**Quiz 8 Solutions**

1. **Hydrogen bonds between water molecules**



Your answer:  
cause surface tension on the water surface  
allows water to dissolve ionic and polar compounds  
are attractions between a partially negative oxygen atom and a partially positive hydrogen atom  
all of the above  


1. **A solution is made of 85.0 g of water and 5.0 g of NaCl.**



Your answer:  
The solute is water and the solvent is NaCl.  
The solute is NaCl and the solvent is the solution.  
The solute is NaCl and the solvent is water.  
Both NaCl and water are solutes.  


1. **A strong electrolyte is a solute that**



Your answer:  
dissolves in water as molecules only  
dissolves in water as ions only  
dissolves in water as molecules and ions  
does not dissolve in water  


1. **The number of equivalents in 1.0 mole of Fe3+ is**



Your answer:  
0 equivalents  
1 equivalents  
3 equivalents  
2 equivalents  


1. **At 40oC,KI has a solubility of 160 g KI per 100 g of water. How many grams of KI are needed to prepare a saturated solution using 25g of water?**



Your answer:  
160 g KI  
80 g KI  
40 g KI  
20 g KI  


1. **A solution contains 15 g sucrose (table sugar) and 60 g of water. What is the mass/mass % of the sucrose solution?**



Your answer:  
80% (m/m) sucrose solution  
15 % (m/m) sucrose solution  
25% (m/m sucrose solution  
20 % (m/m) sucrose solution  


1. **How many grams of NaOH are needed to prepare 400. mL of a 15%(m/v) NaOH solution?**



Your answer:  
15 g NaOH  
27 g NaOH  
38 g NaOH  
60. g NaOH  


1. **How many mL of a 5.0% glucose solution provide 80.0 g of glucose?**



Your answer:  
400 mL of 5.0% glucose solution  
1200 mL of 5.0% glucose solution  
100 mL of 5.0% glucose solution  
1600 mL of 5.0% glucose solution  


1. **What type of mixture contains solute particles that are retained by a semipermeable membrane, but do not settle out upon standing?**



Your answer:  
mixture  
colloidal  
suspension  
solution  


1. **A semipermeable membrane separates a 2% starch solution and an 8% starch solution.**



Your answer:  
Initially water will flow from the 2% starch solution to the 8% solution.  
The water level of the 8% solution will rise.  
The 8% starch solution will be diluted.  
All of the above.  


1. **Red blood cells placed in a 5% NaCl solution will**



Your answer:  
not change in volume.  
hemolyze.  
dialyze.  
crenate.  


1. **A 20.0 g sample of NaOH is used to make a 250 mL NaOH solution. What is the molarity of the NaOH solution?**



Your answer:  
8.0 M  
5.0 M  
2.0 M  
1.0 M  


1. **How many grams of NaCl are needed to prepare 0.500 L of a 4.00 M NaCl solution?**



Your answer:  
58.5 g NaCl  
117 g NaCl  
2.00 g NaCl  
4.00 g NaCl  


1. **How many mL of 5.00 M HCl solution is needed to provide 1.5 mole of HCl?**



Your answer:  
333 mL  
1500 mL  
300 mL  
750 mL  


1. **Express the concentration of a 2.0 M NaOH solution as a mass/volume percent(%).**



Your answer:  
4.0 % (m/v) NaOH solution  
2.0 % (m/v) NaOH solution  
8.0 % (m/v) NaOH solution  
40% (m/v) NaOH solution  


**Quiz 8 Solutions Answers**1) Hydrogen bonds between water molecules   
  
Correct Answer: all of the above  
  
2) A solution is made of 85.0 g of water and 5.0 g of NaCl.   
  
Correct Answer: The solute is NaCl and the solvent is water.  
  
3) A strong electrolyte is a solute that   
  
Correct Answer: dissolves in water as ions only  
  
4) The number of equivalents in 1.0 mole of Fe3+ is   
  
Correct Answer: 3 equivalents  
  
5) At 40oC,KI has a solubility of 160 g KI per 100 g of water. How many grams of KI are needed to prepare a saturated solution using 25g of water?   
  
Correct Answer: 40 g KI  
  
6) A solution contains 15 g sucrose (table sugar) and 60 g of water. What is the mass/mass % of the sucrose solution?   
  
Correct Answer: 20 % (m/m) sucrose solution  
  
7) How many grams of NaOH are needed to prepare 400. mL of a 15%(m/v) NaOH solution?   
  
Correct Answer: 60. g NaOH  
  
8) How many mL of a 5.0% glucose solution provide 80.0 g of glucose?   
  
Correct Answer: 1600 mL of 5.0% glucose solution  
  
9) What type of mixture contains solute particles that are retained by a semipermeable membrane, but do not settle out upon standing?   
  
Correct Answer: colloidal  
  
10) A semipermeable membrane separates a 2% starch solution and an 8% starch solution.   
  
Correct Answer: All of the above.  
  
11) Red blood cells placed in a 5% NaCl solution will   
  
Correct Answer: crenate.  
  
12) A 20.0 g sample of NaOH is used to make a 250 mL NaOH solution. What is the molarity of the NaOH solution?   
  
Correct Answer: 2.0 M  
  
13) How many grams of NaCl are needed to prepare 0.500 L of a 4.00 M NaCl solution?   
  
Correct Answer: 117 g NaCl  
  
14) How many mL of 5.00 M HCl solution is needed to provide 1.5 mole of HCl?   
  
Correct Answer: 300 mL  
  
15) Express the concentration of a 2.0 M NaOH solution as a mass/volume percent(%).   
  
Correct Answer: 8.0 % (m/v) NaOH solution