watch Video Solution

30. The mixture of gases used by deep - sea diver is ___.



31. When we burn wood , the smoke released is
a mixture of solid carbon and gases like
and



Watch Video Solution

32. Air is a mixture of gases like _____, ____, and other gases .



33. Sulphur dissolves in
Watch Video Solution
34. The IUPAC name of Epsom salt is Watch Video Solution
35. 36 g of sodium chloride in 100 g of water at $25^{\circ}C$ forms solution .
Watch Video Solution

36. The IUPAC name of blue Vitriol is ____.

Watch Video Solution

37. _____ is a solution of liquid in gas .



38. ____ are example for solubility of gas in liquid .

39. Deliquescence in maximum when the atmoshere is .



40. 10 g or g or 30 g of sodium chloride in 100 g of water at 25° C forms an ____ solution .



41. salt in water forms
Watch Video Solution
42. Solubility of solid solute in a liquid solvent increases with increase in
Watch Video Solution
43. substances absorb moisture without
changing their physical state .



44. Mass percentage is independent of ...



Watch Video Solution

45. The solubility of sodium chloride in water is ____ g/100 g water .



46. Naturally existing solutions are
Watch Video Solution
47. Solubility of gases in liquid with
increaes iin termperature .
Watch Video Solution
48. Phoshorous pentoxide chloride is an
$(CaCl_2)$ example of a $___$ substance .



49. Common salt in water is an example of an solution .



50. Solubility is mathematically expressed as

----·



51. Ther percentage by mass of the solute present in the solution in called ____.



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52. ____ substance absorb moisture without changing their physical state .



53. When a solute gets distributed uniformly throught the solvent it forms a mixture.



Watch Video Solution

54. Hygroscopic substances may be _____.



55. Greater amount of sugar will dissolve in
water than in water .
Watch Video Solution
56. Non-polar compounds do not dissolved in
solvents.

57. When blue coloured copper sulphate crystals are heated, it becomes ____ copper sulphate.



Watch Video Solution

58. ____ acts as a dissolving medium in a solution.



59. Solubility of _____ in water is more at low termperatures .



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60. soda water is a solution of _____.



► Watch Video Solution

61. _____ solution is one that contains less solute than that of the saturated solution at a

given temperature. **Watch Video Solution** 62. Non- polar compounds are solute in 'Solvents . **Watch Video Solution** 63. Solutions which contain 3 components are called __. **Watch Video Solution**

64. The solution in which any liquid , other than water acts as a solvent is called _____ solution .



Watch Video Solution

65. Solution contains lesser amount of solute per given amount of solvent is called a _____ solution .



66. 10 % by volume of the solution of ethanol in water, means _____ of ethanol iin 100 ml of solution .



Watch Video Solution

67. when two solutes are dissolved in one solvent a ____ solution is formed .



68. the solubility of sodium iodide in water is
____ g/ 100 g water .

Watch Video Solution

69. The common name of calcium sulphate dihydrate is ____.



70. Super saturated solutions are ____.



71. Iodine dissolved in carbon tetraachloride forms a ____ solution.



Watch Video Solution

72. ____ is a solutionn of liquid in solid .



73. Iron (II) sulphate heptahydrate is called as
•
Watch Video Solution

74. As temperature increases , solubility of gases in liquid ____.



75. The process of uniform distribution of solute into solvent is called ____.



Watch Video Solution

76. The percentage by volume of solute present in the given volume of the solution

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77. Ionic compounds are soluble in and forms aquesous solution.



Watch Video Solution

78. Hygroscopic substances are used as ...



Watch Video Solution

79. Solutions which are made of one solute and one solvent (two compounents) Are

called
Watch Video Solution
80. The number of molecules in blue vitriol is 5, so the water of crystallization is
Watch Video Solution
81. Polar compounds do not dissove in
Watch Video Solution

82. Solubility of a solid solute is a liquid solvent increases with increase in .



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83. Sulphur dissolved in carbon disulphide is an example of _____ solution .



84. When the pressure is increased, solubility of gas in liquid ____.



Watch Video Solution

85. the nature of the solute and solvent playes an important role in ____.



is the perimary factor which 86. determine the characteristics of the solution.



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87. The water of crystallization of Epsom salt is



88. The solubilty of ammonia in water is ___ g/ 100 g water .



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89. ____ absorv enough water and get completely dissolved .



90. The solubility fo glucose in water is ____ g / 100 g water



91. On heating , blue vitriol changes its colour form .



92. Deliquescence is maximum when when the temperature is ____.



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93. In a solution, the component which is present in a larger amount, is called ____.



94. Onnheatingg these hydrated crystalline salts, lose their, lose their water of crystallization and become__.



Watch Video Solution

95. Alcohol , benzene , ether ,acetone are used as __ solvents .



96. In solution , the component present in larger amount is called as ____.



Watch Video Solution

97. Calculate the percentage of salt for 20 g of salt in 80 g of water .





Watch Video Solution

99. sand in water forms ____.



Watch Video Solution

100. The solution in which water acts a solvent in called solution.



101. The solubility of calcium carbonate in water is g/ 100 water .



102. The molecules formula of white vitriol is

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Additional Questions Answers State Whether The Following Statements Are True Or False Correct The False Statement

1. Sea water is an example of solution.



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2. Supar saturated solutions are highly stable.



3. The solution with higher amount of solute is called a dilute solution .



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4. In exothermic process , solubility decreases with increase in temperature .



5. Mass percentage is independent of temperature .



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6. Deliquescent substances do not changes its state on exposure to air



7. The common rule for solubility is "Like dissolves Like".



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8. Volume persentage is expressed when solute is a solid and solvent is a liquid .



9. In ointements , the concentration of solutions are expressed as W/W.



Watch Video Solution

10. If few drops of water is added to anhydrous $CuSO_4$, it turns blue in colour.



11. when we burn wood , the smoke released is a mixture of liquid .



Watch Video Solution

12. Air is a mixture of gases like nitrogen oxygen, carbon dioxide and other gases.



13. Non-polar compounds are soluble in non - polar solvents



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14. Mass perentage is expressed as W/W.



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Additional Questions Answers Assertion And Reason

1. Assertion: Air is a solution.

Reason: It is a homogenous mixture of nitrogen, oxygen, carbon di oxide and other gases.

A. Both A and R is true and R is the correct explanation of A

- B. Both A and R is is true but R is not the correct explanation of A.
- C. A is false but R is false
- D. A is false but R is true.

Answer:



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2. Assertion: sulphur dissolves in water.

Reason: Non polar substances are soluble in non polar solvents

- A. Both A and R is true and R is the correct explanation of A
- B. Both A and R is is true but R is not the correct explanation of A.

C. A is false but R is false

D. A is false but R is true.

Answer:



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3. Assertion : Aquatic animals live more in cold regions .

Reason .

Solubility of gases in liquids decrease with increase in temperature .

A. Both A and R is true and R is the correct explanation of A

B. Both A and R is is true but R is not the correct explanation of A.

C. A is false but R is false

D. A is false but R is true.

Answer:



4. Assertion : Sodium chloride f (table salt) is dissolved in water

Reason : Polat substances are solble in polar solvents.

A. Both A and R is true and R is the correct explanation of A

B. Both A and R is is true but R is not the correct explanation of A.

C. A is false but R is false

D. A is false but R is true.

Answer:



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5. Assertion: when silica gel is kept open, it absorbs moisture from the air.

Reason: It is deliquescent nature.

- A. Both A and R is true and R is the correct explanation of A
- B. Both A and R is is true but R is not the correct explanation of A.

C. A is false but R is false

D. A is false but R is true.

Answer:



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Additional Questions Answers Analogy Type Questions Identify The First Words And Their Relationship And Suggest A Suitable Word For The Fourth Blank 1. Homogeneous solution : salt + water :: Heterogeneous solution : . .



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2. Higher amount of solute : concentrated solution :: Lesser amount of solute : . .



3. Copper sulphate is heated : anhydrous (
colour less) :: copper sulphate is cooled :



4. aqueous solution : Water :: Non - aqueous solution : _____.



5. Green vitriol :Rion (II) sulphate hepta hydrate :: white vitriol : . .



Watch Video Solution

6. Endobility decreases : solubility increases ::

Exothermic process: . .



7. Binary solutions : Two components ::Ternary solutions :
Watch Video Solution
8. Hygroscopic :silica gel :: deliquescence :
Watch Video Solution
9. Epson salt : $MgSO_4.7H_2O$::Gypsum :
Watch Video Solution

Additional Questions Answers Very Short Answers

1. Definne solute and solvent.



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2. Define dissolution .



3. What is super saturated solution? Give an example.



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4. Define mass percentage .



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5. What is blue vitriol



6. what is Epsom?



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7. Find the concentration of solution in terms of weight percent if 20 g of sugar is dissolved in 40 g of water .



8. What are the important conditions for maximum deliquescence to occur?



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9. Give an example of (i) gas in liquid (ii) liquid in liquid .



10. 5g of copper sulphate are dissolved in 100 g of water to form a saturated solution at 298 K .Find out the solubility of the solute at the temperature .



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11. What are the liquids present in human body?



12. Define ternary solution.



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13. 7.5 litre of ethanol is present in 15 litre of aqueous solution of ethanol . Calculate Volume percent of ethanol solution .



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14. Why is it budding when water is boiled?



View Text Solution

15. Define ionic substances are dissolved in water to make their saturated aqueous soltution, their ions attract water molecules which then attached chemically in certain ratio .This process is called hydration .



16. What is water of crystallization?



Additional Questions Answers Short Answers

1. Calculate the percent by mass of glucose in a solution made by dissolving 50 g of glucose in 500 g of water .



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2. We often find small packets of silica gel in food packs leather and electronic goods .

What is silica gel?



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3. We often find small packets of silica gel in food packs leather and electronic goods .

Why are these little packets of silica gel kept in

lanthor products 2





4. We often find small packets of silica gel in food packs leather and electronic goods .

What property of silica gel is the reason for its



extensive use?

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5. We often find small packets of silica gel in food packs leather and electronic goods .

What are hygroscopic substances?



6. 60 grams of NaOH is dissolved in 120 grams of water at $25\,^{\circ}\,C$ to form a saturated solution.

Find mass percentage of solute and solvent .



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Additional Questions Answers Long Answers

1. explain solid solution ,Liquid solution and Gaseous solution .



Additional Questions Answers Higher Order Thinking Skills Hots

1. Butter is an example of one type of colloidal solution .Name it .

