

NAMA: .....

TINGKATAN 3: .....

BAHAGIAN A: 33 SOALAN (33 MARKAH)

- 1 Which is the physical quantity?  
*Manakah merupakan kuantiti fizikal?*
- A Density  
*Ketumpatan*
- C Volume  
*Isipadu*

- B Length  
*Panjang*
- D Area  
*Luas*

- 2 Diagram 1 shows a type of human cell.  
*Rajah 1 menunjukkan sejenis sel pada manusia.*

Diagram 1  
*Rajah 1*



Which of the following is the function of the cell?  
*Antara berikut, yang manakah adalah fungsi sel itu?*

- A Transport oxygen  
*Mengangkut oksigen*
- C Protects the body  
*Melindungi badan*
- B Prevents the loss of water  
*Mencegah kehilangan air*
- D Carries nerve impulses .  
*Membawa impuls saraf*

- 3 The following informations refer to P.  
*Maklumat berikut merujuk kepada P.*



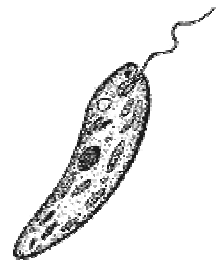
What is P?

*Apakah P?*

- A Weight  
*Berat*
- B Mass  
*Jisim*
- C Matter  
*Jirim*
- D Density  
*Ketumpatan*

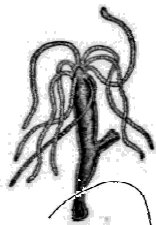
- 4 Diagram 2 shows a microorganism.  
*Rajah 2 menunjukkan satu mikroorganisma*

Diagram 2  
*Rajah 2*

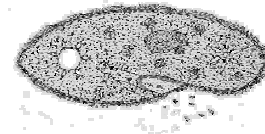


Which of the following is in the same group with the microorganism in Diagram 2?  
*Antara berikut, yang manakah berada dalam kumpulan yang sama dengan mikroorganisma dalam Rajah 2?*

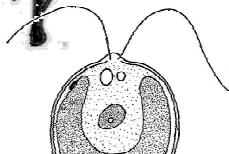
A



B



C

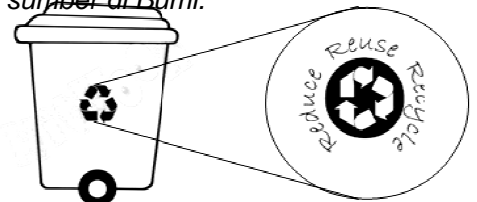


D



- 5 Why does the size of a balloon filled with air increases when it is placed under the sunlight?  
*Mengapakan saiz belon yang berisi udara bertambah apabila diletakkan di bawah cahaya matahari?*
- A The number of air particles increases when hot.  
*Bilangan zarah-zarah udara meningkat apabila panas.*
- B The size of air particles increases when hot.  
*Saiz zarah-zarah udara meningkat apabila panas.*
- C The air particles moves closer to one another when hot  
*Zarah-zarah udara bergerak mendekati satu sama lain apabila panas.*
- D The air particles vibrates faster when hot.  
*Zarah-zarah udara bergetar lebih cepat apabila panas.*

- 6 Diagram 3 shows one way to preserve and conserve resources on Earth.  
*Rajah 3 menunjukkan satu cara untuk memelihara dan memulihara sumber di Bumi.*



What is the importance of the way?  
*Apakah kepentingan cara tersebut?*

- A Prevents water shortage  
*Mencegah kekurangan air*
- B Maintains the fertility of the soil.  
*Mengekalkan kesuburan tanah*
- C Ensures the resources are not wasted and can last long  
*Memastikan sumber tidak dibazirkan dan kekal lama*
- D Prevents the extinction of plants and animals  
*Menghalang kepupusan tumbuhan dan haiwan*

Diagram 3  
 Rajah 3

- 7 Which are the correct properties of oxygen and carbon dioxide?  
*Manakah ciri-ciri yang betul bagi oksigen dan karbon dioksida?*

	Oxygen <i>Oksigen</i>	Carbon dioxide <i>Karbon dioksida</i>
A	Supports combustion <i>Menyokong pembakaran</i>	Acidic <i>Berasid</i>
B	Turns lime water to cloudy <i>Mengeruhkan air kapur</i>	Slightly soluble in water <i>Larut sedikit dalam air</i>
C	Acidic <i>Berasid</i>	Turns lime water to cloudy <i>Mengeruhkan air kapur</i>
D	Slightly soluble in water <i>Larut sedikit dalam air</i>	Supports combustion <i>Menyokong pembakaran</i>

- 8 Diagram 4 shows a ball being thrown up.  
*Rajah 4 menunjukkan sebiji bola dibaling ke atas.*

Which of the following is true?  
*Manakah antara berikut benar?*

- A The ball has maximum potential energy at S  
*Bola itu mempunyai tenaga keupayaan maksimum pada S*
- B The ball has minimum kinetic energy at R  
*Bola itu mempunyai tenaga kinetik minimum pada R*
- C The kinetic energy is increasing from P to S  
*Tenaga kinetik semakin bertambah dari P ke S*
- D The amount of potential energy and kinetic energy are similar at Q  
*Jumlah tenaga keupayaan dan tenaga kinetik sama pada Q*

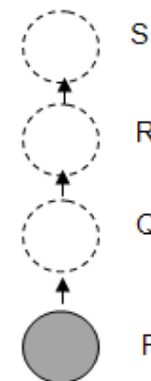
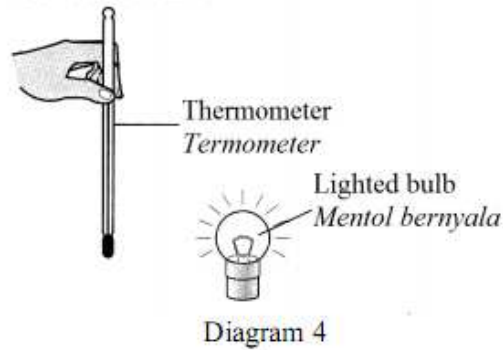


Diagram 4  
 Rajah 4

- 9 Diagram 4 shows an activity to study the conductivity of heat. After five minutes the reading of the thermometer increases.

Rajah 4 menunjukkan satu aktiviti untuk mengkaji pemindahan haba. Selepas lima minit bacaan termometer bertambah.



Heat energy reaches the thermometer by  
Tenaga haba sampai ke termometer melalui

- A convection  
perolakan
- B reflection  
pantulan
- C radiation  
sinaran
- D conduction  
konduksi

- 10 Diagram 6 shows the ice in the bowl has melted.  
Rajah 6 menunjukkan ais di dalam mangkuk melebur.



Diagram 6 / Rajah 6

Why did the process happened?  
Mengapakah proses ini berlaku?

- A Particles of ice absorb heat  
Zarah-zarah ais menyerap haba
- B Particles of ice radiate heat  
Zarah-zarah ais menyinar haba
- C Particles of ice reflect heat  
Zarah-zarah ais memantul haba
- D Particles of ice release heat  
Zarah-zarah ais membebaskan haba

- 11 Which is the correct way to maintain a clean air?

Manakah langkah yang betul untuk mengekalkan udara bersih?

- A Buy products in aerosol form  
Beli barangan dalam bentuk aerosol
- B Select products with heavy packaging  
Pilih barangan yang dibalut dengan tebal
- C Buy low price products  
Beli barangan yang murah
- D Uses unleaded fuels  
Guna bahan api tanpa plumbum

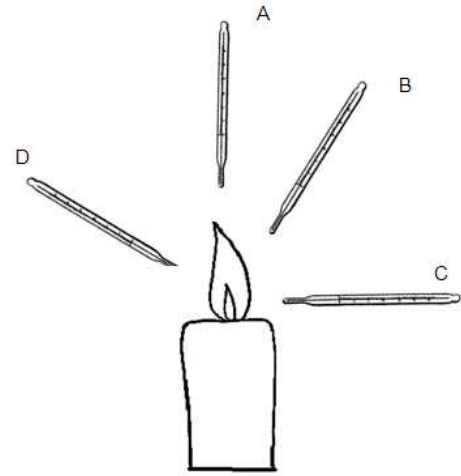
- 12 Which group only consists of renewable source of energy?

Kumpulan manakah hanya terdiri daripada sumber tenaga yang boleh diperbaharu

- A Wind, biomass and wave  
Angin, biojisim dan ombak
- B Coal, water and biomass  
Arang batu, air dan biojisim
- C Petroleum, coal and natural gas  
Petroleum, arang batu dan gas asli
- D Wind, natural gas and water  
Angin, gas asli dan air

13 Which thermometer show the highest reading?

*Termometer manakah menunjukkan bacaan paling tinggi?*



14 Diagram 5 shows the path of an impulse after a stimulus is received by the skin.

*Rajah 5 menunjukkan laluan impuls setelah rangsangan diterima oleh kulit.*

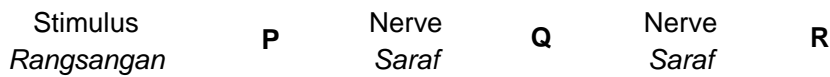


Diagram 5  
Rajah 5

Which of the following represents P, Q and R?

*Antara yang berikut, yang manakah mewakili P, Q dan R?*

	P	Q	R
A	Brain Otak	Effector Efektor	Receptor Reseptor
B	Receptor Reseptor	Effector Efektor	Brain Otak
C	Brain Otak	Receptor Reseptor	Effector Efektor
D	Receptor Reseptor	Brain Otak	Effector Efektor

15

Diagram 5 shows the front view of the eye.

*Rajah 5 menunjukkan pandangan hadapan mata.*

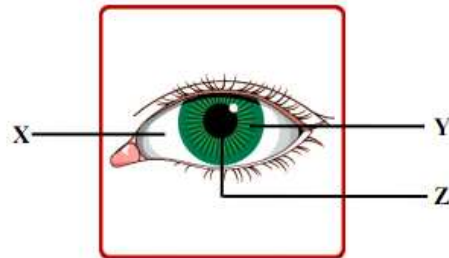


Diagram 5  
Rajah 5

What are the structures represented by X, Y and Z?

*Apakah struktur yang mewakili X, Y dan Z?*

	X	Y	Z
A	Sclera Sklera	Pupil Anak mata	Iris Iris
B	Pupil Anak mata	Iris Iris	Sclera Sklera
C	Iris Iris	Sclera Sklera	Pupil Anak mata
D	Sclera Sklera	Iris Iris	Pupil Anak mata

- 16 Bile is stored in the gall bladder. It helps to  
*Jus hempedu disimpan di dalam pundi hempedu. Jus hempedu membantu untuk*
- A dilute fat  
*mencairkan lemak*
  - B emulsify fat  
*mengemulsikan lemak*
  - C neutralize fat  
*meneutralkan lemak*
  - D synthesise fat  
*mensintesiskan lemak*

- 17 Which of the following shows the correct responses in plants?  
*Antara yang berikut, yang manakah menunjukkan gerak balas tumbuhan yang betul?*

	<b>Negative phototropism</b> <i>Fototropisme negatif</i>	<b>Positive phototropism</b> <i>Fototropisme positif</i>
A	Shoots <i>Pucuk</i>	Roots <i>Akar</i>
B	Roots <i>Akar</i>	Shoots <i>Pucuk</i>
C	Shoots <i>Pucuk</i>	Stem <i>Batang</i>
D	Stem <i>Batang</i>	Shoots <i>Pucuk</i>

- 18 Diagram 9 shows a plant that was left for two weeks during an experiment.  
*Rajah 9 menunjukkan eksperimen ke atas tumbuhan yang ditinggalkan selama dua minggu.*

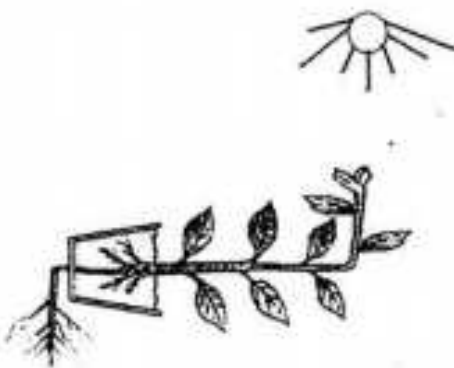


Diagram 9 / *Rajah 9*

State the stimuli that cause this type of response in the root and the shoot of the plant.  
*Nyatakan rangsangan yang menghasilkan jenis gerak balas pada akar dan pucuk tumbuhan itu.*

	Root <i>Akar</i>	Shoot <i>Pucuk</i>
A	Touch <i>Sentuhan</i>	Water <i>Air</i>
B	Gravity <i>Graviti</i>	Water <i>Air</i>
C	Touch <i>Sentuhan</i>	Gravity <i>Graviti</i>
D	Gravity <i>Graviti</i>	Light <i>Cahaya</i>

19 Table 1 shows food consumed by Mariana.

Jadual 1 menunjukkan makanan yang dimakan oleh Mariana.

Food <i>Makanan</i>	Calorific value ( kJ ) <i>Nilai kalori ( kJ )</i>
Tomato rice <i>Nasi tomato</i>	2500
Fried prawn <i>Udang goreng</i>	700
Banana <i>Pisang</i>	380

Calculate the calorific value in Mariana's meal.

Hitung nilai kalori dalam sajian Mariana.

- A 2880 kJ                      B 3200 kJ                      C 3580 kJ                      D 4280 kJ

20 Which group of animals is only made up of invertebrates?

Kumpulan haiwan manakah, yang terdiri daripada invertebrata sahaja?

- A Butterfly, mosquito, penguin  
*Rama-rama, nyamuk, penguin*
- B Housefly, turtle, scorpion  
*Lalat, penyu, kala jengking*
- C Tortoise, bee, earthworm  
*Kura-kura, lebah, cacing tanah*
- D Centipede, prawn, spider  
*Lipan, udang, labah-labah*

21 Diagram 8 shows two organisms.

Rajah 8 menunjukkan dua organisma.

How are they similar?

Apakah persamaan antara kedua-duanya?

- A They are poisonous  
*kedua-duanya adalah beracun*
- B They have soft bodies  
*Kedua-duanya mempunyai badan lembut*
- C They have tough exoskeletons  
*Kedua-duanyamempunyai rangka luar yang keras*
- D They have the same number of legs  
*Kedua-duanya mempunyai bilangan kaki yang sama*

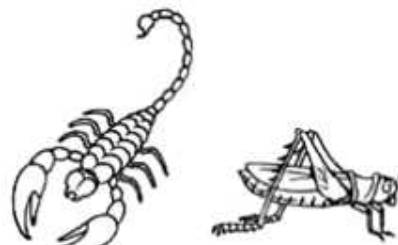


Diagram 8

Rajah 8

- 22 The following information shows the flow of food in the human digestive system.  
*Maklumat berikut menunjukkan laluan makanan di dalam sistem pencernaan manusia.*

**K** → Oesophagus → **L** → **M** → Small intestine → Large intestine  
*Esofagus Usus kecil Usus besar*

What are the enzymes that can be found in **K**, **L** and **M**?

*Apakah enzim-enzim yang terdapat di **K**, **L** dan **M**?*

	<b>K</b>	<b>L</b>	<b>M</b>
A	Amylase <i>Amilase</i>	Protease <i>Protease</i>	Lipase <i>Lipase</i>
B	Protease <i>Protease</i>	Lipase <i>Lipase</i>	Amylase <i>Amilase</i>
C	Lipase <i>Lipase</i>	Protease <i>Protease</i>	Amylase <i>Amilase</i>
D	Amylase <i>Amilase</i>	Lipase <i>Lipase</i>	Protease <i>Protease</i>

23

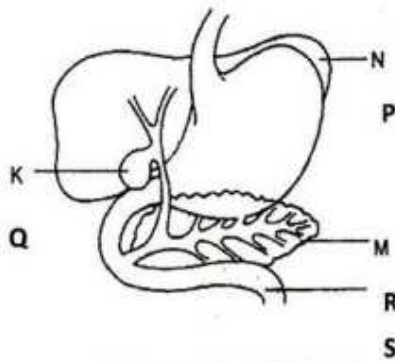


Diagram 10 / *Rajah 10*

Which part labelled P, Q, R and S shows the correct function?

*Bahagian manakah yang berlabel P, Q, R dan S menunjukkan fungsinya yang betul?*

	Part <i>Bahagian</i>	Function <i>Fungsi</i>
A	P	To secrete insulin <i>Untuk merembeskan insulin</i>
B	Q	To store bile <i>Untuk menyimpan hempedu</i>
C	R	To secrete hydrochloric acid <i>Untuk merembeskan asid hidroklorik</i>
D	S	To reabsorb water <i>Untuk menyerap semula air</i>

- 24 The following information is the function of a group of organism.

*Maklumat berikut adalah fungsi satu kumpulan organisma.*

Breakdown dead organisms and change them into simple substances.

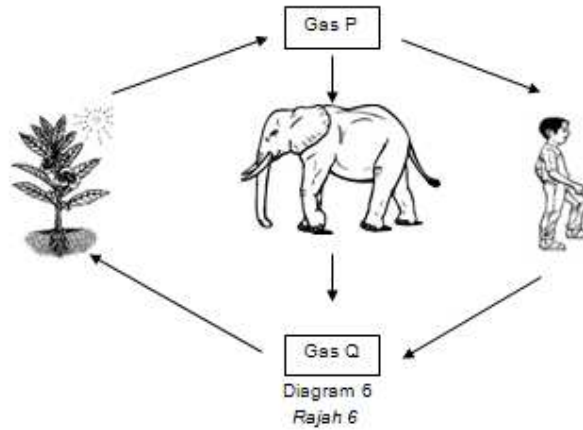
*Menguraikan organism mati dan menukarkannya kepada bahan ringkas.*

Which of the following is the organism?

*Antara berikut, yang manakah merupakan organisma tersebut?*

- A Producer  
*Pengeluar*
- B Primary consumer  
*Pengguna primer*
- C Decomposer  
*Pengurai*
- D Secondary consumer  
*Pengguna sekunder*

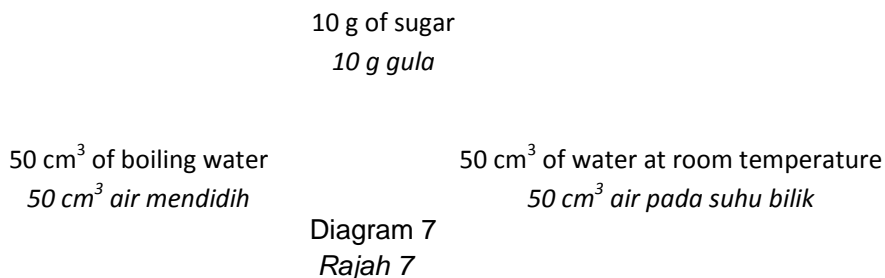
- 25 Diagram 6 shows the carbon cycle.  
Rajah 6 menunjukkan kitar karbon.



Which is the correct tests for gas P and Q?  
Manakah ujian yang betul bagi gas P dan Q?

	Gas P	Gas Q
A	Ignites a glowing wooden splinter <i>Menyalakan kayu uji berbara.</i>	Ignites a glowing wooden splinter <i>Menyalakan kayu uji berbara.</i>
B	Ignites a glowing wooden splinter <i>Menyalakan kayu uji berbara.</i>	Turns lime water cloudy. <i>Mengeruhkan air kapur.</i>
C	Turns lime water cloudy. <i>Mengeruhkan air kapur.</i>	Turns lime water cloudy. <i>Mengeruhkan air kapur.</i>
D	Turns lime water cloudy. <i>Mengeruhkan air kapur.</i>	Ignites a glowing wooden splinter <i>Menyalakan kayu uji berbara.</i>

- 26 Diagram 7 shows the apparatus set-up to study the factor that affects the rate of solubility.  
Rajah 7 menunjukkan susunan radas untuk mengkaji faktor yang mempengaruhi kadar keterlarutan.



What is the factor?  
Apakah faktor itu?

- |   |   |
|---|---|
| A Temperature of solvent<br><i>Suhu pelarut</i> | B Effect of stirring<br><i>Kesan mengacau</i> |
| C Volume of solvent<br><i>Isipadu pelarut</i>   | D Size of solute<br><i>Saiz zat terlarut</i>  |



- 27 Diagram 8 shows a closed container filled with air.  
*Rajah 8 menunjukkan se buah bekas bertutup yang berisi udara.*

Air particles  
*Zarah udara*

Diagram 8  
*Rajah 8*

What happens when the volume of air in the container is reduced?  
*Apakah yang berlaku apabila isipadu udara dalam bekas itu dikurangkan?*

- A The air pressure in the container decreases  
*Tekanan udara di dalam bekas berkurang*
  - B The temperature in the container increases.  
*Suhu di dalam bekas meningkat*
  - C The air particles in the container vibrate faster  
*Zarah-zarah udara di dalam bekas bergetar lebih cepat*
  - D The number of collisions against the wall of the container increases  
*Bilangan perlanggaran pada dinding bekas meningkat.*
- 2 Diagram 10 shows a rubber sucker with a hook stuck to a wall.  
*Rajah 10 menunjukkan penyedut getah yang bercangkuk melekat pada dinding.*

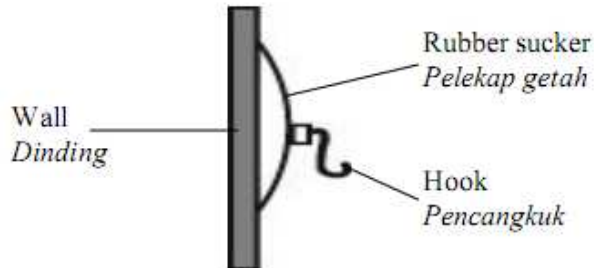


Diagram 10  
*Rajah 10*

If we want to hang a heavier object, which of the following modifications should be applied to the rubber sucker?

*Jika kita mahu menggantung suatu objek yang lebih berat, antara modifikasi berikut, yang manakah sesuai diaplikasi kepada pelekap getah tersebut?*

- A Use a bigger hook  
*Gunakan cangkuk yang lebih besar*
- B Use a smaller hook  
*Gunakan cangkuk yang lebih kecil*
- C Enlarge the rubber sucker diameter  
*Tambahkan diameter pelekap getah*
- D Reduce the rubber sucker diameter  
*Kecilkan diameter pelekapan getah*

29 Which statement is **true**?  
*Pernyataan manakah yang benar?*

- A The lower the centre of gravity, the greater the stability of the object.  
*Semakin rendah pusat graviti, semakin tinggi kestabilan sesuatu objek.*
- B The smaller the base area, the greater the stability of the object.  
*Semakin kecil keluasan tapak, semakin tinggi kestabilan sesuatu objek.*
- C The lighter the object, the greater the stability of the object.  
*Semakin ringan sesuatu objek, semakin tinggi kestabilan objek tersebut.*
- D The bigger the surface area of the object, the greater the stability of the object.  
*Semakin besar luas permukaan sesuatu objek, semakin tinggi kestabilan objek tersebut.*

30 Diagram 12 shows four boys J, K, L and M.  
*Rajah 12 menunjukkan empat orang budak lelaki J, K, L dan M.*

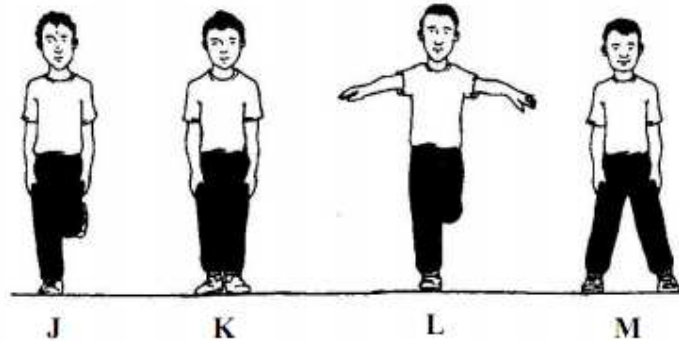


Diagram 12

All the boys have the same height and mass.  
*Kesemua budak lelaki itu mempunyai ketinggian dan jisim yang sama.*  
Arrange in ascending order the stability of the boys.  
*Susun kestabilan budak-budak lelaki itu dalam urutan menaik.*

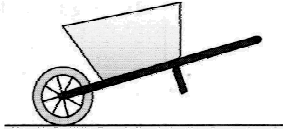
- A J, K, L, M
- B M, L, K, J
- C J, L, K, M
- D M, K, L, J

31 Why does a camel lower its body and spread out its feet when loads are placed on its back?  
*Mengapakah unta merendahkan badan dan mengangkangkan kakinya semasa beban diletakkan di atas badannya?*

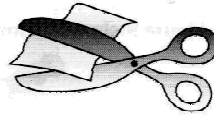
- A To raise its centre of gravity.  
*Untuk meninggikan pusat gravitinya.*
- B To get maximum stability.  
*Untuk mendapat kestabilan maksimum.*
- C To reduce the weight on it.  
*Untuk mengurangkan berat beban padanya.*
- D To decrease its base area.  
*Untuk mengurangkan luas tapaknya.*

32 Which of the following is an example of third class lever?  
*Antara berikut, yang manakah contoh tuas kelas ketiga?*

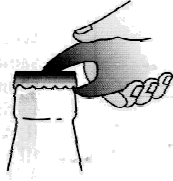
A



B



C



D



33 Diagram 9 shows three objects P, Q and R hanging in equilibrium.  
*Rajah 9 menunjukkan tiga objek P, Q dan R yang digantung dalam keadaan seimbang.*

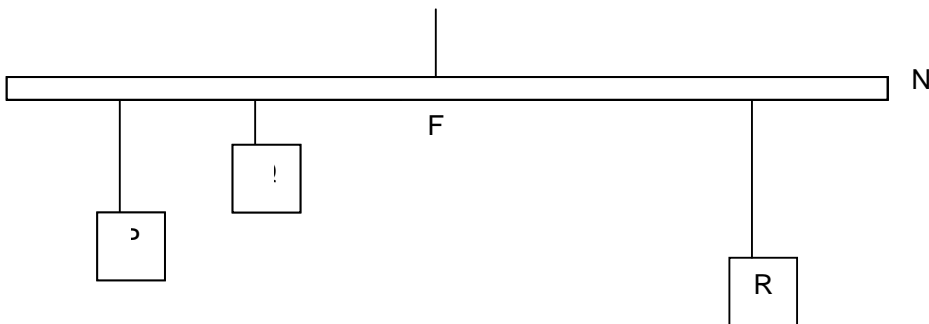


Diagram 9  
*Rajah 9*

Which action will cause the end of rod M to go up?  
*Tindakan manakah akan menyebabkan hujung rod M bergerak ke atas?*

- |   |   |
|---|---|
| A Move R towards F.<br><i>Gerakkan R ke arah F.</i> | B Move P towards Q.<br><i>Gerakkan P ke arah Q.</i> |
| C Move Q towards P.<br><i>Gerakkan Q ke arah P.</i> | D Move P towards M.<br><i>Gerakkan P ke arah M</i>  |

BAHAGIAN B: 2 SOALAN (17 MARKAH)

- 7.(a) Diagram 7.1 shows three different objects P, Q and R with same size are placed in the beakers containing water. The density of water is  $1.0 \text{ g/cm}^3$ .  
*Rajah 7.1 menunjukkan tiga objek berlainan P, Q dan R yang bersaiz sama diletakkan di dalam bikar berisi air. Ketumpatan air adalah  $1.0 \text{ g/cm}^3$ .*

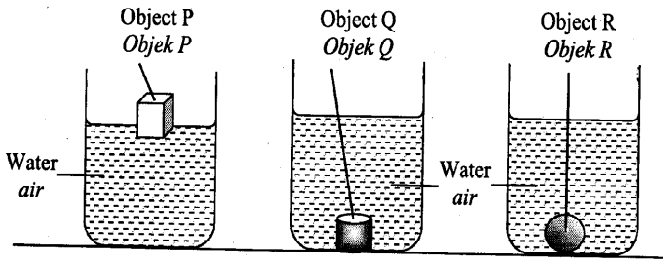


Diagram 7.1  
*Rajah 7.1*

- (i) Based on the observation, state the position of objects P and Q when placed in water.  
*Berdasarkan pemerhatian, nyatakan kedudukan objek P dan Q apabila dimasukkan ke dalam air.*

Object P: .....

Object Q: .....

[ 2 marks ]

- (ii) Based on the observation, classify objects P, Q and R based on their relative density to the density of water.  
*Berdasarkan pemerhatian, kelaskan objek berdasarkan ketumpatan bandingan dengan ketumpatan air.*

Relative density to water <i>Ketumpatan berbanding dengan air</i>	Objects <i>Objek</i>
Less dense than water <i>Kurang tumpat daripada air</i>	
Denser than water <i>Lebih tumpat daripada air</i>	

[ 2 marks ]

- (iii) Based on the observation, state **one** inference.  
*Berdasarkan pemerhatian, nyatakan **satu** inferens.*

.....

.....  
 [ 1 mark ]

- (iv) Based on the observation, state the relationship density of object and their ability to float or sink in water.  
*Berdasarkan pemerhatian, nyatakan hubungan antara ketumpatan bahan dengan keupayaan tenggelam atau timbul dalam air.*

.....

.....  
 [ 1 mark ]

- (b) Table 7.2 shows different objects and their densities.  
*Rajah 7.2 menunjukkan bahan berlainan dan ketumpatannya.*

Objects <i>Objek</i>	Density <i>Ketumpatan</i>	Sink / float <i>Tenggelam / terapung</i>
Cork <i>Gabus</i>	$0.25 \text{ g/cm}^3$	
Wood block <i>Bongkah Kayu</i>	$0.9 \text{ g/cm}^3$	
Glass block <i>Bongkah kaca</i>	$2.5 \text{ g/cm}^3$	Sink <i>Tenggelam</i>

Table 7.2  
*Jadual 7.2*

Predict what happen to the cork and wood if they are placed in a container containing oil by filling in table 7.2. The density of oil is  $0.75 \text{ g/cm}^3$ .

*Ramalkan apa yang berlaku kepada gabus dan kayu jika dimasukkan ke dalam bekas berisi minyak dalam jadual 7.2. Ketumpatan minyak adalah  $0.75 \text{ g/cm}^3$ .*

[ 2 marks ]

Diagram 7.1 shows the results of activities to study the properties of solutions P, Q, R and S by using blue litmus paper.

Rajah 7.1 menunjukkan keputusan aktiviti untuk mengkaji sifat-sifat larutan P, Q, R dan S dengan menggunakan kertas litmus biru.

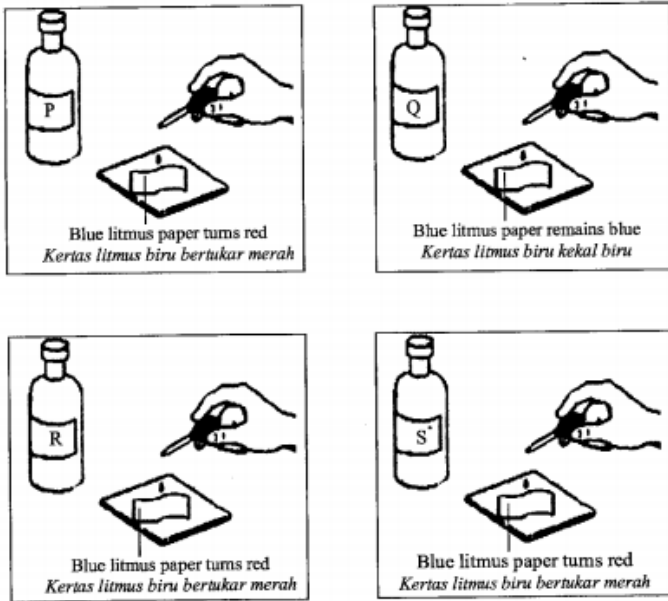


Diagram 7.1

- (a) Based on the observations, state the properties of solutions P, Q, R and S.  
Berdasarkan pemerhatian, nyatakan sifat-sifat larutan P, Q, R dan S.

Solution Larutan	Properties Sifat-sifat
P	
Q	
R	
S	

[4 marks  
[4 markah]

- (b) Based on the activities in Diagram 7.1, classify the solution P, Q, R and S into two groups.  
Berdasarkan kepada aktiviti-aktiviti dalam Rajah 7.1, kelaskan larutan P, Q, R dan S kepada dua kumpulan.

Classification Pengelasan	Solution Larutan
Blue litmus paper turns red Kertas litmus biru bertukar merah	
Blue litmus paper remains blue Kertas litmus biru kekal biru	

[2 marks  
[2 markah]

- (c) State the operational definition for acid.  
Nyatakan definisi secara operasi untuk asid

.....  
.....

[1 mark]  
[1 markah]

- (d) Diagram 7.2(a) and 7.2(b) show experiment set-up to study the composition of water.  
*Rajah 7.2(a) dan 7.2(b) menunjukkan susunan radas eksperimen untuk mengkaji komposisi air.*

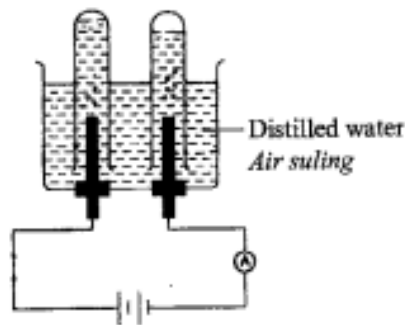


Diagram 7.2(a)  
*Rajah 7.2(a)*

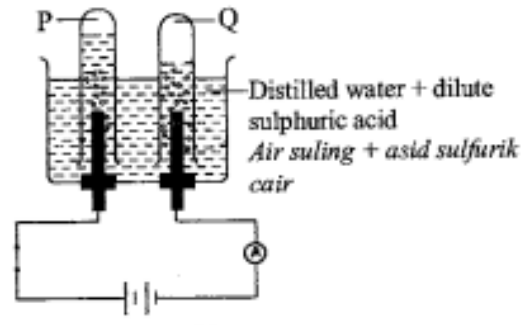


Diagram 7.2(b)  
*Rajah 7.2(b)*

Based on the observations:  
*Berdasarkan pemerhatian:*

- (i) Compare the difference between the volume of gas collected in Diagram 7.2(a) and 7.2(b).  
*Bandingkan perbezaan di antara isipadu gas yang terkumpul dalam Rajah 7.2(a) dan 7.2(b).*

.....  
 .....

[1 mark]  
 [1 markah]

- (ii) Write **one** inference about observation in Diagram 7.2(b).  
*Tulis **satu** inferens mengenai pemerhatian dalam Rajah 7.2(b).*

.....

[1 mark]  
 [1 markah]

- (iii) Based on the Diagram 7.2(b), predict the volume of gas P if volume of gas Q is  $2 \text{ cm}^3$ .  
*Berdasarkan pada pemerhatian Rajah 7.2(b), ramalkan isipadu gas P jika isipadu gas Q ialah  $2 \text{ cm}^3$ .*

.....

[1 mark]  
 [1 markah]

END OF QUESTION PAPER  
 KERTAS SOALAN TAMAT