HOLY CROSS COLLEGE
Life to the Full

IW-14

YEAR 7 SCIENCE
CHEMICAL SCIENCES
TEST 1

NAME: SOLUTIONS **CLASS:** _____ **Mark:** ___/28

Achievement standards being tested
Mixtures, including solutions, contain a combination of pure substances that can be separated using a range of techniques.

Mark	ND	NW	C	HC	O
Mark Range	0-7	8-13	14-17	18-20	21-28

Multiple Choice **Write the answer to each question in the appropriate box at right.**

1. What ***two processes*** are involved in obtaining ***pure water from a sugar solution***?

   A Evaporation and decanting.
   B Crystallisation and evaporation.
   C Evaporation and condensation.
   D Condensation and crystallisation.

2. Which mixture could be separated using a ***magnet***?

   A Nails and paperclips.
   B Iron filings and sulphur.
   C Iron filings and paperclips.
   D Sand and sulphur.

3. A solid which dissolves in another substance is called a:

   A solvent.
   B solution.
   C solute.
   D sediment.

4. Which one of the following is ***incorrect***? An ***insoluble substance*** may:

   A form a solution.
   B form a suspension.
   C form a sediment.
   D float on top of a liquid.

5. Which of the following is a key piece of distillation equipment?

   A Separating funnel.
   B Condenser.
   C Centrifuge.
   D Magnet.

QUESTION	ANSWER
1	C
2	B
3	C
4	A
5	B
6	D
7	B
8	C
9	B
10	B
11	C
12	B
13	C
14	A

6. Decanting is:

A pouring liquid from a beaker or flask down the sink.
B pouring the entire contents of one beaker into another more conveniently sized beaker.
C tipping a liquid into a filter paper sitting in another beaker.
D tipping the liquid in one beaker into another, leaving some solid in the bottom of the first beaker.

7. Inks can be separated into their coloured components by:

A filtration.
B chromatography.
C crystallisation.
D distillation.

8. Copper carbonate is mixed with water. The green solid is ***insoluble*** in water. Select the correct response.

A The solid dissolves and a clear green solution forms.
B A colloidal suspension is formed.
C The green solid will form a sediment.
D A hazy green solution will form.

9. What is the best way to obtain sugar from a sugar solution?

A Condensation.
B Evaporation.
C Sieving.
D Filtration.

10. Water is a ***solvent*** for alcohol. This means that alcohol:

A will not dissolve in water.
B will dissolve in water.
C will react chemically with water.
D will dissolve only in water.

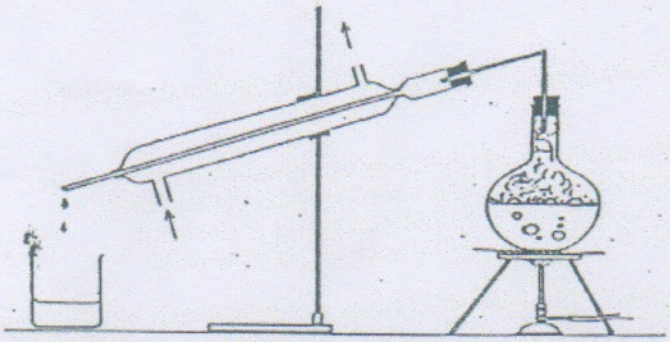
11. Suppose you were given a white powder and told to stir it into a beaker of water. You would know that the powder had ***dissolved*** in the water if:

A the powder settled to the bottom of the beaker and left the water clear.
B the powder floated on top of the water and did not mix.
C the powder disappeared and left the water clear.
D the powder disappeared and made the water cloudy.

12. Fresh water for drinking can be made from seawater. One way you could do this would be to:

A compress the water.
B distil the water.
C filter the water.
D dissolve the water.

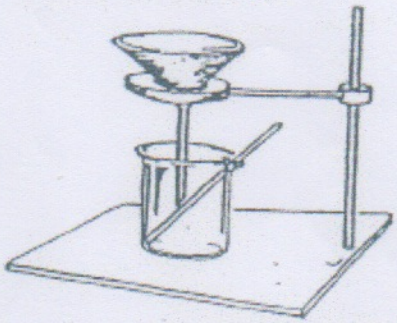
13.



The process shown in the diagram above is called:

A evaporation.
B solidification.
C distillation.
D decantation.

14.



The apparatus shown above could be used to separate:

A sand from water.
B salt from sugar.
C salt from water.
D iron from iron sulphide.

Short Answer **Write the answer to the questions in the spaces provided.**

1. Choose the correct definition for the term in the first column of the table below. Write the ***correct letter*** in the second column.

TERM	CORRECT LETTER	DEFINITION
solvent	F	A: substances that cannot dissolve.
saturated solution	D	B: the solid that settles on the bottom of a container of water.
sediment	B	C: pouring water off the top, leaving a solid behind.
sieving	G	D: no more solid is able to dissolve in a liquid.
insoluble	A	E: small particles that float in a liquid, making it cloudy.
suspension	E	F: the substance that dissolves a solid.
decanting	C	G: small particles pass through and large ones remain behind.

(7)

2. To make a chocolate milkshake ***more concentrated***, should you add ***more milk*** or ***more flavouring***?

More flavouring (1) (1)

3. A squeeze of lemon juice is mixed with a glass of cold water to make a home-made lemon drink. Which is the:

(a) solute? lemon juice (1)

(b) solvent? water (1)

(c) solution? lemon drink (1) (3)

4. Separating substances can be tricky, particularly if they are already in solution. Tom has a mixture of ***small pebbles and salt water in a beaker***.

His teacher has asked him to separate all three substances (pebbles, salt and water) and to be able to ***recover each separately***.

Carefully list (using dot points) how you would separate these substances. Indicate which substance you are recovering where appropriate. (You may find simple labelled diagrams will help your explanations.)

- FILTER
  - Pour the mixture into a filter funnel.
  - Filter paper will catch the small pebbles. } (1)

(NOTE: Could also use a sieve.)

- DISTILLATION
  - Distil the salt water in a suitable apparatus. (1)
  - Salt is left behind in test tube.
  - Water condenses into a beaker. } (1).
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(3)