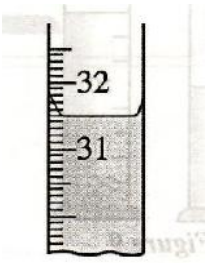
SCIENCE FORM 1
MODULE 1

1. Science can be defined as the
   A study of scientific knowledge
   B study of outer space
   C study of living things
   D study of the natural environment

2. Which statement is true about the science laboratory safety rules and precautions?
   A Turn off the tap and gas after using it.
   B Taste the chemicals as you like.
   C Throw solids into the sink.
   D Enter the laboratory whenever you want to.

3. 

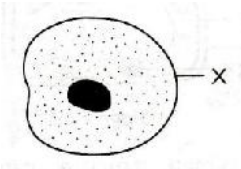
   The apparatus above can be used to measure the
   A length of a measuring cylinder
   B internal diameter of a measuring cylinder
   C external diameter of a measuring cylinder
   D diameter of a measuring cylinder

4. 

   The figure above shows the level of water in a burette. What is the correct volume of water?
   A 31.7 cm^2
   B 31.6 cm^2
   C 31.5 cm^2
   D 31.4 cm^2

5. What is the basic unit of life of all living things?
   A Cell
   B Organ
   C Cell wall
   D Tissue

6. Diagram below shows a cell.



   The cell is...
   A a plant cell.
   B an animal cell.
   C an epidermal cell of an onion leaf.
   D an epidermal layer of the human skin.

7. Which of the following is the correct organisation of cells in the human body?

A Cells → systems → organs → tissues → organism

B Cells → organs → systems → tissues → organism

C Cells → tissues → systems → organs → organism

D Cells → tissues → organs → systems → organism

8. Which of the following can be considered as a complex organism?

A Bacteria

B Virus

C Human

D *Amoeba*

9. Matter are substances that have mass and occupies

A water

B space

C sand

D gas

10. What are the two physical quantities needed when calculating the density of a substance?

A Volume and length

B Volume and mass

C Volume and temperature

D Mass and weight

11. The main difference between solid, liquid and gas is the

A shape of the particles

B colour of the particles

C size of the particles

D arrangement of the particles

12. The following are process of change of state in matter

Ice $\xrightarrow{\text{Process X}}$ Water

Wate $\xrightarrow{\text{Process Y}}$ Steam

Stean $\xrightarrow{\text{Process Z}}$ Water

Which of the following represent X, Y and Z?

	X	Y	Z
A	Condensation	Boiling	Melting
B	Boiling	Condensation	Melting
C	Melting	Condensation	Boiling
D	Melting	Boiling	Condensation

13. Why is air necessary for humans?

A It supplies energy.

B It supplies oxygen.

C It supplies water.

D It supplies minerals.

14. All the following statements about the physical properties of metals are true ***except***

A They are good conductors of heat

B They are good conductors of electricity

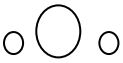
C They have high melting points

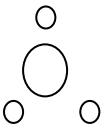
D They are ductile and brittle

15. Which of the following represents a compound?

A 

B 

C 

D 

16. Elements found in water are...

I hydrogen

II nitrogen

III oxygen

A I and II only

B I and III only

C II and III only

D I, II and III

17. The air around us consists of

A a compound of various gases

B gases and liquids

C a mixture of gases and liquids

D a mixture of gases

18. Which of the following is **not** an inert gas?

A Helium

B Neon

C Dust

D Argon

19. Oxygen is **not** needed for

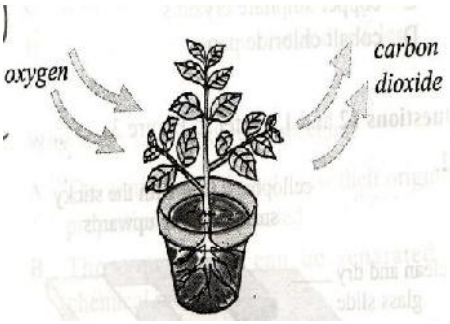
A combustion of charcoal.

B photosynthesis in plants.

C respiration in cells.

D burning of splinter.

20.



Name the process carried out by the plants in the figure above?

A Respiration

B Breathing

C Photosynthesis

D Absorption

21. Which of the following is a correct statement about energy?

A Energy is work.

B Energy is power.

C Energy is the rate of doing work.

D Energy is the ability to do work.

22.

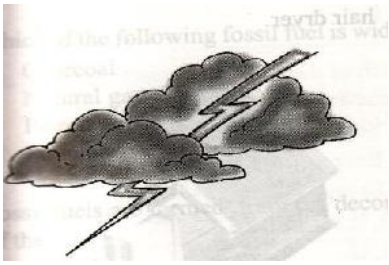


Figure above shows a type of energy. It is

A chemical energy

B mechanical energy

C electrical energy

D kinetic energy

23. Electrical energy ⟶ light energy. This change in energy takes place in a/an

A oven

B radio

C electrical clock

D fluorescent lamp

24. All the following are sources of energy ***except***

A sun

B wind

C clouds

D waves

25. Which of the following energy sourcec is nonrenewable?

A Solar energy

B Biomass

C Natural gas

D Wind energy

26. Which of the following statements is **not** true?

A Heat is matter.

B Heat cannot be seen.

C Heat can be transferred.

D Heat is a form of energy.

27. Which of the following is the best conductor of heat?

A Glass

B Aluminium

C Steel

D Copper

28. Heat is transferred through liquids and gases by

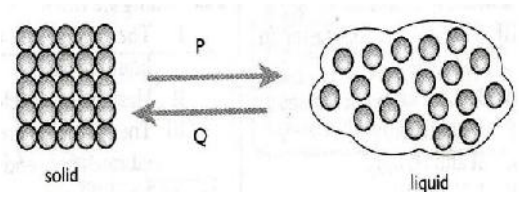
A radiation

B conduction and convection

C radiation and convection

D convection

29. Diagram below shows the change of state of matter.



What are the process represented by P and Q?

	P	Q
A	Melting	Condensation
B	Condensation	Sublimation
C	Melting	Freezing
D	Freezing	Boiling

30. Which of the following does **not** involve the absorption of heat?

A Melting

B Boiling

C Evaporation

D Condensation

ANSWER :

1. D
2. A
3. C
4. A
5. A
6. B
7. D
8. C
9. B
10. B
11. D
12. D
13. B
14. D
15. B
16. B
17. D
18. C
19. B
20. A
21. D
22. C
23. D
24. C
25. C
26. A
27. D
28. C
29. C
30. D

SCIENCE FORM 1
MODULE 2

1. Which of the following statements are true about the uses and benefits of science?

I Science helps us to make things quickly

II Science helps us to make our work complicated

III Science helps us to maintain good health.

A I and II only

B I and III only

C II and III only

D I, II and III

2. Which of the following pieces of apparatus is the most suitable to measure 30.2 cm^3 of liquid?

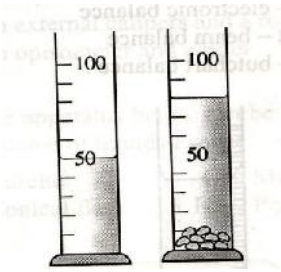
A 50 cm^3 burette

B 50 cm^3 beaker

C 25 cm^3 beaker

D 50 cm^3 measuring cylinder

3.



A student filled a measuring cylinder with 50 ml of water. She put in 15 marbles of equal size into the water. The water level rose to 80 ml. What is the volume of each marble?

A 2 cm^3

B 30 cm^3

C 35 cm^3

D 80 cm^3

4. The external diameter of a ball can be measured by using

I an external calipers and ruler

II an external calipers and thread

III thread

A I, II and III

B I and II only

C II and III only

D I only

5. L, M, N, O and P are the steps in the handing of a microscope when it is being used.

L – Place the glass slide on the microscope stage.
M – Adjust the microscope mirror.
N – Adjust the focusing knob
O – Use the lower power objective
P – Place the microscope in a bright area.

Which of the following sequence is correct?

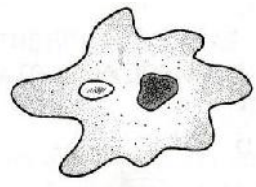
A P, O, M, L and N

B O, P, L, M and N

C L, M, N, O and P

D L, M, N, P and O

6. Diagram below shows a microorganism.



Which of the following statements about the organism is **incorrect**?

A It is a unicellular organism.

B It lives in wet places.

C It can make its own food.

D It can change its shape.

7. Figure below shows the stagea of human cell organisation.

Cell → Tissue → *P* → Svstem

Which of the following are examples of *P*?

A Heart, white blood cell

B Sperm, skin

C Ovum, lung

D Stomach, liver

8. Which of the following organs are parts of the reproductive system?

I Uterus

II Ovary

III Fallopian tube

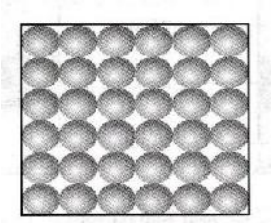
A I and II only

B I anf III only

C II and III only

D I, II and III

9. Figure below shows the arrangement of particles in substance *M*



Substance *M* most probably is

A water vapour

B an ice cube

C sea water

D oxygen gas

10. Which of the following shows the diffusion of gas particles?

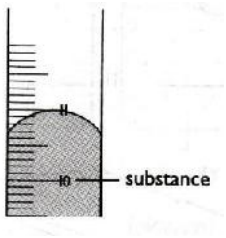
A Water changes to water vapour by evaporation.

B A person detecs the smell of curry being cooked the kitchen.

C A balloon filled with helium rises.

D A wet hung outdoors becomes dry after a while.

11. Diagram below shows the reading of the volume of a substance in a measuring cylinder.



What is the density of the substance if its mass is 150 g?

A 9.7 g cm^{-3}

B 13.6 g cm^{-3}

C 14.8 g cm^{-3}

D 20.6 g cm^{-3}

12. Table below shows the mass and volumes of three substances K, L and M.

Substance	Mass (g)	Volume (cm^3)
K	320	24
L	180	9
M	96	20

The arrangement of the substances in ascending order of density is...

A K → L → M

B M → L → K

C M → K → L

D L → M → K

13. Which of the following classifications is correct about sulphur, ion, aluminium and carbon?

	Metals	**Non-metals**
A	Carbon Iron	Sulphur Aluminium
B	Aluminium Iron	Sulphur Carbon
C	Sulphur Aluminium	Carbon Iron
D	Aluminium Carbon	Sulphur Iron

14. Which of the following is true about aluminium, mercury and iron at room temperature?

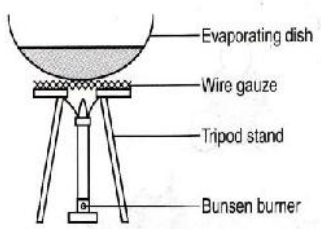
A Ductile

B Malleable

C In solid state

D Allow heat to flow through

15. Figure below shows a method of separating mixture.



This method can be used to obtain

A water from salt solution.

B salt from salt solution.

C sand from a mixture of sand and sugar.

D sugar from a mixture of sand and sugar.

16.

- Contains water and minerals
- Vital for growing of plants
- Habitat for living things

The above information refers to the importance of

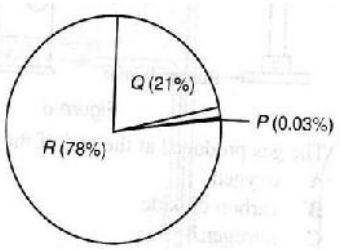
A fossil fuels

B mineral

C soil

D air

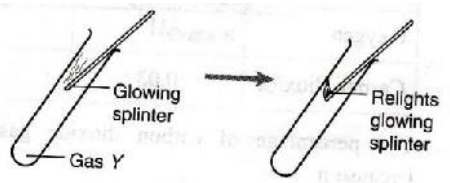
17. Diagram below shows the percentage of gases in the air.



Identify the gases P, Q and R.

	P	Q	R
A	Carbon dioxide	Nitrogen	Oxygen
B	Carbon dioxide	Oxygen	Nitrogen
C	Carbon dioxide	Oxygen	Inert gases
D	Oxygen	Carbon dioxide	Nitrogen

18. Figure below shows the set-up of apparatus to test gas Y.



Gas Y is

A oxygen

B carbon dioxide

C nitrogen

D hydrogen

19. Which of the following is true regarding respiration and combustion?

	Respiration	Combustion
A	Uses oxygen	Produces oxygen
B	Gives out carbon dioxide	Uses carbon dioxide
C	Produces energy	Does not produce energy
D	Uses oxygen	Produces carbon dioxide

20. The list below shows the properties of a gas in air.

- Colourless
- Odourless
- Slightly soluble in water

~~The gas with the above properties~~ is probably...

I argon
II oxygen
III carbon dioxide
A I and II only
B I and III only
C II and III only
D I, II and III

21.

- Unlimited supply.
- Does not cause pollution.
- The primary source of energy. Almost all the energy on Earth originate from it.

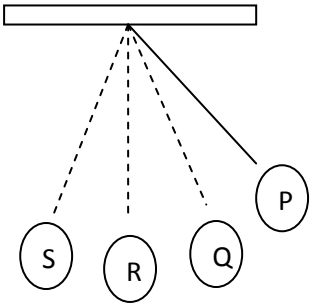
The form of energy source that fits the descriptions above is

A solar energy
B wind energy
C biomass
D geothermal

22. Which of the following energy source is matched to its description correctly?

	Sources of energy	**Description**
A	Fossil fuels	Energy obtained from the heat energy of Earth.
B	Solar	Energy produced from the movement of failing water.
C	Biomass	Energy obtained from decaying matter.
D	Geothermal	Energy obtained from the remains of plants and animals that lived millions of years ago.

23. A pendulum is released from position P. The movement of the pendulum is shown in figure below.



At which position does the pendulum have the maximum potential energy and the maximum kinetic energy?

	Maximum Potential energy	Maximum kinetic energy
A	P	R
B	S	R
C	R	P
D	S	Q

24. Which of the following energy changes takes place during the oxidation of food?

A Potential energy → Chemical energy

B Heat energy → Chemical energy

C Chemical energy → heat energy

D Chemical energy → kinetic energy

25. The following are examples of type of energy source that cannot be renewed.

- Uranium
- Plutonium

What is the name of this type of energy source?

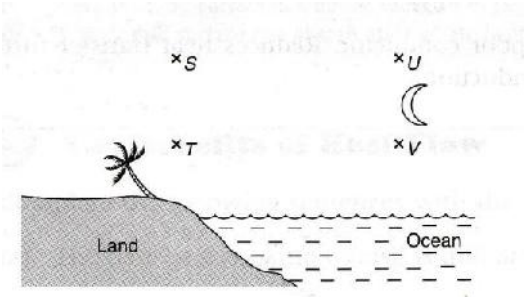
A Fossil fuels

B Nuclear source

C Biomass

D Geothermal source

26.



Referring ti figure above, which of the following shows the correct flow of air?

A T → V

B T → S

C S → U

D U → V

27.

- Occurs only at the boiling point of a liquid.
- Occurs throughout a liquid.
- Heat energy is absorbed.

The physical process that fits the description above is

A melting

B evaporation

C condensation

D boiling

28. Which of the following are done to solve problems related to the expansion and contraction of matter?

I The handles of frying pans are made of wood or plastic

II Telegraph wires are allowed to sag

III A roller is placed underneath one end of steel bridge

IV Railway lines have gaps between their ends.

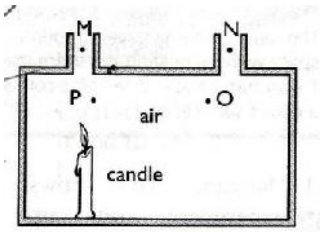
A III and IV only

B I, II and III only

C II, III and IV only

D I, II, III and IV

29. Diagram below shows a box with a lighted candle at one corner.



What is the dorection of air flow?

A P → O → N → M

B M → P → O → N

C P → N → O → M

D P → M → N → O

30. What happens to the particles when a solid is heated?

A The particles move closer.

B The particles vibrate slowly.

C The particles move further apart.

D The particles are attracted to each other.

ANSWER :

1. B
2. A
3. A
4. D
5. A
6. C
7. D
8. D
9. B
10. B
11. B
12. C
13. B
14. D
15. B
16. C
17. B
18. A
19. D
20. C
21. A
22. C
23. A
24. C
25. B
26. A
27. D
28. C
29. D
30. C

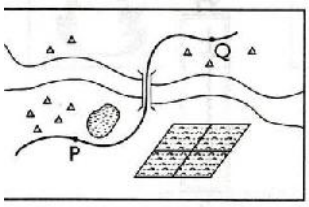
SCIENCE FORM 1
MODULE 3

1. The bulb of a laboratory thermometer has a very thin wall. What is the reason for this?
   A To save glass
   B It is easier to see the mercury in the bulb
   C Heat can be transferred quickly to the mercury
   D This prevents the bulb from cracking

2. Why does the mass of an astronaut remain the same when he lands on the Moon?
   A The volume of his body has not changed.
   B The quantity of matter in his body has not changed.
   C His body is not attracted by the Moon's gravity.
   D His body is still under the influence of the Earth's gravity.

3. When you are reading the volume of a liquid in a measuring cylinder, you should....
   I place the cylinder on a level surface.
   II place your eyes at the same level as the bottom of the meniscus.
   III hold a piece of white paper behind the meniscus.
   IV shake the cylinder before reading it.
   A I and II only
   B I and III only
   C II and III only
   D I, II and III only

4. Diagram below shows the distance between point P and point Q.



The distance can be measured by using...
   I a thread and a ruler.
   II external callipers and ruler.
   III an opisometer and a ruler.
   A I and II only
   B I and III only
   C II and III only
   D I, II and III

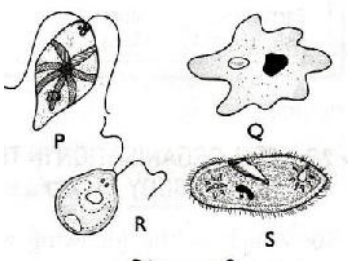
5. J, K, L are three stages in the organisation of cells in an organism.

J – A group of similar cells carrying out similar functions
K – A group made up of different kinds of cells, each carrying out its own functions
L – Basic unit of life

Which of the following examples of units found in the three stages are given correctly?

	J	K	L
A	Heart	Muscle	Sperm
B	Sperm	Heart	Muscle
C	Muscle	Sperm	Heart
D	Muscle	Heart	Sperm

6. Diagram below shows four organisms. P and R can make their own food but Q and S cannot.



Which of the following statements is correct?

A Q and S can move but P nd R cannot.

B P and R live in water but Q and S live on land.

C P and R are multicellular but Q and S are unicellular.

D P and R have chloroplasts but Q and S do not have chloroplasts.

7. Why are humans considered special organisms compared to other living things?

I They have minds and can think rationally.

II They can tell the difference between right and wrong

III They take care of their young.

A I and II only

B I and III only

C II and III only

D I, II and III

8. Which of the following is **not** one of the reasons why humans are complex organisms?

A They have various types of specialized cells.

B The cells perform specialized functions.

C There is no division of work among the cells.

D The cells are well organized into tissues, organs and systems.

9. A balloon is inflated with gas and the opening is tied tightly. After some time the balloon becomes smaller. What inferences can be made from the observation?

A The spaces between the balloon particles are small.

B The gas particles have a lot of energy

C The gas particles are bigger than the balloon particles.

D The gas particles have escaped through the tiny pores in the wall of the balloon.

10. The hot air balloon is able to rise in the sky because...

A the balloon is denser than the air

B the balloon is made up of dense material

C the hot air is less dense than the cold air

D the hot air is denser than the cold air

11. Diagram below shows a driver breathing oxygen from a small cylinder that is attached to his back.

What conclusion can be drawn about the compressed oxygen in the cylinder?

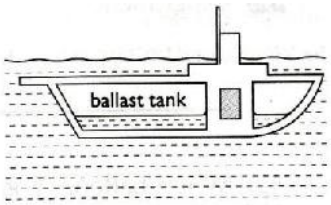
A It occupies less space.

B It can be easily transported.

C It becomes more flammable.

D It becomes lighter.

12. Digram below shows a submarine floating on the surface of sea water.



How can the submarine be made to sink?

A Replace the water in the ballast tanks with air.
B Fill the ballast tanks with oxygen.
C Pump more water into the ballast tanks.
D Pump water out of the ballast tanks.

13.

Metal X + non-metal Y ⟶ Compound Z

Based on the equation above X, Y and Z can be represented by

	X	Y	Z
I	magnesium	oxygen	magnesium oxide
II	iron	sulphur	iron sulphide
III	magnesium	nitrogen	magnesium nitrate

A I and II only
B I and III only
C II and III only
D I, II and III

14.

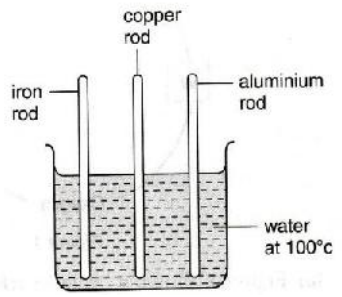


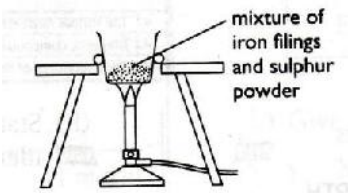
Figure above shows three metal rods placed in water at 100°C to compare their ability to conduct heat. Which of the following variables need not be kept constant?

A Length of the rods
B Diameter of the rods
C Shiny appearance of the rods
D Length of time the rods are immersed in water

15. Which of the following is **not** a reason for considering air a mixture?

A There are gaseous elements in air
B The gases in air are not present in fixed proportions.
C The gases in air can be separated easily.
D Air can be formed by mixing the gases in their correct amounts.

16. Diagram below shows a mixture of iron filings and sulphur powder being strongly heated.



Which of the following is not true about the productof the heating?

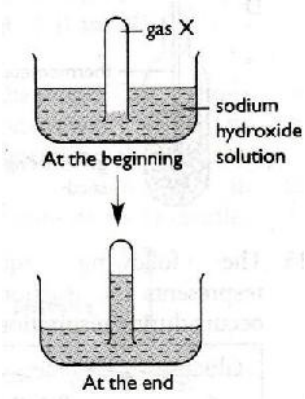
A It is black in colour.

B It is a compound.

C It has the properties of iron.

D It has attracted by a magnet.

17. Diagram below shows the apparatus set up of an experiment.



Which of the following statements about gas X is correct?

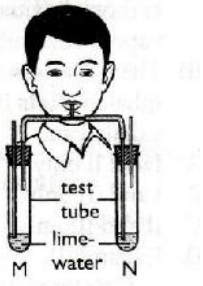
A It is not soluble in sodium hydroxide solution.

B It is very soluble in sodium hydroxide solution.

C It is slightly soluble in hydroxide solution.

D It is insoluble in limewater.

18. Diagram below shows an experiment set up to study respiration.



What can be observed after two minutes?

A The limewater in test tube N is less cloudy than the limewater in test tube M.

B The limewater in test tube M is not cloudy but the limewater in test tube N is cloudy.

C The limewater in both test tubes becomes cloudy.

D The limewater in test tube M is less cloudy than the limewater in test tube N.

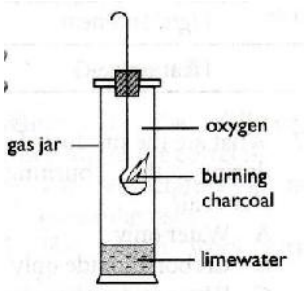
19. Table below shows the percentages of three different gases in both inhaled and exhaled air.

Gas	Inhaled air (%)	Exhaled air (%)
Nitrogen	78.0	78.0
Oxygen	21.0	16.0
Carbon oxide	0.03	5

The percentage of oxygen decreases in exhaled air because it...

A is trapped in the nose.
B is used during respiration.
C is dissolved in the body.
D is lost through transpiration.

20. Diagram below shows an experiment set up ti determine the products formed during combustion of charcoal. Several tests are carried out on the products.

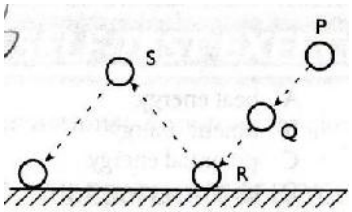


Which of the following statements are **incorrect**?

I The limewater turns cloudy.
II Moist red litmus paper turns blue.
III Droplest of water are formed on the wall of the gas jar.

A I and II only
B I and III only
C II and III only
D I, II and III

21. Diagram below shows the movement of a ping pong ball when it is thrown from position P onto the floor.



Which of the following statements are correct?

I At position P, potential energy is at its maximum and kinetic energy is at its minimum.
II At position Q, the potential energy of the pingpong ball is lower than at S.
III At position R, potential energy is at its minimum and kinetic energy is at its maximum.

A I and II only
B I and III only
C II and III only
D I, II and III

22. Oil palm waste can be used as a source of energy. Which of the following statements is true about this source of energy?

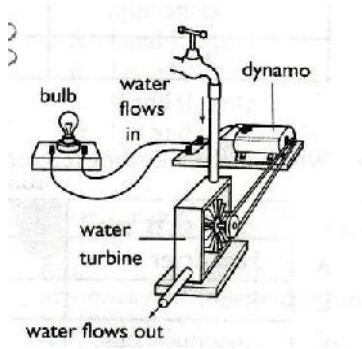
A It can produce biogas.

B It is a type of fossil fuel.

C It is a non-renewable energy.

D It is known as nuclear energy.

23. Diagram below shows a model of a hydroelectric generator. When the tap is turned on, the bulb will light up



Which types of energy are involved?

I Light energy

II Potential energy

III kinetic energy

A I and II only

B I and III only

C II and III only

D I, II and III

24. Which of the following are the reasons why solar energy is not widely used?

I There is a lack of sunshine in temperate regions.

II We do not get sunshine 24 hours a day.

III There is a lack of storage devices for large solar power supply.

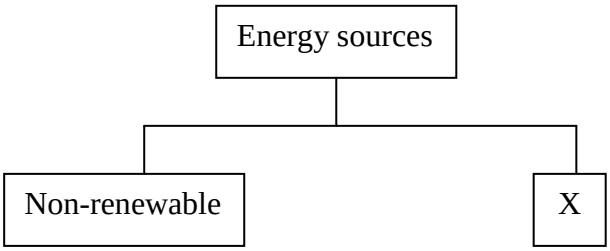
A I and II only

B I and III only

C II and III only

D I, II and III

25. The diagram shows two types of energy sources.



Which of the following energy sources are classified under X?

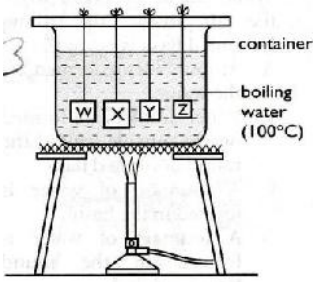
A Hydro, natural gas and petroleum

B Biomass, petroleum and solar

C Tidal, solar and wind

D Firewood, nuclear and natural gas

26. Diagram below shows iron blocks of different masses placed in boiling water.



Arrange the iron blocks in order starting with the one which has the least heat content.

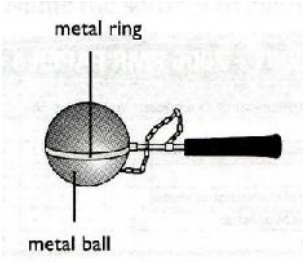
A W, Z, Y, X

B W, X, Y, Z

C X, Y, Z, W

D Z, Y, W X

27. In the experiment shown below, the metal ball cannot pass through the ring after it is heated for a few minutes.



This is because...

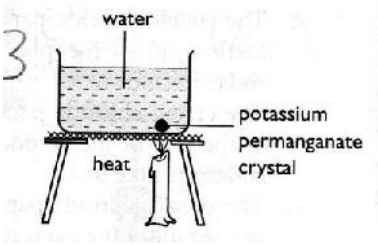
A the size of the particles in the metal ball increases.

B the mass of the particles in the metal ball increases.

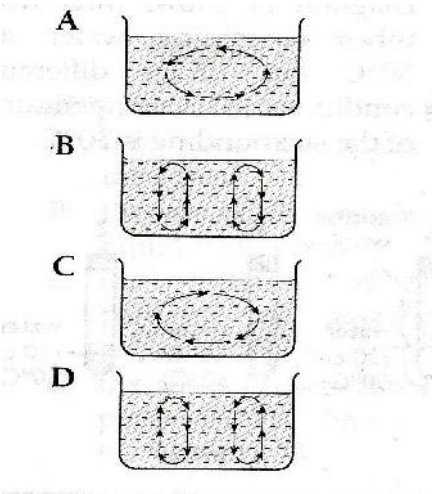
C the volume of the particles in the metal ball increases.

D the distance between the particles in the metal ball increases.

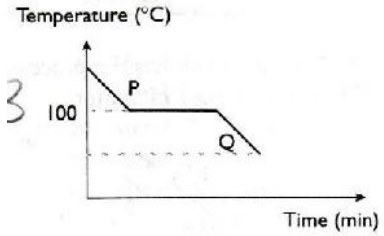
28. A crystal of potassium permanganate is placed at the base of a beaker as shown in diagram below.



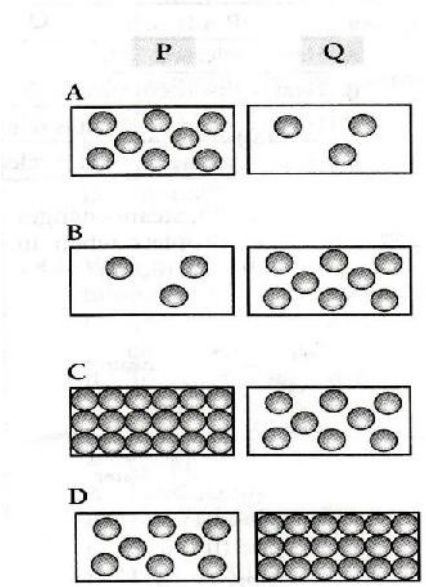
Which of the following shows the direction of the convection current in the beaker when the water is heated?



29. Diagram below shows the change of state of water from P to Q. P and Q are different states of matter.



Which of the following shows the correct arrangement of particles in P and Q?



30. The principle of expansion and contraction of matter is used in the following **except**...

A thermostat in an electric iron.

B thermometer.

C fire alarm.

D doorbell.

ANSWER:

1. C
2. B
3. D
4. B
5. D
6. D
7. A
8. C
9. D
10. C
11. B
12. C
13. A
14. C
15. A
16. C
17. B
18. D
19. B
20. C
21. D
22. A
23. D
24. D
25. C
26. D
27. D
28. A
29. B
30. D