

Jawapan

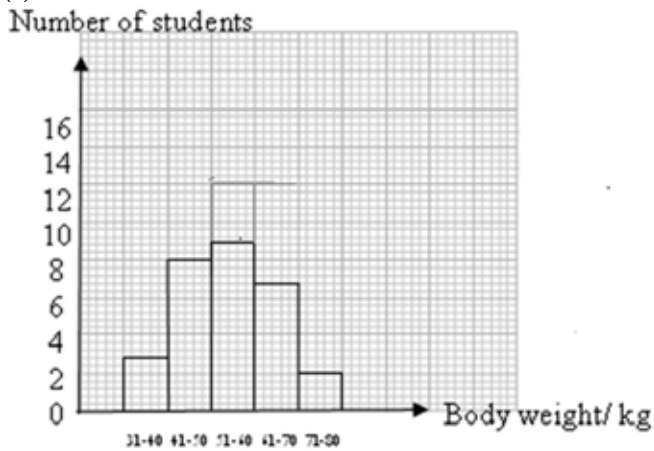
Science

Science Paper 1

No	Ans	No	Ans	No	Ans	No	Ans	No	Ans
1	C	11	B	21	A	31	D	41	C
2	D	12	C	22	B	32	D	42	D
3	D	13	C	23	D	33	D	43	C
4	A	14	B	24	B	34	B	44	C
5	C	15	C	25	D	35	C	45	B
6	C	16	D	26	C	36	D	46	D
7	C	17	D	27	B	37	C	47	B
8	A	18	B	28	B	38	C	48	A
9	C	19	B	29	D	39	B	49	C
10	A	20	C	30	C	40	B	50	C

Section A

1 (a)



- (b) Continuous variation
- (c) Intelligence / Body height / Skin colour

2 (a) (i) Quantity of metal
(ii) Type of metal

- (b) Glows with a bright flame slowly
- (c) Copper
- (d) Y, zinc, X

3 (a)

Experiment	Condition of the Petri dish	Present of bacterial colonies
I	P	√
	Q	
	R	
II	S	√
	T	

- (b) White colonies that can be seen on the nutrient agar are bacterial colonies.
- (c) (i) Humidity and nutrient factors
(ii) Light factor
- (d) Bacteria grow well in the presence of nutrients, damp and dark conditions.

4 (a) The heavier the weight, the larger the distance of compression.

- (b) (i) Contact surface area
(ii) Mass of load (weight)
(iii) Distance of sponge compressed

(c) Pressure is a condition when the weight / mass of load increases, the distance of compression also increases.

Section B

- 5 (a) (i) Pituitary gland
(ii) Controls growth of muscles and bones
- (b) (i) Thyroid gland
(ii) Low metabolic rate
- (c) Bloodstream
- 6 (a) Radioactive substances
- (b) To handle the radioactive substances carefully and properly because the radioactive radiation emitted is harmful to living things and can threaten the balanced ecosystem
- (c) Iodine-31 and cobalt-60
- (d) Wearing a special protective outfit/Wearing a film badge
- (e) Causes hair loss/loss of appetite/vomiting
- 7 (a) Increase the hardness of metal
- (b) (i) Because the similar size of its atoms and the layers of atoms which slide over one another easily when force is applied
(ii) The different sizes of foreign atoms prevent the layers of atoms from sliding over one another.
- (c) (i) Tin and copper
(ii) Shiny surface, corrosion resistant
(iii) Making decorative items like photo frames
- 8 (a) X: Mesocarp/Pulp
Y: Endocarp/Shell
- (b) Kernel
- (c) (i) Extraction
(ii) Kills bacteria and fungi
(iii) Vitamin A / Vitamin E
- 9 (a) Microwave
- (b) The antenna disc at the earth satellite station transmits and receives the information from the communication satellite.
- (c) - Not affected by change in weather
- Can cover wide areas
- (d) Enable television programmes to be broadcast live
- (e) Military satellite

Section C

10 (a) Magnesium is more reactive than copper when reacting with dilute acid.

(b) (i) Aim: To study the reactivity of metals with dilute acid.

(ii) Variables:

Controlled variable: Volume and concentration of acid

Manipulated variable: Type of metal

Responding variable: Reactivity of metal

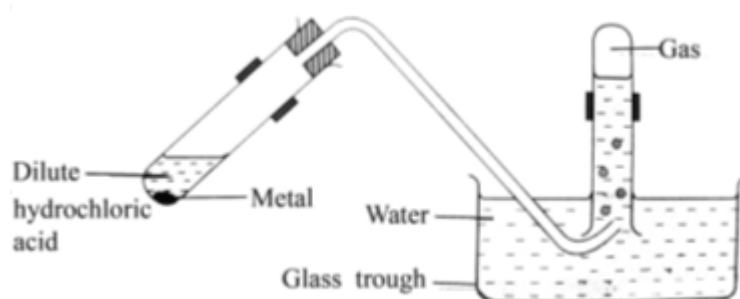
(iii) Apparatus:

Test tube, boiling tube, stopper, delivery tube, glass trough, tongs, lighted wooden splinter, Bunsen burner

Materials: Magnesium ribbon, copper filings, dilute hydrochloric acid

(iv) Procedure:

1. Dilute acid is poured into a boiling tube.
2. The apparatus is set up as shown below.



3. A magnesium ribbon is placed into the dilute acid in the boiling tube.
4. The gas released is tested with a lighted wooden splinter.
5. The experiment is repeated using copper filings.
6. Observations are recorded in a table.

Tabulation of data:

Metal	Observation
Magnesium	The reaction is very vigorous. The gas released produces a popping sound when tested with a lighted wooden splinter
Copper	No reaction

11 a) (i)

Boiling	Autoclaving
Can destroy microorganisms but cannot destroy spores	Can destroy microorganisms and spores
Use lower temperature	Use high temperature

(ii)

Antiseptics	Disinfectants
Used to prevent bacterial growth	Used to kill microorganism
Do not destroy body tissue	Destroy body tissue

- (b) Common characteristics
- Contains weakened or dead pathogens
 - Stimulates the body to produce antibodies

Initial concept

- A vaccine containing weakened or dead pathogens can stimulate the body to produce antibodies to kill the pathogens.

Example (can be prevented by vaccination)

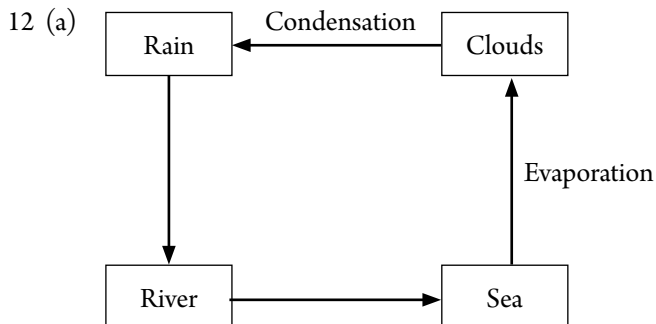
- Rubella

Example (cannot be prevented by vaccination)

- Malaria

Vaccine

- BCG vaccine



Water from the sea will evaporate and gather to form clouds. Besides this, living organisms also release water into the atmosphere through combustion and respiratory processes. Water is also released into the atmosphere through transpiration in plants. Thus, the clouds will condense and eventually fall as rain. River water and underground streams flow into the sea.

- (b) **Common effects**
- Soil erosion
 - Destroys the habitats of flora and fauna

Concept

Opening of land and deforestation will destroy the habitats of organisms and cause soil erosion.

Method

Planting cover crops

Non-method

Construction

Reason

Cover crops will protect the soil from direct exposure to rainwater which could cause soil erosion.

Analysis

[1511/1]
[1511/2]

Science

CHAPTER	2006				2007				2008				2009				2010			
	P1	P2			P1	P2			P1	P2			P1	P2			P1	P2		
		Sec A	Sec B	Sec C		Sec A	Sec B	Sec C		Sec A	Sec B	Sec C		Sec A	Sec B	Sec C		Sec A	Sec B	Sec C
1 Scientific Investigation	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
2 Body Coordination	3	-	1	-	3	-	1	-	3	-	1	-	3	-	1	-	4	1	1	-
3 Heredity and Variation	4	1	-	-	5	-	-	-	4	1	-	-	3	-	-	1	4	-	-	-
4 Matter and Substances	4	1	-	-	5	1	-	-	4	1	-	-	4	-	-	-	4	-	1	-
5 Energy and Chemical Changes	3	-	-	1	3	-	1	-	3	-	-	1	4	1	-	-	3	-	1	-
6 Nuclear energy	2	-	1	-	2	-	1	-	2	-	1	-	2	-	1	-	4	-	-	-
7 Light, Sight and Colour	5	-	-	1	3	1	-	-	5	-	-	1	3	1	-	-	3	-	-	1
8 Chemicals In Industry	2	-	1	-	2	-	-	1	2	-	1	-	3	-	1	-	2	-	-	1
9 Microorganisms and Their Effects on Living Thing	4	1	-	-	5	1	-	-	4	1	-	-	5	-	-	1	5	-	-	-
10 Nutrition	5	-	-	-	2	-	1	-	5	-	-	-	4	-	-	-	4	-	1	-
11 Perservation and Conservation of the Environment	4	-	-	-	2	-	-	-	4	-	-	-	4	-	-	-	2	-	-	1
12 Carbon Compound	3	-	1	-	4	1	-	-	3	-	1	-	3	1	-	-	3	2	-	-
13 Motion	4	1	-	-	5	-	1	-	4	1	-	-	5	-	-	1	5	1	-	-
14 Food Technology and Production	2	-	-	1	4	-	-	1	2	-	-	1	2	-	1	-	2	-	-	-
15 Synthetic Materials in Industry	3	-	-	-	3	-	-	-	3	-	-	-	2	-	1	-	2	-	-	-
16 Electronics and Information and Communication Technology (ICT)	2	-	1	-	2	-	-	1	2	-	1	-	3	-	-	-	3	-	1	-
TOTAL	50	4	5	3	50	4	5	3	50	4	5	3	50	4	5	3	50	4	5	3

Science Paper 1

[1511/1]

This question paper consists of 50 questions. Each question is followed by four options A, B, C and D. Choose one correct answer for each question. Answer all the questions.

- 1 Diagram 1 shows the structure of the human brain.

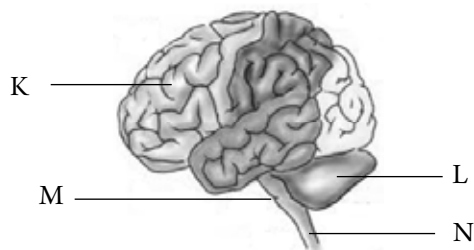


Diagram 1

Which of the following parts of the brain can control actions like breathing, food digestion and heartbeat ?

- A K
B L
C M
D N
- 2 Which of the following endocrine glands will be affected if a person consumed a lack of iodine in his diet ?
- A Testis
B Pancreas
C Adrenal gland
D Thyroid gland
- 3 Which of the following comparisons is true about the coordination between nervous system and endocrine system ?

	Nervous system	Endocrine system
A	Consist of nerves	Consist of blood cells
B	Leaves long-term effects in the body	Leaves short-term effects in the body
C	Has continuous response	Has immediate response
D	Affects specific target areas	Affects non specific target areas

- 4 Which of the following is true about sex determination ?

- A When an ovum is fertilised by a sperm which carries the X chromosome, it will produce a female zygote.
B When an ovum is fertilised by a sperm which carries the XY chromosomes, it will produce a male zygote.
C The sex of a child is determined by the type of sex chromosome carried by the ovum.
D The sex of a child is determined by the number of chromosomes in a sperm.

- 5 How many chromosomes can be found in the nucleus of a child's cheek cell who suffers from Down's Syndrome ?

- A 45
B 46
C 47
D 48

- 6 Diagram 2 shows the formation of a female zygote.

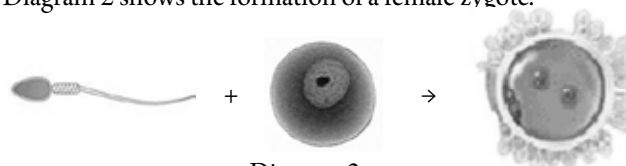


Diagram 2

Which of the following chromosomes can be found in the sperm, ovum and female zygote ?

	Sperm	Ovum	Female Zygote
A	22 + Y	22 + X	22 + XY
B	22 + X	22 + X	22 + XX
C	22 + X	22 + X	44 + XX
D	44 + X	44 + X	44 + XX

- 7 Diagram 3 shows the inheritance of flower colour of a plant. P is the dominant gene for purple flower while p is the recessive gene for white flower.

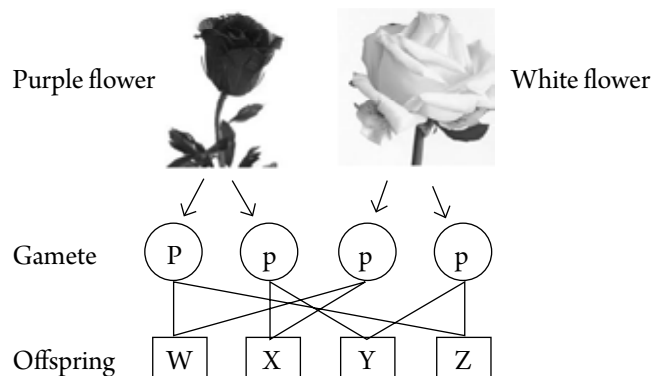


Diagram 3

Which offspring has purple flower ?

- A W only
B X only
C W and Z only
D X and Y only

8 Diagram 4 shows the locations of elements P, Q, R and S in the Periodic Table.

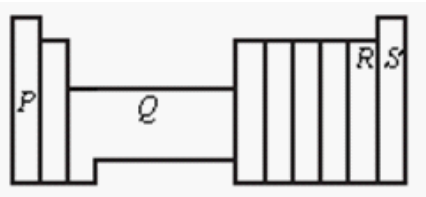


Diagram 4

Which element is the most reactive ?

- A P
- B Q
- C R
- D S

9 The following information shows the properties of some elements.

- W : Transition element
- X : Metal
- Y : Halogen
- Z : Noble gas

Which of the following shows the possible locations of the elements in the periodic table ?



10 Diagram 5 shows the physical changes in the state of a matter.

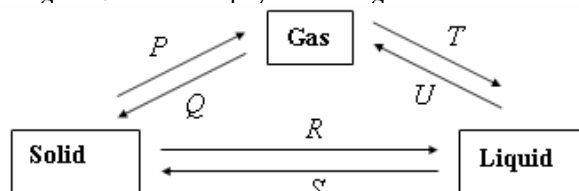


Diagram 5

Which of the following processes involve the absorption of heat energy ?

- A P, R, U
- B Q, S, T
- C P, S, T
- D Q, R, U

11 Atom Y has 18 neutrons and its nucleon number is 35. What is the proton number for atom Y?

- A 17
- B 18
- C 35
- D 52

12 Which of the following is true about the characteristics of a chemical change ?

- A The products formed have the same mass as the reactants.
- B The products have the different chemical properties from the reactants.
- C The chemical change is reversible.
- D Energy is usually required in the reaction.

13 Diagram 4 shows the apparatus set up of an experiment.

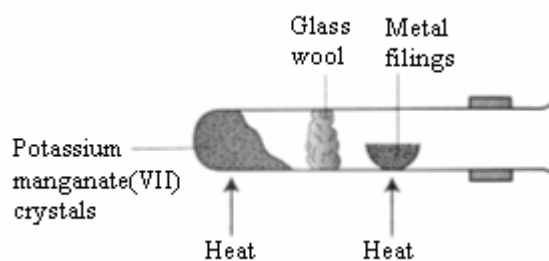


Diagram 4

What is the function of potassium manganate(VII) crystals in this experiment ?

- A To speed up the reaction of metal
- B To supply oxygen to react with metal
- C To absorb moisture in the boiling tube
- D To remove all the air in the boiling tube

14 Which of the following is the best way to store photographic paper ?

- A Stored in a black bag
- B Stored in a glass container
- C Stored in a transparency bag
- D Stored in a plastic container

15 Diagram 5 shows a reaction between calcium and water to produce a colourless gas.

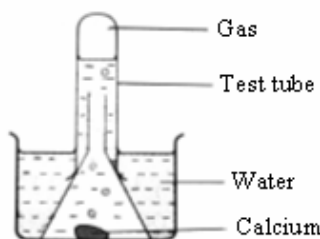


Diagram 5

The gas produced is

- A turns limewater into cloudy
- B produces a 'pop' sound when tested with a lighted wooden splinter
- C rekindles a glowing wooden splinter
- D turns red litmus paper into blue

16 Which of the following is a radioactive substance ?

- A Sodium
- B Uranium
- C Hydrogen
- D Carbon-12

17 Diagram 6 shows the deflection of radioactive rays X, Y and Z in an electrical field.

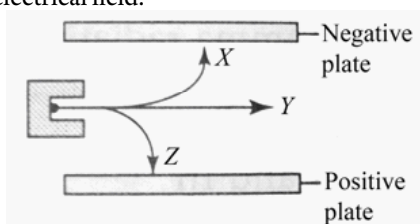


Diagram 6

What are represented by X, Y and Z ?

- | | X | Y | Z |
|---|-----------|-----------|-----------|
| A | Alpha ray | Beta ray | Gamma ray |
| B | Alpha ray | Gamma ray | Beta ray |
| C | Gamma ray | Alpha ray | Beta ray |
| D | Beta ray | Gamma ray | Alpha ray |

18 Why is gamma radiation suitable to be used to sterilise food ?

- A It can enhance the flavour of food.
- B It can kill all the bacteria and fungi in food.
- C It can cause mutation to the microorganisms.
- D It can change the chemical composition of food.

19 A student has three coloured filters, X, Y and Z. When X, Y and Z overlap each other, different colours are formed on the screen.

Light mixture	Colour formed
X + Y	Magenta
X + Z	Cyan
X + Y + Z	White

Which of the following represents X, Y and Z ?

- | | X | Y | Z |
|---|-------|-------|-------|
| A | Blue | Red | Green |
| B | Blue | Green | Red |
| C | Red | Blue | Green |
| D | Green | Red | Blue |

20 The following information shows the characteristics of an image formed by material X.

- Virtual
- Upright
- Diminished

What is material X ?

- A Plane mirror
- B Screen
- C Concave lens
- D Convex lens

21 Diagram 7 shows an object is placed at different positions in front of a convex lens. At which positions marked A, B, C or D, will the size of image formed be smaller than the object ?

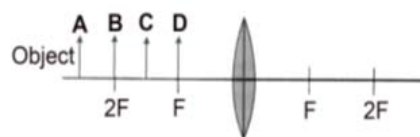


Diagram 7

22 How do the mixing coloured pigments differ from the addition of coloured lights ?

- A Its colour is pure.
- B The principle used in mixing coloured pigment is subtraction of colour.
- C It produces white colour when three primary colours mixed together.
- D The primary colours of pigments are green, red and blue.

- 23 Which of the following is the main metal used to form steel ?
- A Aluminium
B Copper
C Carbon
D Iron
- 28 An individual can acquire an artificial active immunity if he
- A has been cured from a disease
B receives an injection of a vaccine
C drinks his mother's milk
D receives an injection of antiserums

- 24 Diagram 8 shows an experiment to study the hardness of brass, copper, aluminium and tin.

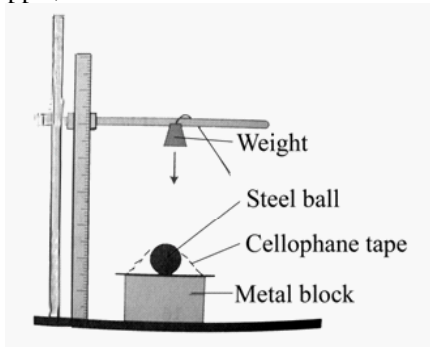


Diagram 8

When a weight is dropped onto the metal block, which metal block could have the smallest diameter of dent ?

- A Tin
B Brass
C Copper
D Aluminium
- 25 The following information shows a process which occurs when a glucose solution is added with yeast.
- $$\text{Glucose} \xrightarrow{\text{Yeast}} \text{ethanol} + \text{carbon dioxide}$$
- What is this process called ?
- A Distillation
B Decomposition
C Esterification
D Fermentation
- 26 Which of the following diseases can be treated by using antiserum injection ?
- A Malaria
B Tuberculosis
C Tetanus
D Cholera
- 27 Which of the following disease can be spread through a vector ?
- A Common cold
B Malaria
C Chickenpox
D Mumps

- 29 Which of the following is an effective method to destroy bacteria spores ?

- A Boiling
B Heating
C Antiseptics
D Autoclaving
- 30 Diagram 9 shows a type of bacteria found on the root nodules of a plant.

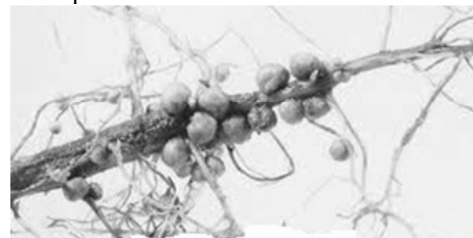


Diagram 9

Which of the following statements is correct ?

- A The bacteria are known as nitrifying bacteria.
B The bacteria will destroy the roots of plant.
C The bacteria mostly live in the root nodules of leguminous plants such as pea plants.
D The bacteria convert nitrogen gas into nitrite compounds which are needed by plants.
- 31 Diagram 10 shows a man who lives in a cold place.



Diagram 10

Why does he need to eat more food containing fat?

- A To replace the heat lost
B To increase the rate of respiration
C To build more new cells and adipose tissues
D To produce more energy to maintain their body temperature

32 Table 1 shows the calorific values of three types of food.

Food	Calotific value per 100 g/kJ per 100 g
Egg	650
Chicken	590
Noodles	1512

Table 1

A man consumes 250 g noodles, 120 g chicken and 150 g egg for his lunch meal. What is the calorific value of the food consumed?

- A 2 752 kJ
- B 3 272 kJ
- C 4 770 kJ
- D 5 463 kJ

33 Which of the following gases causes acid rain ?

- A Ammonia
- B Carbon dioxide
- C Carbon monoxide
- D Sulphur dioxide

34 Which is an effective method to prevent soil erosion?

- A Cut down trees
- B Plant cover crops
- C Construct new buildings
- D Build new road

35 The following information shows some human activities.

- Logging
- Mining
- Clearing forest
- Fishing

What is the common effect of the activities shown above?

- A Causes air pollution
- B Causes the thinning of the ozone layer
- C Destroys the habitats of flora and fauna
- D Threatens the human health

36 Diagram 11 show the picture of the ozone layer.

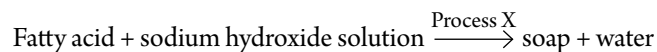


Diagram 11

What is the function of the ozone layer ?

- A Reduces excess heat from reaching the Earth
- B Reflects the sun rays of the Sun back into space
- C Absorbs heat from the Sun to avoid greenhouse effect
- D Protects living organisms from ultraviolet rays of the Sun

37 The following word equation shows the reaction between fatty acid and potassium hydroxide solution to produce soap.



What is process X ?

- A Sterilisation
- B Esterification
- C Saponification
- D Polymerisation

38 Which of the following vehicles contains the highest motion inertia?

- A A moving bicycle
- B A moving rocket
- C A moving lorry
- D A moving ship

39 Which of the following shows the difference between saturated fats and unsaturated fats correctly ?

	Saturated fats	Unsaturated fats
A	Obtained from plant sources	Obtained from animal sources
B	High cholesterol	Low cholesterol
C	Less hydrogen atoms	More hydrogen atoms
D	Low melting points	High melting points

40 Diagram 12 shows some applications used in our daily life.



Diagram 12

What is the operational principle used in these applications?

- A Principle of conservation of momentum
- B Archimedes' principle
- C Pascal's principle
- D Inertia

41 Diagram 13 shows a helicopter.



Diagram 13

What is the function of part X ?

- A To enable the helicopter to move upwards
- B To stabilise the helicopter during the flight
- C To minimise the gravitational force acting on the helicopter
- D To overcome the air resistance that resists the movement of helicopter

42 Diagram 14 shows a hydraulic system.



Diagram 14

What is the weight of the load can be raised by this system ?

- A 8 N
- B 12.5 N
- C 20 N
- D 32 N

43 Aisyah is sent to a hospital after she consumed the food which has expired more than one week. What is most probably suffered by Aisyah ?

- A Asthma
- B Headache
- C Diarrhea
- D Liver damage

44 A chef adds monosodium glutamate to food when he prepares the dishes. What is the function of monosodium glutamate ?

- A To sweeten food
- B To add colour to food
- C To improve the taste of food
- D To prevent oxidation in food

45 Diagram 15 shows two methods of processing food.

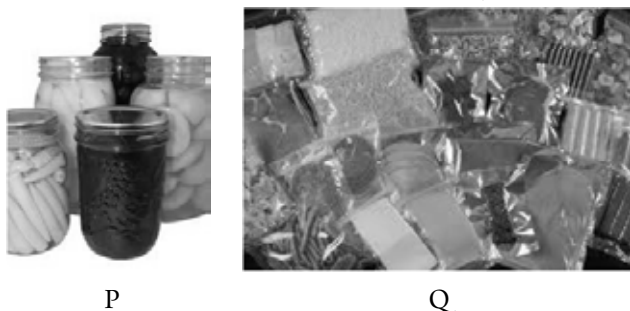


Diagram 15

What is the disadvantage of method P compared to method Q?

- A It can keep the food for a short period of time.
- B It spoils the taste and colour of food.
- C It can be only used in limited food.
- D It destroys food nutrients.

46 Mrs Elizabeth bought fish and meat from the market and she wanted to keep them for one week. What is the most suitable method which can be used to maintain the freshness of the fish and meat ?

- A Cooling
- B Freezing
- C Dehydration
- D Pasteurisation

47 Diagram 16 shows the structure of a type of plastic.



Diagram 16

Which of the following has this above structure ?

- A Epoxy
- B Bakelite
- C Melamine
- D Polyvinyl chloride

48 The following information shows three types of plastics.

- Polystyrene
- Polyvinyl chloride
- Polythene

What is the similarity between the above plastics ?

- A They do not dissolve in organic solvents.
- B They can be stretched easily.
- C They cannot be burnt easily.
- D They are resistant to heat.

49 Diagram 17 shows a symbol of electronic component.



Diagram 17

What is this electronic component ?

- A Diode
- B Resistor
- C Capacitor
- D Transistor

50 Which of the following types of satellites can detect and draft map to show the location of petroleum source ?

- A Military satellite
- B Navigational satellite
- C Earth surveyor satellit
- D Weather forecast satellite

END OF QUESTION PAPER

Section A
[20 marks]

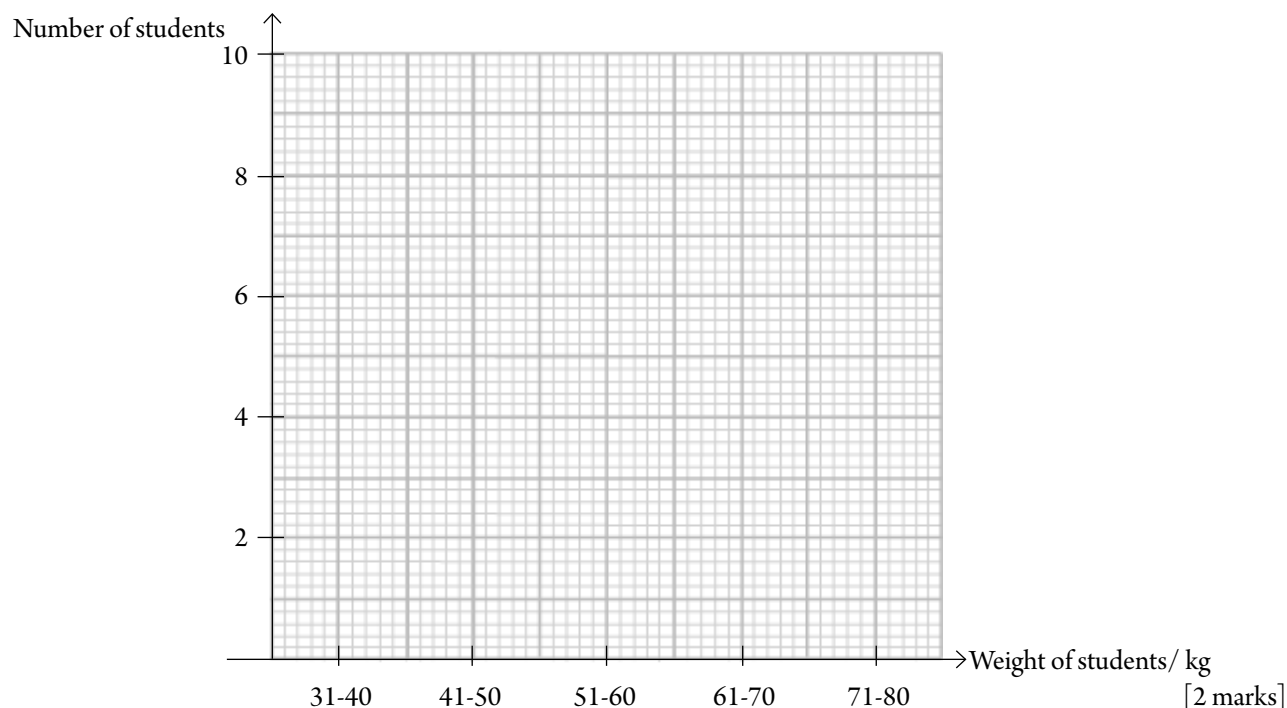
Answer all the questions in this section.

- 1 Table 1 shows the data obtained when the body weight of students in a class 5 Dedikasi is measured.

Weight of students/kg	31-40	41-50	51-60	61-70	71-80
Number of students	3	8	12	7	1

Table 1

- (a) Using the data above, draw a histogram on the graph paper below to show the number of students against their body weight.



- (b) What type of variation is shown by the body weight of students?
_____ [1 mark]
- (c) State one other example of the same type of variation among humans, as stated in (b).
_____ [1 mark]
- (d) State one factor that influences the variation.
_____ [1 mark]

2 Diagram 2 shows an experiment to compare the reactivity of metals X, Y and zinc with oxygen.

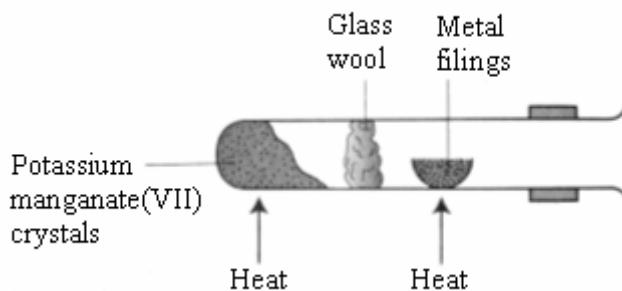


Diagram 2

Table 2 shows the observation of the experiment.

Metal	Observation
X	Burns with a bright flame
Y	Glowes dimly
Zinc	(b)

Table 2

(a) State the variables in this experiment.

(i) Controlled variable:

_____ [1 mark]

(ii) Manipulated variable:

_____ [1 mark]

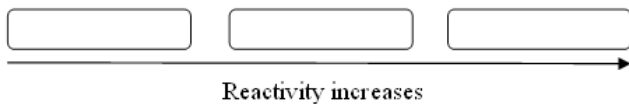
(b) What can be observed when zinc reacts with oxygen?

_____ [1 mark]

(c) When metal Y reacts with oxygen, a black solid is formed. What could metal Y be?

_____ [1 mark]

(d) Arrange the metals based on its reactivity with oxygen in an ascending order.



[1 mark]

3 Table 3 shows an experiment is carried out to study the growth of bacteria under different conditions.

Condition of the Petri dish	Presence of bacterial colonies
<p>S Incubated in a dark place</p>	
<p>T Incubated in a bright place</p>	

Table 3

- (a) Complete Table 3 by marking '√' at those Petri dishes that show the presence of bacterial colonies at the end of the experiment. [1 mark]
- (b) What observation can be seen on the nutrient agar to indicate the presence of bacteria? [1 mark]

- (c) What factor to be studied in the experiment? [1 mark]

- (d) State the hypothesis in this experiment. [1 mark]

- (e) What inference can be made from this experiment? [1 mark]

4 Diagram 4 shows an experiment to study the relationship between force and pressure.

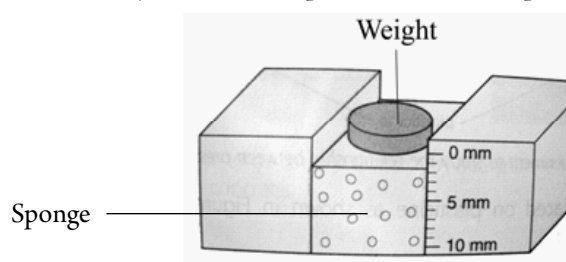


Diagram 4

The distance of compressed sponge is recorded in the Table 4.

Weight mass/g	100	200	300	400
Distance of compression/mm	1.0	2.0	3.0	4.0

Table 4

- (a) What is the relationship between weight mass and the distance of compression? [1 mark]

- (b) State the variables in this experiment.
- (i) Manipulated variable: [1 mark]

- (ii) Responding variable: [1 mark]

- (c) Predict what will happen to the distance of compression if the weight is replaced with same mass but smaller surface area. [1 mark]

- (d) State the operational definition of pressure.

Section B
[30 marks]

Answer all the questions in this section.

5 Diagram 5 shows a male endocrine system.

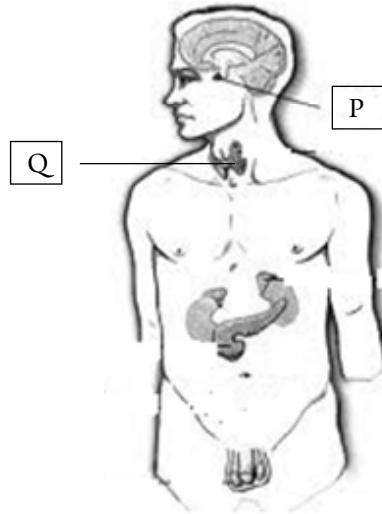


Diagram 5

- (a) (i) What is gland P?
_____ [1 mark]
- (ii) Name one function of the hormone secreted by gland P.
_____ [2 marks]
- (b) (i) Name gland Q.
_____ [1 mark]
- (ii) State one condition if a person undergoes the removal of gland Q.
_____ [1 mark]
- (c) Where does hormones produced by glands P and Q secreted into?
_____ [1 mark]

6 Diagram 6 shows a warning symbol on a container of a substance.

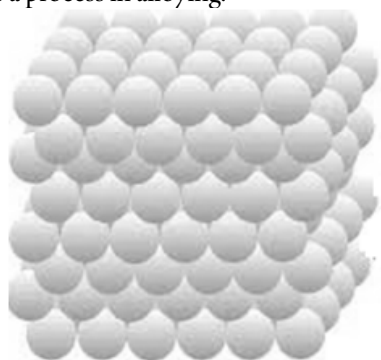


Diagram 6

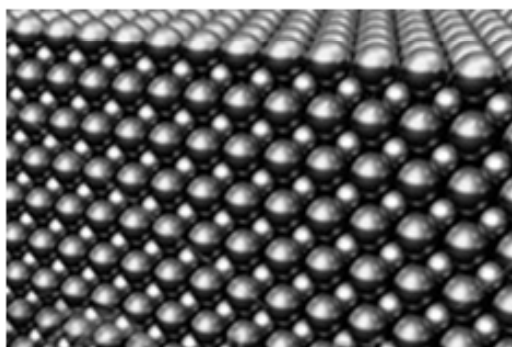
- (a) What type of substances can be represented with this warning symbol?
_____ [1 mark]
- (b) Why is it important to have this warning symbol at places that store the substances in (a)?
_____ [1 mark]
- (c) Give two examples of substances which have this warning symbol.
_____ [2 marks]
- (d) Suggest a safety measure should be taken when handling this type of substances.
_____ [1 mark]
- (e) What is the adverse effect of the substances on the health of a person if he exposed to the substances over a short period?

_____ [1 mark]

7 Diagram 7 shows a process in alloying.



Pure metal



Alloy

Diagram 7

(a) Give one benefit from the above process.

[1 mark]

(b) (i) Why is a pure metal soft and not strong?

[1 mark]

(ii) How can alloying change the properties of the pure metal in (b)(i)?

[1 mark]

(c) Pewter is a type of alloy.

(i) Name the composition of pewter.

[1 mark]

(ii) State the properties of pewter.

[1 mark]

(iii) State one use of pewter.

[1 mark]

8 Diagram 8.1 shows the structure of an oil palm fruit.

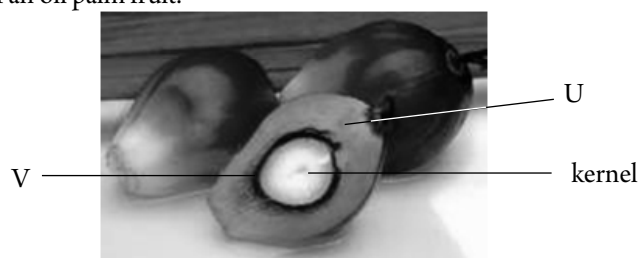


Diagram 8.1

(a) Name the structures labelled U and V in the boxes provided in Diagram 8.1

U: _____

V: _____

[2 marks]

(b) Which part of the oil palm fruit produces the high quality oil?

[1 mark]

- (c) Diagram 8.2 shows the stages involved in extracting palm oil from the oil palm fruit.

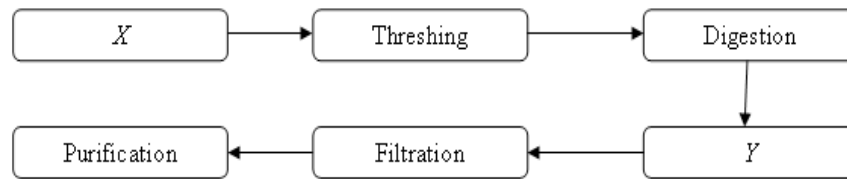


Diagram 8.2

- (i) What is process Y?

[1 mark]

- (ii) State one importance of process X.

[1 mark]

- (d) State one vitamin found in the palm oil.

[1 mark]

- 9 Diagram 9 shows communication satellites orbit around the Earth.



Diagram 9

- (a) What type of wave is used in satellite communication system to send information?

[1 mark]

- (b) How can we receive information from the communication satellite in space?

[1 mark]

- (c) State two advantages of information transmission through communication satellite.

[2 marks]

- (d) Give one application of satellite in our life.

[1 mark]

- (e) State another type of satellite which is used to detect the movements of ships at sea.

[1 mark]

Section C

[20 marks]

Answer Question 10 and either Question 11 or Question 12.

10 Study the following statement.

Magnesium and copper show different reactivity when reacting with dilute acid

You are given magnesium ribbon, copper filings and dilute hydrochloric acid.

- (a) Suggest a hypothesis to investigate the above statement. [1 mark]
- (b) Describe an experiment to test your hypothesis in (a) based on the following criteria.
- (i) Aim of the experiment [1 mark]
 - (ii) Identification of variables [2 marks]
 - (iii) List of apparatus and materials [1 mark]
 - (iv) Procedure or method [4 marks]
 - (v) Tabulation of data [1 mark]
- 11 (a) State two differences between the following methods of sterilisation.
- (i) Boiling and autoclaving
 - (ii) Antiseptics and disinfectants [4 marks]

- (b) Diagram 11 shows three diseases that can be prevented by injecting suitable vaccines.

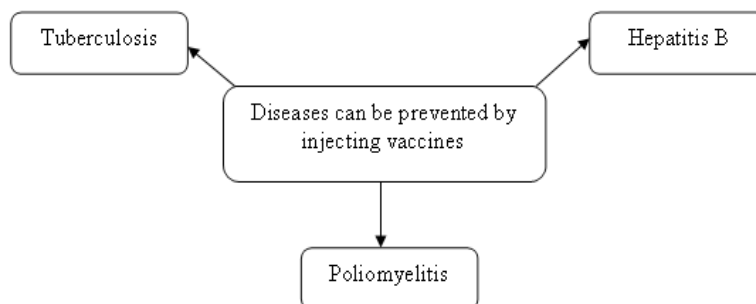


Diagram 11

Study the above diseases. You are required to develop a concept of a vaccine.

Your answer should be based on the following aspects:

- Identify two common characteristics of a vaccine
- Develop an initial concept of a vaccine
- Give one example of a disease which can be prevented through vaccination and one which cannot be prevented through vaccination
- Give one example of a vaccine [6 marks]

12 (a) Draw a diagram to show the water cycle and briefly explain the processes. [4 marks]

(b) Study the following statement.

Opening of land and deforestation had been carried out for housing development

Explain how you can construct a concept on the adverse effects of the activities on the environment.

Your answer should be based on the following aspects.

- Identify two common adverse effects of opening of land and deforestation.
- Develop a concept by relating to its adverse effects on the environment.
- Suggest one method which can solve the problems caused by the activities and one which cannot solve the problems.
- Give one reason for your answer.

[6 marks]

END OF QUESTIONS PAPER