

1. Introduction to Chemistry

1. Which of the following hazard warning labels should be displayed on a bottle of aqueous chlorine?



2. Which of the following hazard warning labels should be displayed on a metal cylinder containing liquefied petroleum gas?



3. Which of the following hazard warning labels should be displayed on a bottle of dilute aqueous ammonia?



4. What is the meaning of the following hazard warning label?



- A Toxic
- B Carcinogenic
- C Corrosive
- D Harmful

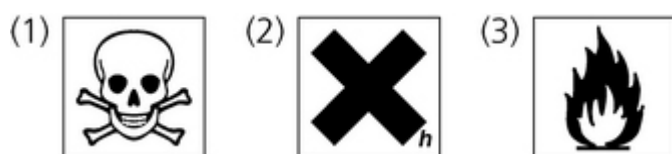
5. Which of the following should NOT be done in a laboratory?

- A Wash hands after experiments.
- B Keep flammable chemicals away from naked flames.
- C Close all windows when doing experiments.
- D Put the Bunsen burner on a fireproof mat when using it.

6. Which of the following may lead to 'striking back' of a Bunsen flame?

	<u>Supply of gas</u>	<u>Air hole</u>
A	Insufficient	half open
B	Insufficient	fully open
C	Sufficient	closed
D	Sufficient	fully open

7. Which of the following hazard warning labels should be displayed on a metal cylinder containing carbon monoxide gas?



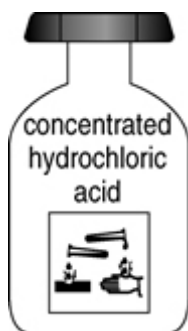
- A (1) only
- B (2) only
- C (1) and (3) only
- D (2) and (3) only

8. Which of the following precautions should be taken when working with a toxic reagent?

- (1) Avoid friction.
- (2) Wear protective gloves.
- (3) Avoid breathing in its vapours.

- A (1) only
- B (2) only
- C (1) and (3) only
- D (2) and (3) only

9. A student conducts an experiment using concentrated hydrochloric acid.



Which of the following precautions the student should take when working with the acid?

- (1) Wear safety glasses.
- (2) Wear protective gloves.
- (3) Do not warm the acid.

- A (1) and (2) only
- B (1) and (3) only
- C (2) and (3) only
- D (1), (2) and (3)

10. The label below is displayed on a container for chemical X:



Which of the following chemicals might X be?

- (1) Hydrogen
- (2) Magnesium powder
- (3) Oxygen

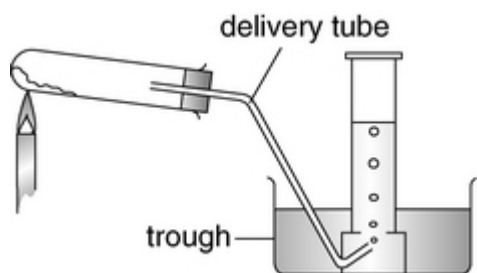
- A (1) and (2) only
- B (1) and (3) only
- C (2) and (3) only
- D (1), (2) and (3)

11. Which of the following suggestions for storing chemicals is / are acceptable?

- (1) Storing sodium in a brown glass bottle
- (2) Storing dilute hydrochloric acid in a plastic bottle
- (3) Storing yellow phosphorus in paraffin oil

- A (1) only
- B (2) only
- C (1) and (3) only
- D (2) and (3) only

12. The following diagram shows an experimental set-up for collecting a gas produced in a certain reaction.



Which of the following actions can prevent 'sucking back' of water?

- (1) Take the delivery tube away from water before removing the flame.
- (2) Remove the flame before taking the delivery tube away from water.
- (3) Decrease the amount of water in the trough.

- A (1) only
- B (2) only
- C (1) and (3) only
- D (2) and (3) only

13. Which of the following apparatus is used to make rough measurements of volumes of liquids?

- A Dropper
- B Measuring cylinder
- C Mortar and pestle
- D Reagent bottle

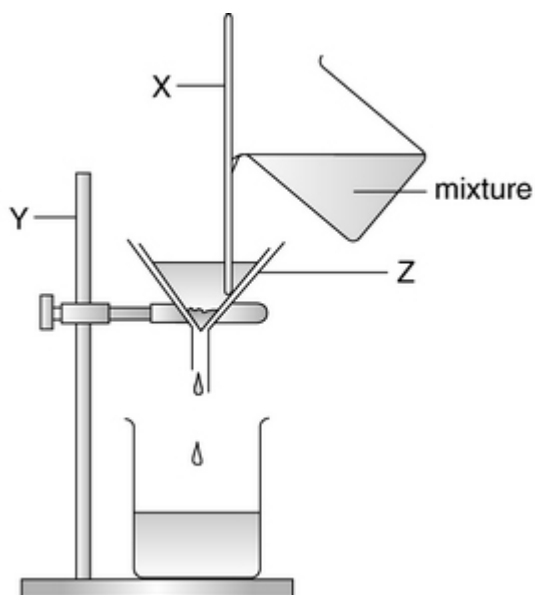
14. Consider the experimental set-up shown below:



Which of the following combinations concerning apparatus X and Y is correct?

- |   | <u>X</u>         | <u>Y</u> |
|---|------------------|----------|
| A | Evaporating dish | rack     |
| B | Petri dish       | tripod   |
| C | Petri dish       | rack     |
| D | Evaporating dish | tripod   |

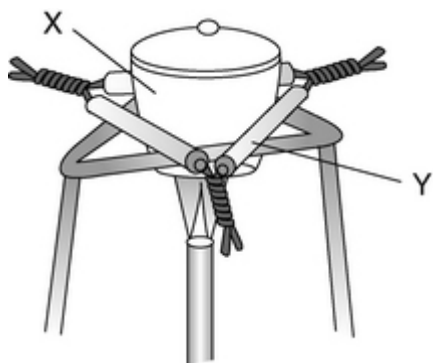
15. Consider the experimental set-up shown below:



Which of the following combinations concerning apparatus X, Y and Z is correct?

- |   | <u>X</u>    | <u>Y</u> | <u>Z</u>          |
|---|-------------|----------|-------------------|
| A | Glass rod   | stand    | filter funnel     |
| B | Thermometer | stand    | separating funnel |
| C | Glass rod   | tripod   | filter funnel     |
| D | Thermometer | tripod   | separating funnel |

16. Consider the experimental set-up shown below:



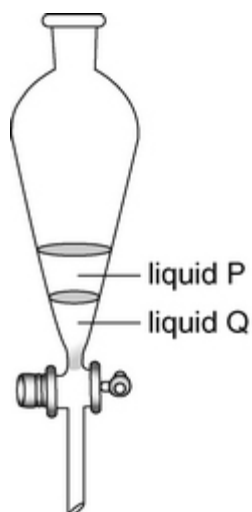
Which of the following combinations concerning apparatus X and Y is correct?

- |   | <u>X</u> | <u>Y</u>           |
|---|----------|--------------------|
| A | Crucible | pipe-clay triangle |
| B | Crucible | wire gauze         |
| C | Mortar   | pipe-clay triangle |
| D | Mortar   | wire gauze         |

17. Which of the following pieces of apparatus are involved in separating insoluble solids from a liquid?

- (1) Beaker
  - (2) Filter funnel
  - (3) Tap funnel
- A (1) and (2) only  
B (1) and (3) only  
C (2) and (3) only  
D (1), (2) and (3)

18. The diagram below shows a piece of apparatus containing two immiscible liquids P and Q.

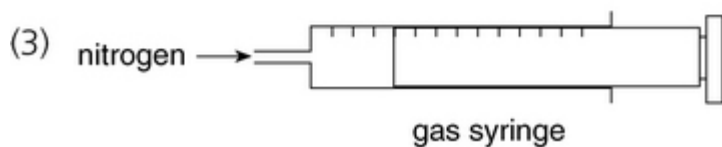
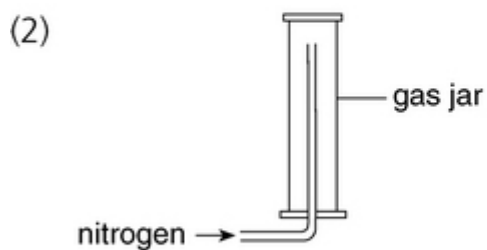
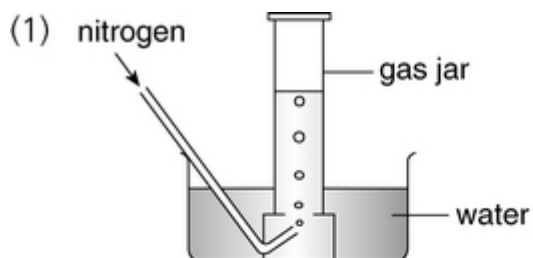


Which of the following statements is / are correct?

- (1) The apparatus shown is a tap funnel.
- (2) P is less dense than Q.
- (3) The apparatus can be used to separate a mixture of oil and water.

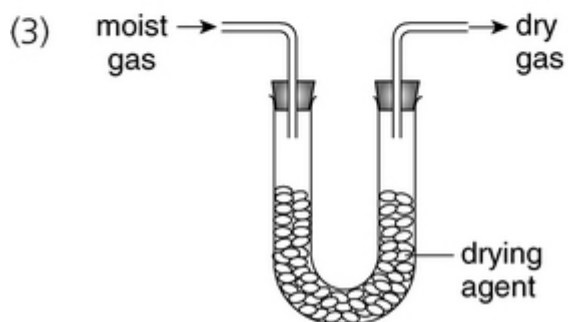
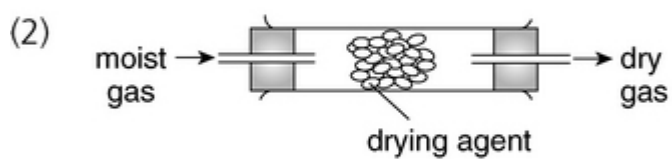
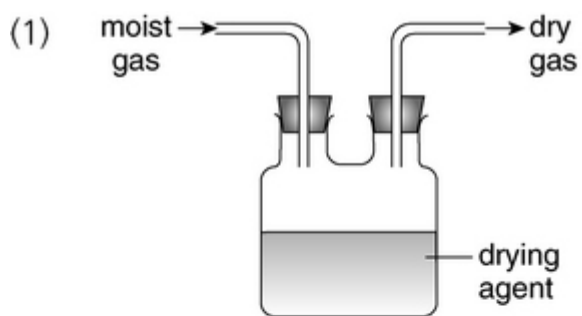
- A (1) only
- B (2) only
- C (1) and (3) only
- D (2) and (3) only

19. Which of the following set-ups can be used to collect nitrogen prepared in an experiment?



- A (1) and (2) only
- B (1) and (3) only
- C (2) and (3) only
- D (1), (2) and (3)

20. Which of the following set-ups can be used to dry a moist gas?



- A (1) and (2) only
- B (1) and (3) only
- C (2) and (3) only
- D (1), (2) and (3)

1	A	2	C	3	B	4	C	5	C
6	B	7	C	8	D	9	A	10	A
11	B	12	A	13	B	14	D	15	A
16	A	17	A	18	D	19	B	20	C