

**SULIT**  
**PEPERIKSAAN PERCUBAAN**  
**SCIENCE**  
**PMR**  
**PAPER 1**  
**2010**  
**1 HOUR**

55/1



**JABATAN PELAJARAN NEGERI TERENGGANU**  
**PEPERIKSAAN PERCUBAAN**  
**PENILAIAN MENENGAH RENDAH 2010**

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**SCIENCE/SAINS**

**Paper 1/Kertas 1**

**One hour/Satu jam**

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**DO NOT OPEN THIS QUESTION PAPER UNTIL YOU ARE TOLD TO DO SO**  
**JANGAN BUKA KERTAS SOALAN INI SEHINGGA DIBERITAHU**

1. **This question paper consists of 40 questions.**  
*Kertas soalan ini mengandungi 40 soalan.*
2. **Answer all questions.**  
*Jawab semua soalan.*
3. **Each question is followed by four alternative answers, A, B, C or D. For each question, choose one answer only. Blacken your answer on your objective answer sheet provided.**  
*Tiap-tiap soalan diikuti oleh empat pilihan jawapan, iaitu A, B, C dan D. Bagi setiap soalan, pilih satu jawapan sahaja. Hitamkan jawapan anda pada kertas jawapan objektif yang disediakan.*
4. **If you wish to change your answer, erase the blackened mark that you have made. Then blacken the new answer.**  
*Sekiranya anda hendak menukar jawapan, padamkan tanda yang telah dibuat. Kemudian hitamkan jawapan yang baru.*
5. **The diagrams in the questions provided are not drawn to scale unless stated.**  
*Rajah yang mengiringi soalan tidak dilukis mengikut skala kecuali dinyatakan.*
6. **You may use a non-programmable scientific calculator.**  
*Anda dibenarkan menggunakan kalkulator saintifik yang tidak boleh diprogram.*

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*Disediakan Oleh:*  
**AKRAM NEGERI TERENGGANU**

*Dibiayai Oleh:*  
**KERAJAAN NEGERI TERENGGANU**

**TERENGGANU ANJUNG ILMU**

*Dicetak Oleh:*  
*Percetakan Yayasan Islam Terengganu Sdn. Bhd.*  
*Tel: 609-666 8611/6652/8601 Faks: 609-666 0611/0063*

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**This question paper consists of 20 printed pages**  
**Kertas soalan ini mengandungi 20 halaman bercetak**

- 1 The information given below shows the basic skills in a scientific investigation.  
*Keterangan yang diberi di bawah menunjukkan kemahiran asas dalam penyiasatan saintifik.*

- |   |
|---|
| <p>K - Make a hypothesis<br/><i>Membuat hipotesis</i></p> <p>L - Analyse and interpret data<br/><i>Analisis dan interpret data</i></p> <p>M - Make an observation<br/><i>Membuat pemerhatian</i></p> <p>N - Make a conclusion<br/><i>Membuat kesimpulan</i></p> |
|---|

Which of the following sequences is correct?

*Antara berikut urutan yang manakah betul?*

- A K → M → L → N
- B M → K → L → N
- C M → N → K → L
- D L → K → N → M

- 2 The following are statements about an animal cell.  
*Berikut adalah pernyataan berkaitan dengan satu sel haiwan.*

- |   |
|---|
| <ul style="list-style-type: none"> <li>The smallest cell in the human body<br/><i>Sel terkecil dalam badan manusia</i></li> <li>Can move by itself<br/><i>Boleh bergerak sendiri</i></li> </ul> |
|---|

Which of the following cell is described by the statements?

*Antara sel berikut, yang manakah diperihalkan oleh pernyataan itu?*

- A Ovum cell  
*Sel ovum*
- B Sperm cell  
*Sel sperma*
- C Red blood cell  
*Sel darah merah*
- D White blood cell  
*Sel darah putih*

- 3 Table 1 shows four substances with different densities.  
*Jadual 1 menunjukkan empat bahan yang berlainan ketumpatan.*

Substances <i>Bahan</i>	Density / g/cm <sup>3</sup> <i>Ketumpatan / g/cm<sup>3</sup></i>
Ice <i>Ais</i>	0.9
Iron <i>Besi</i>	7.9
Oil <i>Minyak</i>	0.8
Mercury <i>Merkuri</i>	13.6

Table 1 / *Jadual 1*

Given that the density of water is 1.0 g/cm<sup>3</sup>, which substances can float on water?

*Diberi bahawa ketumpatan air ialah 1.0 g/cm<sup>3</sup>, bahan yang manakah boleh terapung di atas air?*

- A Ice and iron  
*Ais dan besi*
- B Ice and oil  
*Ais dan minyak*
- C Oil and mercury  
*Minyak dan merkuri*
- D Iron and mercury  
*Besi dan merkuri*

- 4 A marble of density  $3.5\text{g/cm}^3$  is dropped into a cylinder containing carbon disulphide solution and mercury with densities  $1.3\text{g/cm}^3$  and  $13.6\text{g/cm}^3$  respectively.  
*Sebiji guli berketumpatan  $3.5\text{g/cm}^3$  dimasukkan ke dalam selinder yang mengandungi larutan karbon disulfida dan merkuri dengan ketumpatan masing-masing  $1.3\text{g/cm}^3$  dan  $13.6\text{g/cm}^3$ .*

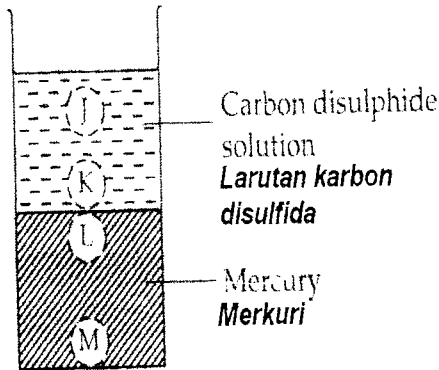


Diagram 1 / Rajah 1

In which positions J, K, L and M as shown in Diagram 1, will the marble stop?  
*Dalam kedudukan yang manakah J, K, L dan M seperti ditunjukkan dalam Rajah 1, guli akan berhenti?*

- A J                      B K  
 C L                      D M

- 5 Diagram 2 shows the classification of matter.  
*Rajah 2 menunjukkan pengelasan jirim.*

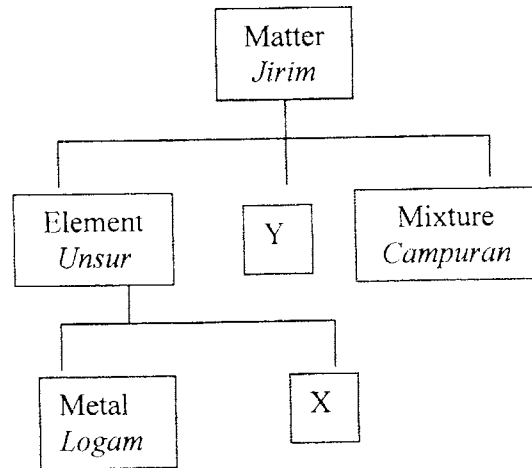


Diagram 2 / Rajah 2

Which of the following are examples of X and Y?  
*Antara berikut yang manakah contoh X dan Y?*

	X	Y
A	Copper <i>Kuprum</i>	Sodium chloride <i>Natrium klorida</i>
B	Chlorine <i>Klorin</i>	Carbon dioxide <i>Karbon dioksida</i>
C	Sulphur <i>Sulfur</i>	Sodium <i>Natrium</i>
D	Mercury <i>Merkuri</i>	Air <i>Udara</i>

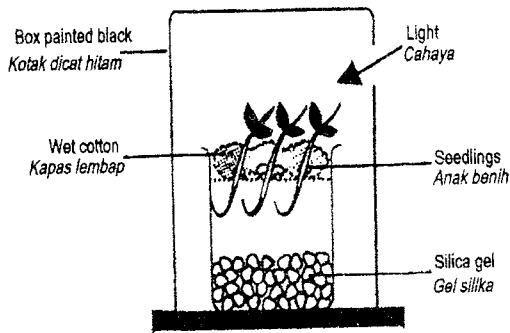


Diagram 9 / Rajah 9

Which of the following responses is shown by the seedlings?

*Antara gerakbalas berikut, yang manakah ditunjukkan oleh anak benih?*

	Shoot <i>Pucuk</i>	Root <i>Akar</i>
A	Positive phototropism <i>Fototropisme positif</i>	Positive hydrotropism <i>Hidrotropisme positif</i>
B	Positive geotropism <i>Geotropisme positif</i>	Positive phototropism <i>Fototropisme positif</i>
C	Negative phototropism <i>Fototropisme negatif</i>	Negative hydrotropism <i>Hidrotropisme negatif</i>
D	Geotropism negative <i>Geotropisme negatif</i>	Positive phototropism <i>Fototropisme positif</i>

13 Table 3 shows the digestion of food.  
*Jadual 3 menunjukkan pencernaan makanan.*

Carbohydrate <i>Karbohidrat</i>	→ R →	Glucose <i>Glukos</i>
Fats <i>Lemak</i>	→ S →	fatty acids <i>asid lemak</i>
Protein <i>Protein</i>	→ T →	amino acids <i>asid amino</i>

Table 3 / *Jadual 3*

Identify the enzymes involved in digestion process shown above.

*Kenalpasti enzim yang terlibat dalam proses pencernaan yang ditunjukkan di atas.*

	R	S	T
A	Protease <i>Protease</i>	Amylase <i>Amilase</i>	Lipase <i>Lipase</i>
B	Amylase <i>Amilase</i>	Protease <i>Protease</i>	Lipase <i>Lipase</i>
C	Amylase <i>Amilase</i>	Lipase <i>Lipase</i>	Protease <i>Protease</i>
D	Lipase <i>Lipase</i>	Amylase <i>Amilase</i>	Protease <i>Protease</i>

What is the observation and inference?  
 Apakah pemerhatian dan inferensnya?

	Observation <i>Pemerhatian</i>	Inference <i>Inferens</i>
A	Water in the glass tube overflows at P <i>Air dalam tiub kaca melimpah di P</i>	White surface is a good heat absorber <i>Permukaan putih adalah penyerap haba yang baik</i>
B	Water in the glass tube remains unchanged at P <i>Air dalam tiub kaca tidak berubah di P</i>	Both surfaces are bad heat absorbers <i>Kedua-dua permukaan adalah penyerap haba yang tidak baik</i>
C	Water in the glass tube overflows at P <i>Air dalam tiub kaca melimpah di P</i>	Black surface is a good heat absorber <i>Permukaan hitam adalah penyerap haba yang baik</i>
d	Water in the glass tube overflows on both sides <i>Air di dalam tiub kaca melimpah di kedua-dua belah tiub</i>	Both surfaces are bad heat absorbers <i>Kedua-dua permukaan adalah penyerap haba yang tidak baik</i>

Which of the following are correctly matched?  
 Antara padanan berikut, yang manakah betul?

Antara padanan berikut, yang manakah betul?

	Label <i>Label</i>	Part <i>Bahagian</i>	Function <i>Fungsi</i>
A	J	Choroids <i>Koroid</i>	Prevents reflection of light inside the eye <i>Menghalang pantulan cahaya dalam mata</i>
B	K	Yellow Spot <i>Bintik kuning</i>	Detects light stimulus <i>Mengesan rangsangan cahaya</i>
C	I	Iris <i>Iris</i>	Controls the amount of light entering the eye <i>Mengawal saiz anak mata</i>
D	M	Eye lens <i>Kanta mata</i>	Controls the amount of light entering the eye <i>Mengawal jumlah cahaya yang masuk ke dalam mata</i>

- 11 Diagram 8 shows a cross section of the human eye  
*Rajah 8 menunjukkan keratan rentas mata manusia.*

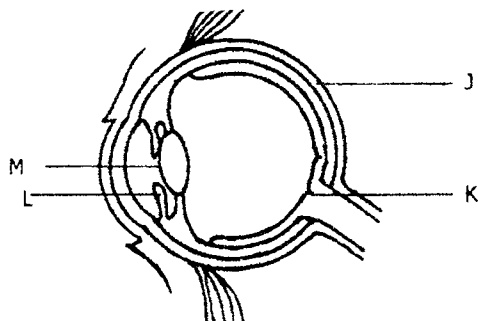


Diagram 8 / *Rajah 8*

- 12 Diagram 9 shows the result of an experiment to investigate stimuli and responses in seedlings  
*Rajah 9 menunjukkan keputusan bagi satu eksperimen untuk mengkaji rangsangan dan gerakbalas pada anak benih.*

- 8 Diagram 5 shows a boy is sliding down a slide.  
*Rajah 5 menunjukkan seorang budak lelaki sedang menuruni papan gelongsor.*

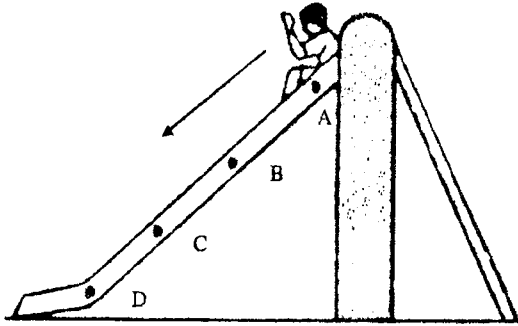


Diagram 5 / Rajah 5

At which point he has maximum kinetic energy and minimum potential energy?  
*Pada titik manakah dia akan mempunyai tenaga kinetik maksimum dan tenaga keupayaan minimum?*

- 9 Diagram 6 shows the heating of three metal rods P, Q and R.  
*Rajah 6 menunjukkan pemanasan tiga rod logam P, Q dan R.*

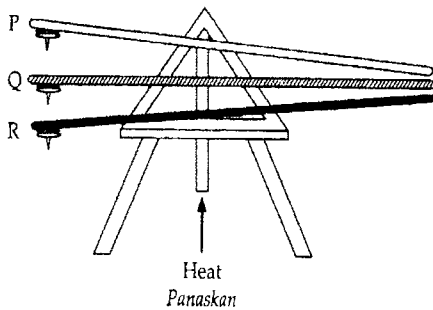


Diagram 6 / Rajah 6

The time taken for the thumbtacks to drop is recorded in Table 2.  
*Masa yang diambil untuk paku tekan jatuh dicatatkan dalam Jadual 2.*

Thumbtacks Paku tekan	P	Q	R
Time / s Masa / s	150	210	90

Table 2 / Jadual 2

Which of the following shows the metals in descending order of their conductivity of heat?  
*Antara berikut, yang manakah menunjukkan kedudukan logam-logam dalam urutan menurun kekonduksian haba?*

- A Q, P, R    B P, Q, R  
 C R, P, Q    D Q, R, P
- 10 Diagram 7 shows absorption of heat by two different surfaces.  
*Rajah 7 menunjukkan penyerapan haba oleh dua permukaan yang berbeza.*

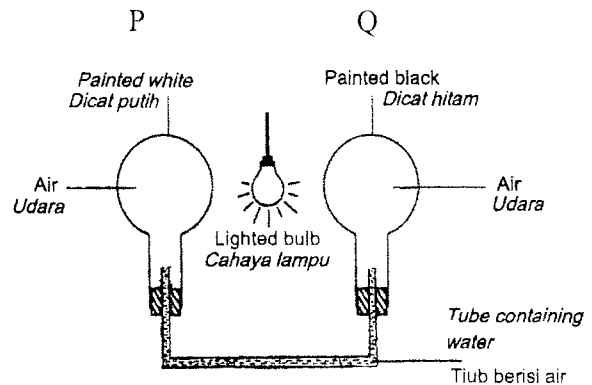


Diagram 7 / Rajah 7

6 Diagram 3 shows a test tube containing gas M. When a glowing wooden splinter is put into the test tube, it bursts into a flame.

*Rajah 3 menunjukkan tabung uji mengandungi gas M. Apabila kayu uji berbara dimasukkan ke dalam tabung uji, ia menyala.*

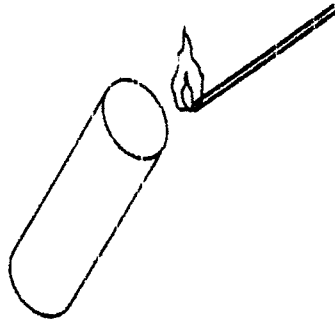


Diagram 3 / Rajah 3

Which of the characteristics are true about gas M?

*Ciri-ciri yang manakah benar tentang gas M?*

- I It turns lime water cloudy  
*Mengeruhkan air kapur*
- II It is needed for combustion  
*Diperlukan untuk pembakaran*
- III It is released during photosynthesis  
*Dibebaskan semasa fotosintesis*
- A I and II only  
*I dan II sahaja*
- B I and III only  
*I dan III sahaja*
- C II and III only  
*II dan III sahaja*
- D I, II and III  
*I, II dan III*

7 Diagram 4 shows the apparatus set-up to investigate the products of combustion.

*Rajah 4 menunjukkan susunan radas untuk menyiasat hasil pembakaran.*

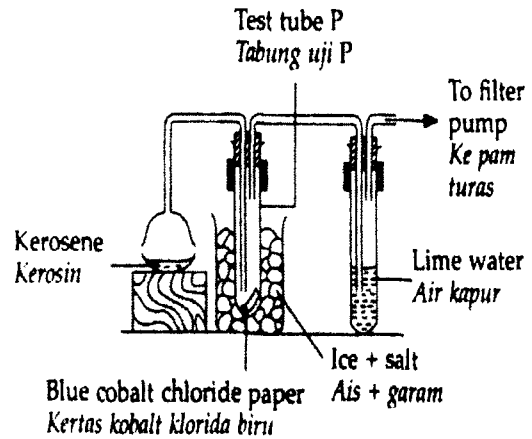


Diagram 4 / Rajah 4

The kerosene is lit and a liquid is collected in test tube P

What will happen to the blue cobalt chloride paper and the lime water?

*Kerosin itu dinyalakan dan sejenis cecair dikumpulkan dalam tabung uji P. Apakah yang terjadi pada kertas kobalt klorida biru dan air kapur itu?*

	Blue cobalt chloride paper <i>Kertas kobalt klorida biru</i>	Lime water <i>Air kapur</i>
A	Turns pink <i>Menjadi merah jambu</i>	Turns cloudy <i>Menjadi keruh</i>
B	Remains blue <i>Kekal biru</i>	Remains clear <i>Kekal jernih</i>
C	Remains blue <i>Kekal biru</i>	Turns cloudy <i>Menjadi keruh</i>
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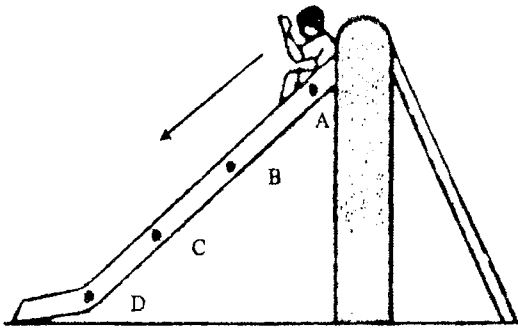


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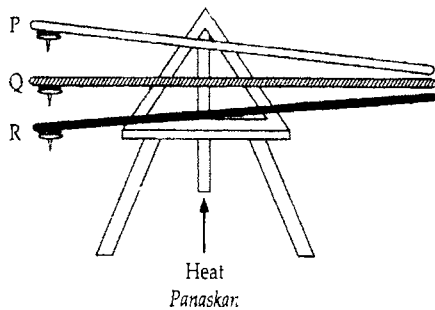


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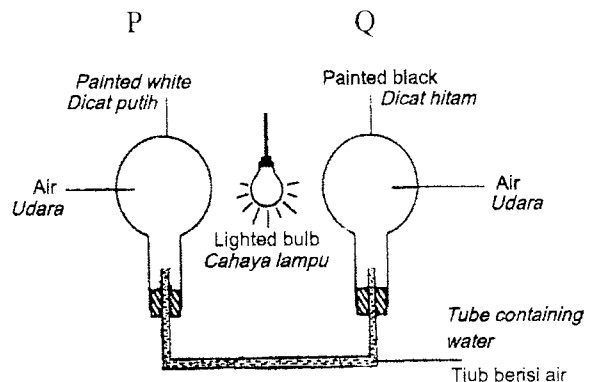


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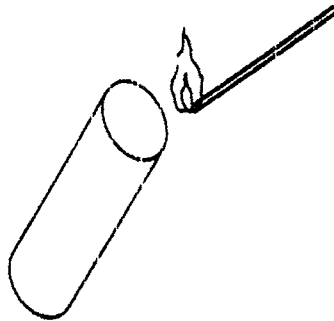


Diagram 3 / Rajah 3

Which of the characteristics are true about gas M?

Ciri-ciri yang manakah benar tentang gas M?

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Mengeruhkan air kapur
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Diperlukan untuk pembakaran
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I dan II sahaja
- B I and III only  
I dan III sahaja
- C II and III only  
II dan III sahaja
- D I, II and III  
I, II dan III

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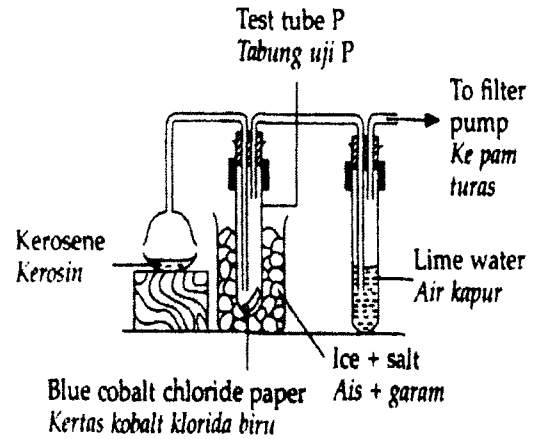


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C	Remains blue Kekal biru	Turns cloudy Menjadi keruh
D	Turns pink Menjadi merah jambu	Remains clear Kekal jernih

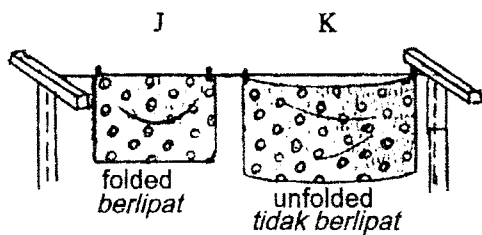
Which of the following pair of organisms are competitors for the same type of food?

*Antara berikut, pasangan organisma manakah merupakan pesaing untuk makanan yang sama?*

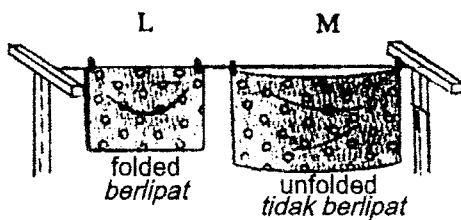
- A U and R  
*U dan R*
- B U and S  
*U dan S*
- C T and R  
*T dan R*
- D Q and R  
*Q dan R*

17 Diagram 13 shows four similar wet towels J, K, L and M are hung in different situation.

*Rajah 13 menunjukkan empat helai tuala basah yang serupa, J, K, L dan M yang disidui dalam situasi berbeza*



Under the sun / *Di bawah matahari*



In the shade / *Di bawah teduhan*

Diagram 13 / *Rajah 13*

Which of the following take the longest time to dry?

*Antara berikut yang manakah mengambil masa yang paling lama untuk kering?*

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

18 Diagram 14 shows the set-up of apparatus in the electrolysis of water.

*Rajah 14 menunjukkan susunan radas dalam elektrolisis air.*

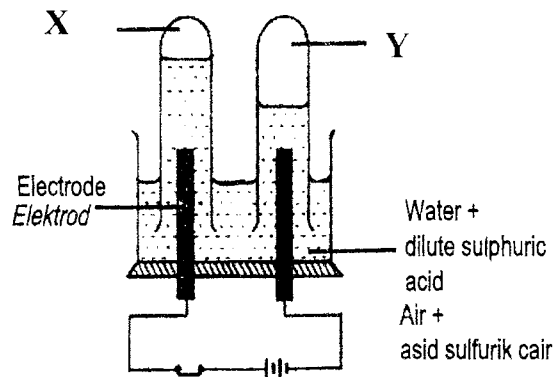


Diagram 14 / *Rajah 14*

Which of the following statement is correct?

*Antara pernyataan berikut yang manakah betul?*

	Gas X	Gas Y
A	Turns lime water cloudy <i>Menukarkan air kapur menjadi keruh</i>	Turns moist blue litmus paper to red <i>Menukarkan warna kertas litmus biru lembap ke merah</i>
B	Turns bicarbonate indicator from red to yellow <i>Menukarkan warna penunjuk bikarbonat dari merah ke kuning</i>	Slightly soluble in water <i>Larut sedikit dalam air</i>
C	Ignites the glowing splinter <i>Menyalakan kayu uji berbara</i>	Produce a "pop" sound when tested with burning splinter <i>Menghasilkan bunyi "pop" dengan kayu uji menyala</i>
D	Turns moist red litmus paper to blue <i>Menukar warna kertas litmus merah lembap kepada biru</i>	Rekindles the glowing splinter <i>Menyalakan kayu uji berbara</i>

- 19 Diagram 15 shows a student using a dropper. The rubber piece is squeezed and then released.  
*Rajah 15 menunjukkan seorang pelajar menggunakan penitik. Kepingan getah dipicit dan kemudian dilepaskan.*

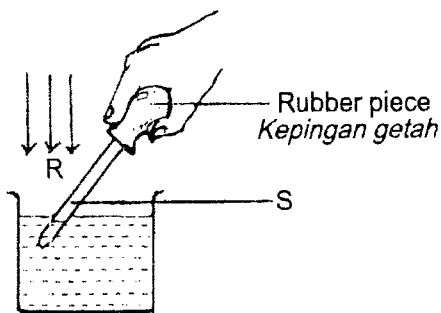


Diagram 15 / Rajah 15

Water enters the dropper because the  
*Air masuk ke dalam penitik kerana*

- A air pressure at R is lower than that at S  
*Tekanan udara di R lebih rendah dari di S*
- B air pressure at R is lower than that at S  
*Tekanan udara di S lebih rendah dari di R*
- C air pressure at S is the same as the air pressure at R  
*Tekanan udara di S sama dengan tekanan udara di R*
- D rubber piece exerts a suction force on the water in the beaker.  
*Kepingan getah mengenakan daya sedutan ke atas air dalam bikar.*

- 20 Diagram 16 shows a spring balance used to lift up an object to a height of 0.5 m.  
*Rajah 16 menunjukkan satu neraca spring digunakan untuk mengangkat satu objek setinggi 0.5 m.*

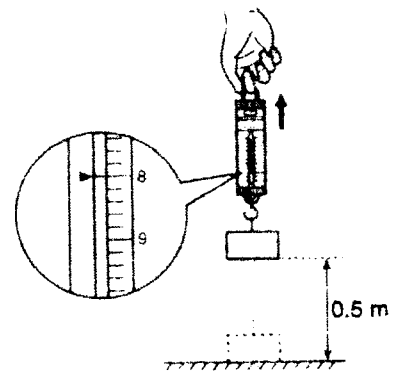


Diagram 16 / Rajah 16

Which of the following statement is true?

*Antara kenyataan berikut yang manakah benar?*

- I The weight of the object is 8N  
*Berat objek adalah 8N*
  - II Work done to lift up the object is 4 J  
*Kerja untuk mengangkat objek ialah 4 J*
  - III The power involved in doing the work is 32 W  
*Kuasa yang terlibat dalam melakukan kerja adalah 32 W*
- A I and II only  
*I dan II sahaja*
  - B I and III only  
*I dan III sahaja*
  - C II and III only  
*II dan III sahaja*
  - D I, II and III  
*I, II dan III*

- 21 Diagram 17 shows a crane and a car.  
*Rajah 17 menunjukkan sebuah kren dan kereta.*

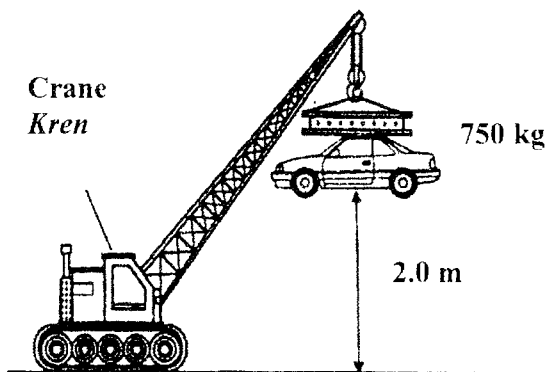


Diagram 17 / *Rajah 17*

Calculate the power generated by the crane if it takes 15 seconds to lift the car. (Assume 1 kg = 10 N)

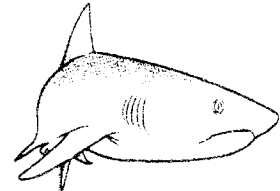
*Kira kuasa yang telah dihasilkan oleh kren jika masa yang diambil untuk mengangkat kereta ialah 15 saat. (Andaikan 1 kg = 10 N).*

- A 1 kW
- B 50 kW
- C 100 kW
- D 1000 kW

- 22 Diagram 18 shows two types of animal with a different support system.  
*Rajah 18 menunjukkan dua jenis haiwan yang mempunyai sistem sokongan yang berbeza.*



Animal P  
*Haiwan P*



Animal Q  
*Haiwan Q*

Diagram 18 / *Rajah 18*

Which of the following shows the correct support system of animals P and Q?

*Antara berikut yang manakah menunjukkan sistem sokongan yang betul bagi haiwan P dan Q?*

	P	Q
A	Hydrostatic skeleton <i>Rangka hidrostatik</i>	Exoskeleton <i>Rangka luar</i>
B	Exoskeleton <i>Rangka luar</i>	Endoskeleton <i>Rangka dalam</i>
C	Exoskeleton <i>Rangka luar</i>	Hydrostatic skeleton <i>Rangka hidrostatik</i>
D	Endoskeleton <i>Rangka dalam</i>	Hydrostatic skeleton <i>Rangka hidrostatik</i>

- 23 The tools below are designed based on a certain principle of stability.  
*Alatan berikut direkabentuk berdasarkan prinsip kestabilan yang tertentu.*

<ul style="list-style-type: none"> <li>• Bunsen burner <i>Penunu Bunsen</i></li> <li>• Retort stand <i>Kaki retort</i></li> <li>• Tripod stand <i>Tungku kaki tiga</i></li> </ul>
---

Which of the following use the same principle of stability as the above tools?  
*Antara yang berikut, yang manakah menggunakan prinsip kestabilan yang sama dengan alatan-alatan di atas?*

- A Baby's milk bottle is filled with water  
*Botol susu kanak-kanak diisi dengan air*
- B The engine is placed at the bottom of a van  
*Enjin van dipasang di bahagian bawah van*

- C The passengers in a boat is advised to sit down  
*Para penumpang dalam sebuah bot dinasihatkan supaya duduk*
- D A child's bicycle is equipped with additional back wheels  
*Basikal kanak-kanak dipasang dengan roda tambahan di belakang*

- 24 Diagram 19 shows a hand holding the handle of broom.  
*Rajah 19 menunjukkan sepasang tangan memegang penyapu.*

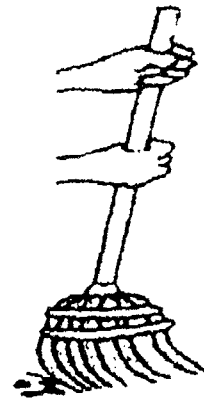


Diagram 19 / Rajah 19

Which of the following examples have the same class of lever with the above diagram?

*Antara contoh berikut yang manakah mempunyai kelas tuas yang sama dengan rajah di atas?*

- A Scissors and paper cutter  
*Gunting dan pemotong kertas*
- B Bottle opener and wheelbarrow  
*Pembuka botol dan kereta sorong*
- C Fishing rod and ice tongs  
*Joran dan penyepit ais*
- D Ice tongs and paper cutter  
*Penyepit ais dan pemotong kertas*

25 Diagram 20 shows the ice cube can be picked easily by using an ice tongs.  
*Rajah 20 menunjukkan seketul ais yang diambil dengan menggunakan penyepit ais.*

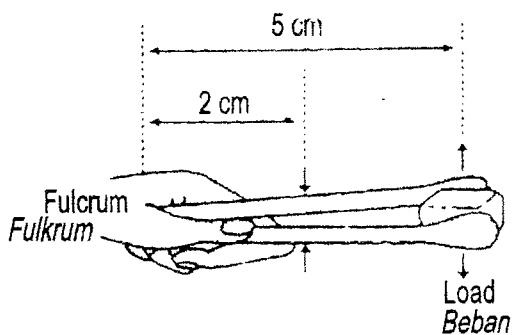


Diagram 20 / *Rajah 20*

An ice tongs uses 40N of effort to pick a load. Calculate the weight of the load if the load distance is 5cm from the fulcrum.

*Penyepit ais memerlukan daya sebesar 40N untuk mengambil beban. Kira berat beban jika jarak beban dari fulcrum ialah 5cm.*

- A 160N                      B 100N
- C 10N                        D 16N

26 Table 4 shows the comparison between inhalation and exhalation process.  
*Jadual 4 menunjukkan perbandingan antara proses menarik dan menghembus nafas.*

Inhalation <i>Menarik nafas</i>	Exhalation <i>Menghembus nafas</i>
I. Air enters the lungs <i>Udara masuk ke dalam peparu</i>	I. Air moves out from the lungs <i>Udara keluar dari peparu</i>
II. The ribs move upwards <i>Tulang rusuk bergerak ke atas</i>	II. The ribs move downwards <i>Tulang rusuk bergerak ke bawah</i>
III. The diaphragm muscles relax and bend upwards <i>Otot diafragma mengendur dan membengkok ke atas</i>	III. The diaphragm Muscles contract and flatten. <i>Otot diafragma mengecut dan rata</i>

Table 4 / *Jadual 4*

Which statements are correct?  
*Pernyataan manakah yang betul?*

- A I and III only  
*I dan III sahaja*
- B I and II only  
*I dan II sahaja*
- C II and III only  
*II dan III sahaja*
- D I, II and III  
*I, II dan III*

- 27 Diagram 21 shows an activity to investigate the effect of cigarette smoke on the human lung.  
*Rajah 21 menunjukkan satu aktiviti uantuk menyiasat kesan asap rokok ke atas peparu manusia.*

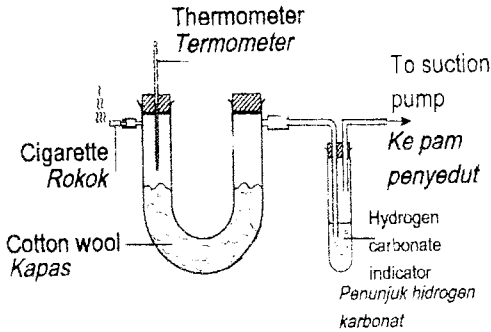


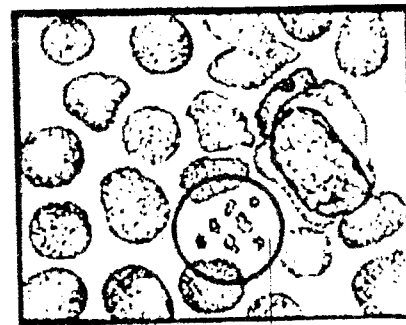
Diagram 21 / *Rajah 21*

Which observation and inference are correctly matched?  
*Pemerhatian dan inferens yang manakah dipadankan dengan betul?*

	Observation Pemerhatian	Inference Inferens
A	The cotton wool turns black <i>Warna kapas berubah menjadi hitam</i>	Cigarette smoke contains tar <i>Asap rokok mengandungi tar</i>
B	Hydrogen carbonate indicator change from red to yellow <i>Penunjuk hidrogen karbonat bertukar dari merah ke kuning</i>	Cigarette smoke contain sulphur dioxide <i>Asap rokok mengandungi sulfur dioksida</i>
C	The temperature in U-tube rises <i>Suhu di dalam tiub U meningkat</i>	Cigarette smoke contain carbon monoxide <i>Asap rokok mengandungi karbon monoksida</i>

D	Air bubbles are released in the conical flask <i>Gelembung gas dibebaskan di dalam kelalang kon</i>	Oxygen gas is released <i>Gas oksigen dibebaskan</i>
---	--	---

- 28 Diagram 22 shows constituents of blood.  
*Rajah 22 menunjukkan komposisi darah.*



Blood cell L  
*Sel darah L*

Diagram 22 / *Rajah 22*

What is the function of blood cell L?  
*Apakah fungsi sel darah L?*

- A Transport oxygen  
*Mengangkut oksigen*
- B Transport nutrients  
*Mengangkut nutrien*
- C Carry carbon dioxide  
*Membawa karbon dioksida*
- D Help blood clotting  
*Membantu pembekuan darah*

- 29 Diagram 23 shows the blood circulatory system in the human body.  
Rajah 23 menunjukkan sistem peredaran darah dalam badan manusia

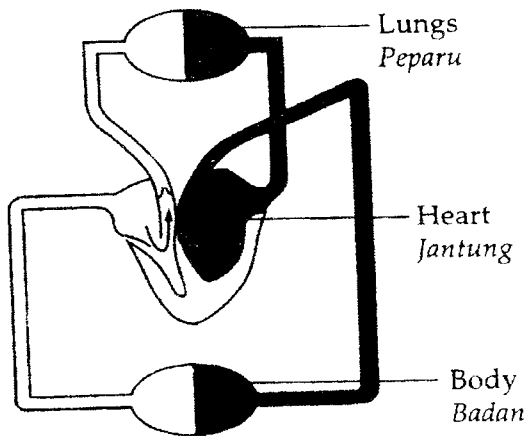


Diagram 23 / Rajah 23

Which of the following statement is true about oxygenated and deoxygenated blood?

Antara pernyataan berikut, yang manakah benar tentang darah beroksigen dan darah terdeoksigen?

- A Deoxygenated blood flows from the heart to all parts of the body  
Darah terdeoksigen mengalir dari jantung ke seluruh bahagian badan
- B Oxygenated blood flows from the lungs to the heart and to all parts of the body  
Darah beroksigen mengalir dari peparu ke jantung dan ke seluruh bahagian badan
- C Oxygenated blood flows from the heart to the lungs and to all parts of the body  
Darah beroksigen mengalir dari jantung ke peparu dan ke seluruh bahagian badan

- D Deoxygenated blood flows from the lungs to the heart and to all parts of the body  
Darah terdeoksigen mengalir dari peparu ke jantung dan ke seluruh bahagian badan

- 30 Diagram 24 shows a machine used by a patient with malfunction of both kidneys.  
Rajah 24 menunjukkan mesin yang digunakan oleh seorang pesakit yang kedua-dua ginjalnya tidak berfungsi.

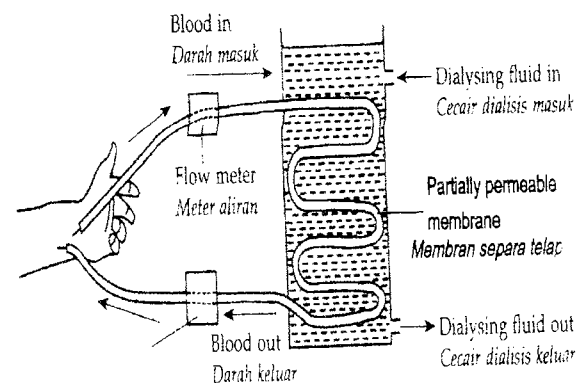


Diagram 24 / Rajah 24

What is the function of this machine?  
Apakah fungsi mesin ini?

- A To filter urea from the kidney  
Menapis urea dari ginjal
- B To filter water from the blood  
Menapis air dari darah
- C To filter protein and glucose from the kidney  
Menapis protein dan glukosa dari ginjal
- D To filter urea and mineral salts from the blood  
Menapis urea dan garam mineral dari darah

31 Table 5 shows some organisms which reproduce asexually.  
*Jadual 5 menunjukkan beberapa organisma yang membiak secara aseksual.*

Organism <i>Organisma</i>	Type of asexual reproduction <i>Jenis pembiakan aseks</i>
P	Regeneration <i>Penjanaan semula</i>
Q	Spore formation <i>Pembentukan spora</i>
R	Budding <i>Pertunasan</i>

Table 5 / *Jadual 5*

Which of the following organisms represent P, Q and R?  
*Manakah antara organisma berikut mewakili P, Q dan R?*

	P	Q	R
A	Yeast <i>Yis</i>	Amoeba <i>Amoeba</i>	Paramecium <i>Paramecium</i>
B	Hydra <i>Hidra</i>	Paramecium <i>Paramecium</i>	Amoeba <i>Amoeba</i>
C	Fungus <i>Kulat</i>	Hydra <i>Hidra</i>	Bacteria <i>Bakteria</i>
D	Starfish <i>Tapak sulaiman</i>	Ferns <i>Paku pakis</i>	Hydra <i>Hidra</i>

32 Diagram 25 shows the female reproductive system.  
*Rajah 25 menunjukkan sistem pembiakan perempuan.*

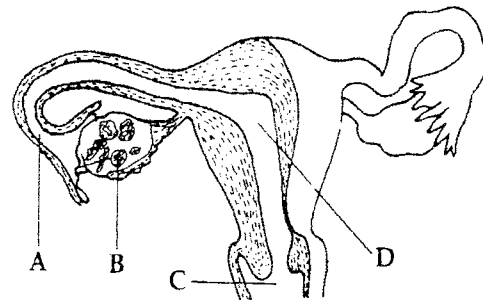


Diagram 25 / *Rajah 25*

Which of the following positions, A, B, C and D does the fusion of sperm and ovum occur?  
*Antara kedudukan A, B, C dan D berikut, yang manakah tempat berlakunya percantuman sperma dan ovum?*

33 Which of the following is true concerning growth in human?  
*Antara berikut yang manakah benar tentang pertumbuhan manusia?*

- I Growth is an irreversible process.  
*Pertumbuhan merupakan proses yang tidak berbalik*
- II Involves in the increment of mass  
*Melibatkan pertambahan jisim*
- III Involves in changes of shapes and sizes  
*Melibatkan perubahan bentuk dan saiz*

- A I and II only  
*I dan II sahaja*
- B I and III only  
*I dan III sahaja*
- C II and III only  
*II dan III sahaja*
- D I, II and III  
*I, II dan III*

34 Diagram 26 shows a fractionating column and two fractions of petroleum.  
*Rajah 26 menunjukkan bahagian pecahan dan dua pecahan petroleum.*

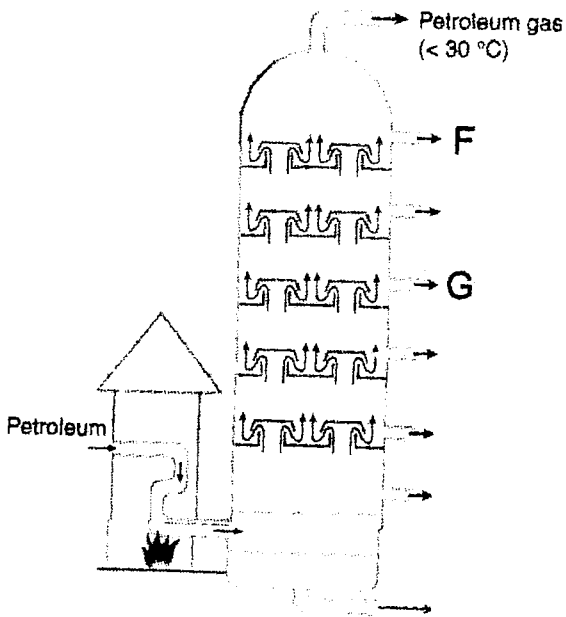


Diagram 26 / *Rajah 26*

Fraction F is collected before G. Compared to fraction G, fraction F has..  
*Pecahan F dikumpulkan sebelum G. Berbanding dengan pecahan G, pecahan F mempunyai.*

- A larger particles  
*Zarah lebih besar*
- B a darker colour  
*Berwarn a lebih gelap*
- C a higher density  
*Ketumpatan lebih tinggi*
- D a lower boiling point  
*takat didih lebih rendah*

35 Diagram 27 shows the heating of zinc oxide.  
*Rajah 27 menunjukkan pemanasan zink oksida.*

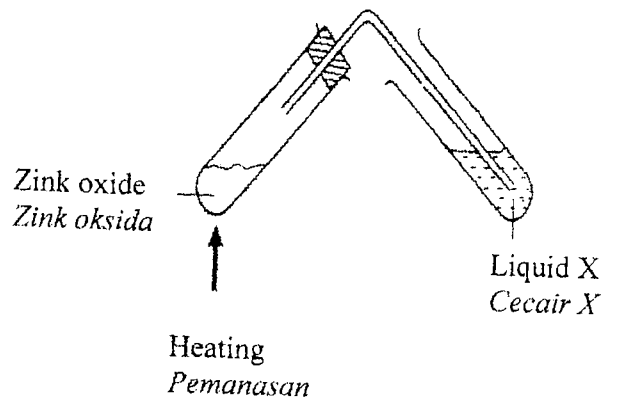


Diagram 27 / *Rajah 27*

Which of the following pairs is correct?  
 Antara pasangan berikut, yang manakah betul?

	Changes in liquid X <i>Perubahan pada cecair X</i>	Present of gas <i>Kehadiran gas</i>
A	Limewater remains colourless <i>Air kapur kekal jernih</i>	No gas <i>Tiada gas</i>
B	Limewater turns chalky <i>Air kapur bertukar keruh</i>	Carbon dioxide <i>Karbon dioksida</i>
C	Acidified potassium manganate (VII) solution <i>Larutan natrium manganat (VII) berasid bertukar jernih</i>	Carbon dioxide <i>Karbon dioksida</i>
D	Acidified potassium manganate (VII) solution turns milky <i>Larutan natrium manganat (VII) berasid bertukar keruh</i>	Sulphur dioxide <i>Sulfur dioksida</i>

- 36 Diagram 28 shows an activity carried out to study the magnetic field produced by a wire carrying an electric current.  
*Rajah 28 menunjukkan satu aktiviti dijalankan untuk mengkaji medan magnet dihasilkan oleh wayar yang membawa arus elektrik.*

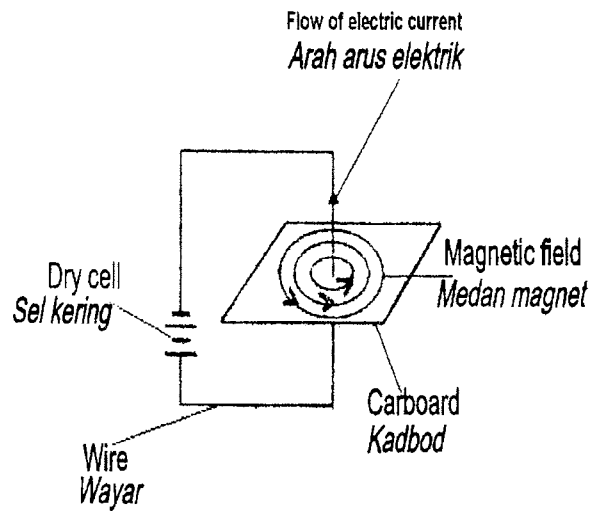


Diagram 28 / Rajah 28

What should a student do to change the direction of the magnetic field pattern?  
 Apakah yang perlu dilakukan oleh seorang pelajar untuk mengubah arah corak medan magnet?

- A Use one dry cell  
*Menggunakan satu sel kering*
- B Use a shorter wire  
*Menggunakan wayar yang lebih pendek*
- C Increase the number of dry cells  
*Menambahkan bilangan sel kering*
- D Change the terminal arrangement of the dry cells  
*Menukarkan susunan terminal sel kering*

- 37 Diagram 29 shows the system for distribution of electrical power which involves four transformers, K, L, M and N.

*Rajah 29 menunjukkan system pengagihan tenaga elektrik yang melibatkan empat transformer, K, L, M dan N.*

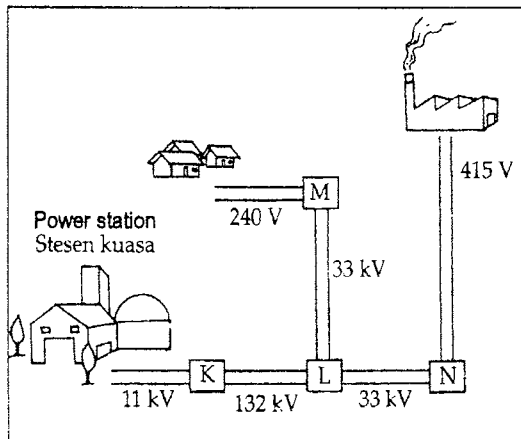


Diagram 29 / *Rajah 29*

Which of the transformers K, L, M and N are the step-down transformers?

*Antara transformer K, L, M dan N yang manakah transformer injak turun?*

- A K, L and N only  
*K, L dan N sahaja*
- B K, M and N only  
*K, M dan N sahaja*
- C K and L only  
*K dan L sahaja*
- D L, M and N only  
*L, M dan N sahaja*

- 38 A washing machine labeled 240V, 1000W is used for 8 hours. Calculate the total cost of the electrical energy used for **10 days** if the rate of electrical energy is RM 0.20 per unit.

*Sebuah mesin basuh yang berlabel 240V, 1000W digunakan selama 8 jam.*

*Kirakan jumlah kos tenaga elektrik yang digunakan selama **10 hari** jika kadar tenaga adalah RM 0.20 seunit.*

- A RM 1.60
- B RM 8.00
- C RM 16.00
- D RM 20.00

- 39 Which of the following is the outermost layer of the sun?

*Antara berikut yang manakah lapisan paling luar matahari?*

- A Corona  
*Korona*
- B Prominence  
*Prominen*
- C Photosphere  
*Fotosfera*
- D Chromosphere  
*Kromosfera*

- 40 The following statements concern developments in space technology.  
*Pernyataan-pernyataan berikut adalah mengenai perkembangan dalam teknologi angkasa lepas.*

- To predict the weather  
*Untuk membuat ramalan cuaca*
- To locate natural resources  
*Untuk mengesan sumber semulajadi*
- To help navigating ships  
*Untuk memberi petunjuk arah Kepada kapal*

Which technology helps to carry out these functions?

*Antara teknologi berikut, yang manakah membantu dalam melaksanakan tugas-tugas ini*

- A Probe  
*Prob*
- B Satellite  
*Satelit*
- C Telescope  
*Teleskop*
- D Space shuttle  
*Kapal angkasa ulang-alik.*

**END OF QUESTION PAPER**

***KERTAS SOALAN TAMAT***

**SULIT**  
**SCIENCE**  
**KERTAS 2**  
**2010**  
**1½ JAM**



Name : .....

Angka Giliran

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No. Kad Pengenalan

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**JABATAN PELAJARAN NEGERI TERENGGANU**  
**PEPERIKSAAN PERCUBAAN**  
**PENILAIAN MENENGAH RENDAH 2010**

**SCIENCE**  
**PAPER 2**

**One and Half Hour**

**DO NOT OPEN THIS QUESTION PAPER UNTIL TOLD TO DO SO**

- 1 This question paper consists of 8 questions  
*Kertas soalan ini mengandungi 8 soalan.*
- 2 Answer all questions.  
*Jawab semua soalan*
- 3 All answers must be written in the spaces provided  
*Jawapan hendaklah ditulis di dalam ruang yang disediakan*
- 4 Figures are not drawn according to scale unless stated  
*Rajah tidak dilukis mengikut skala kecuali dinyatakan*
- 5 Maximum marks provided shown in the brackets at the end of every question or part of question  
*Markah maksima yang diperuntukan ditunjukkan pada tiap-tiap bahagian soalan*
- 6 Pelajar dibenarkan menjawab sama ada dalam Bahasa Melayu atau dalam Bahasa Inggeris atau kedua-dua dalam Bahasa Melayu dan Inggeris mengikut soalan  
*Students are allowed to answer either in Bahasa Melayu or Bahasa Inggeris, or both in Bahasa Melayu and Bahasa Inggeris.*

Section	Question No	Maximum marks	Marks acquired
A	1	6	
	2	6	
	3	6	
	4	6	
	5	8	
	6	8	
B	7	9	
	8	11	
TOTAL		60	

*Disediakan Oleh:*  
**AKRAM NEGERI TERENGGANU**

*Dibiayai Oleh:*  
**KERAJAAN NEGERI TERENGGANU**

**TERENGGANU ANJUNG ILMU**

*Dicetak Oleh:*  
Percetakan Yayasan Islam Terengganu Sdn. Bhd.  
Tel: 609-666 8611/6652/8601 Faks: 609-666 0611/0063

**This question paper contains 21 printed pages**  
**Buku soalan ini mengandungi 21 halaman bercetak**

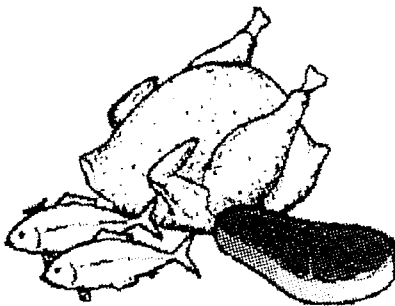
For  
Examiner's  
use  
Untuk  
kegunaan  
pemeriksa

Section A  
Bahagian A

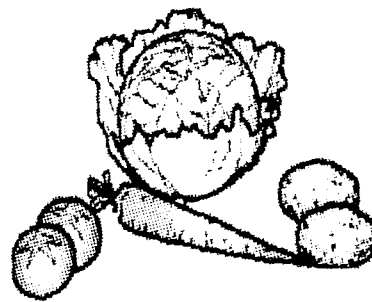
[ 40 marks ]  
[ 40 markah ]

Answer **all** questions.  
Jawab **semua** soalan.

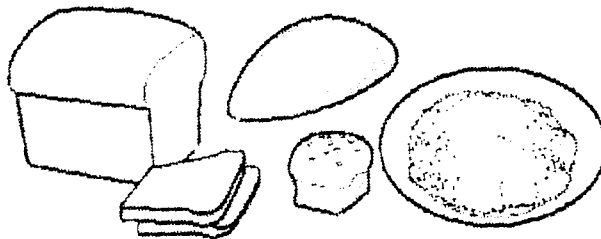
1 Diagram 1 shows pictures of foods  
Rajah 1 menunjukkan gambar makanan.



P: .....



Q: .....



R: .....

Diagram 1  
Rajah 1

a) On Diagram 1, label pictures P, Q and R using the following words.  
Pada Rajah 1, labelkan gambar P, Q dan R menggunakan perkataan berikut.

Protein Protein	Carbohydrate karbohidrat	Fibre Serat
--------------------	-----------------------------	----------------

[ 3 marks ]

1(a)

	3
--	---

- b) Draw lines to match pictures with their functions  
*Lukiskan garisan untuk memadankan gambar dengan fungsinya.*

**Pictures**  
**Gambar**

**Functions**  
**Fungsi**

P ○

○ Build new cells and replace dead cells  
*Membina sel baru dan menggantikan sel yang mati*

Q ○

○ Supply our body with energy  
*Membekalkan tenaga kepada badan kita*

R ○

○ Help in defecation and prevent constipation  
*Membantu pembuangan najis dan mencegah sembelit*

[ 3 marks ]

For  
 Examiner's  
 use  
*Untuk  
 kegunaan  
 pemeriksa*

1(b)

3

**Total**

6

For Examiner's use  
Untuk kegunaan pemeriksa

2 Diagram 2.1 shows an apparatus to study the absorption of heat  
Rajah 2.1 menunjukkan susunan radas untuk mengkaji penyerapan haba

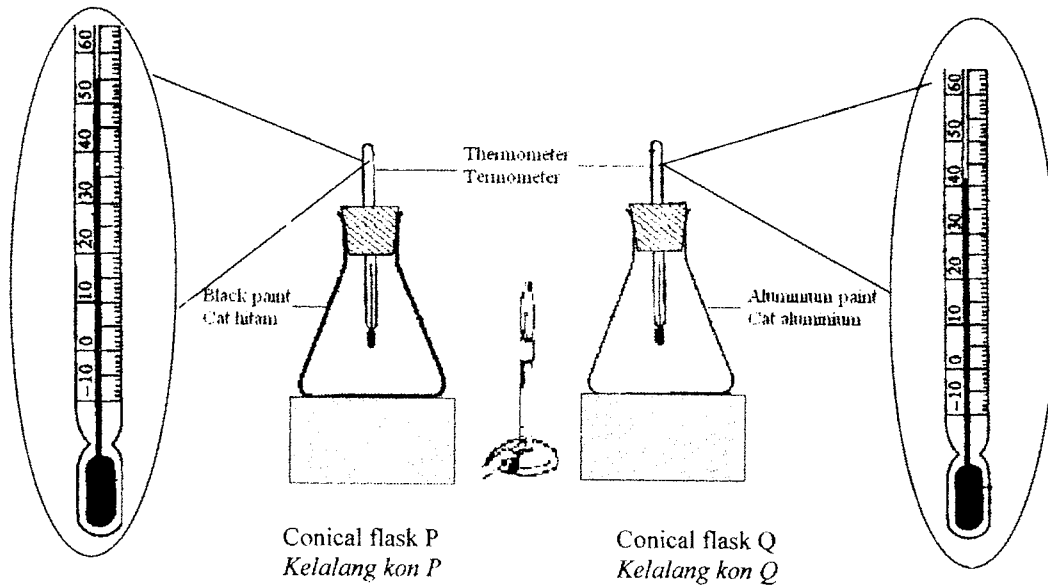


Diagram 2.1  
Rajah 2.1

- a) i) Which conical flask shows the highest reading of thermometer?  
*Kelang kon manakah yang menunjukkan bacaan termometer tertinggi?*
- .....
- [ 1 mark ]
- ii) State the reason for your answer in 2(a)(i)  
*Nyatakan sebab bagi jawapan anda dalam 2(a)(i)*
- .....
- [ 1 mark ]
- iii) State the way of heat flow from Bunsen burner to conical flask  
*Nyatakan cara pemindahan haba daripada penunu Bunsen ke kelang kon*
- .....
- [ 1 mark ]

2(a)

3

- b) State true or false of the statement below to describe the surface condition of the object  
 Nyatakan betul atau salah pernyataan di bawah untuk menerangkan keadaan permukaan objek

The surface condition of the object <i>Keadaan permukaan object</i>	Explanation <i>Penerangan</i>	True/False <i>Betul/Salah</i>
Dark dull surface <i>Permukaan hitam pudar</i>	Absorb heat better <i>Menyerap haba dengan baik</i>	
Shiny surface <i>Permukaan berkilat</i>	Give out heat better <i>Membebaskan haba yang baik</i>	

[ 2 marks ]

- c) Why does diesel tank not painted black  
 Mengapakah tangki diesel tidak dicat dengan warna hitam?
- .....

[ 1 mark ]

For Examiner's use  
 Untuk kegunaan pemeriksa

2(b)

2

2(c)

1

Total

6

For  
Examiner's  
use  
Untuk  
kegunaan  
pemeriksa

3 (a)

Diagram 3.1 shows the apparatus set-up to investigate the effect of heating on calcium carbonate.

Rajah 3.1 menunjukkan susunan radas untuk mengkaji kesan pemanasan ke atas kalsium karbonat.

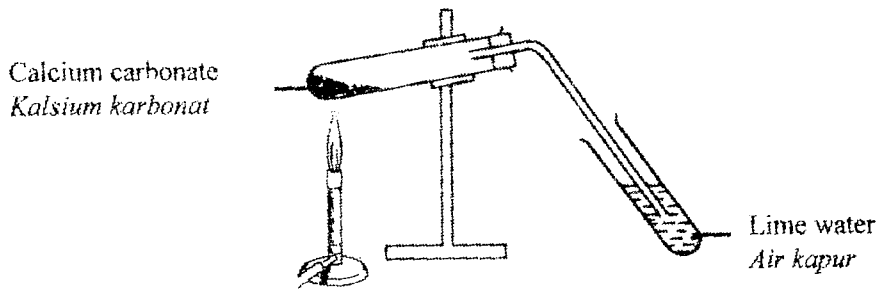


Diagram 3.1  
Rajah 3.1

(i) Name the gas that is released from the heating of calcium carbonate.  
Namakan gas yang dibebaskan semasa pemanasan kalsium karbonat

.....  
[ 1 mark ]

(ii) What substance is left in the test tube after heating?  
Apakah bahan yang tertinggal di dalam tabung uji selepas pemanasan ?

.....  
[ 1 mark ]

(iii) State one of the elements in calcium carbonate.  
Namakan satu unsur yang terdapat di dalam kalsium karbonat

.....  
[ 1 mark ]

3(a)  

3
---

(b) Diagram 3.2 shows the apparatus set-up to study the reaction between some metals and sulphur powder

Rajah 3.2 menunjukkan susunan radas untuk menyiasat tindakbalas antara beberapa logam dan serbuk sulfur

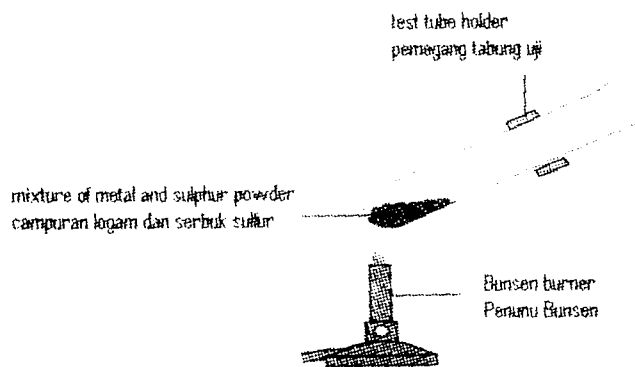


Diagram 3.2  
Rajah 3.2

For  
Examiner's  
use  
Untuk  
kegunaan  
pemeriksa

The result of the experiment is shown in Table 3.3  
*Keputusan eksperimen ditunjukkan dalam Jadual 3.3*

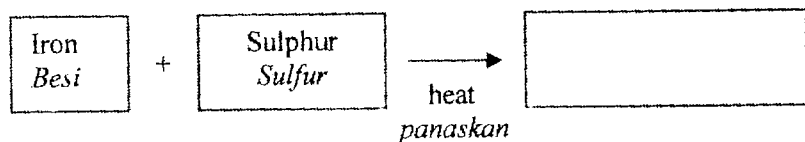
Type of metal powder <i>Jenis serbuk logam</i>	Reaction rate <i>Kadar tindakbalas</i>
Magnesium <i>Magnesium</i>	Very fast <i>Sangat cepat</i>
Zinc <i>Zink</i>	Fast <i>Cepat</i>
Copper <i>Kuprum</i>	Slow <i>Perlahan</i>

Table 3.3  
*Jadual 3.3*

- (i) Based on Diagram 3.2. name the product of the reaction  
*Berdasarkan Rajah 3.2 namakan hasil bagi tindakbalas tersebut*

.....  
[ 1 mark ]

- (ii) Write the equation in words for the reaction between iron and sulphur  
*Tuliskan persamaan dalam perkataan untuk menunjukkan tindakbalas di antara besi dan sulfur*



[ 1 mark ]

- (iii) Based on Table 3.3, explain the reaction rate of metal and sulphur  
*Berdasarkan Jadual 3.3, terangkan kadar tindakbalas antara logam dan sulfur*

.....  
.....  
[ 1 mark ]

3(b)

	3
--	---

Total

	6
--	---

For  
Examiner's  
use  
Untuk  
kegunaan  
pemeriksa

- 4 Diagram 4.1 shows Arifah is pushing a trolley from P to Q.  
Rajah 4.1 menunjukkan Arifah sedang menolak troli dari P ke Q.

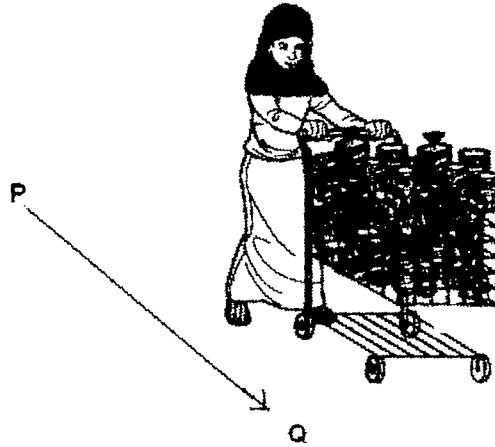


Diagram 4.1  
Rajah 4.1

- a) (i) Is work being done by Arifah in Diagram 4.1?  
Adakah kerja dilakukan oleh Arifah di dalam Rajah 4.1?

..... [ 1 mark ]

- (ii) Explain your answer.  
Terangkan jawapan anda.

..... [ 1 mark ]

- b) Diagram 4.2 shows Arif is climbing up a flight of stairs which is 3 meter high in 9 seconds. Arif has a mass of 45 kg.  
Rajah 4.2 menunjukkan Arif memanjat tangga setinggi 3 meter dalam masa 9 saat. Jisim Arif ialah 45 kg.

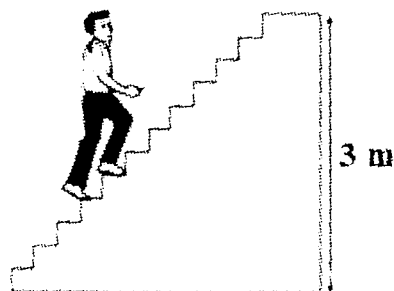
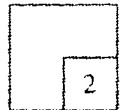


Diagram 4.2  
Rajah 4.2

4(a)



For  
Examiner's  
use  
Untuk  
kegunaan  
pemeriksa

- (i) Calculate the work done by Arif.  
( Assume the gravitational force acting on a mass of 1kg = 10N )  
*Kira kerja yang dilakukan oleh Arif.*  
*(Daya graviti yang bertindak ke atas jisim 1 kg = 10N)*

$$\begin{array}{ccccc} \text{Work done ( J )} & = & \text{Force ( N )} & \times & \text{Distance ( m )} \\ \text{Kerja} & & \text{Daya} & & \text{Jarak} \end{array}$$

[ 2 marks ]

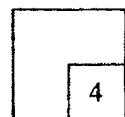
- (ii) Calculate the power used by Arif.  
*Kira kuasa yang digunakan oleh Arif.*

$$\text{Power ( W )} = \frac{\text{Work done ( J )}}{\text{Time ( s )}}$$

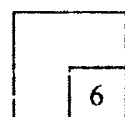
$$\text{Kuasa ( W )} = \frac{\text{Kerja ( J )}}{\text{masa ( s )}}$$

[ 2 marks ]

4(b)



Total



For Examiner's use  
Untuk kegunaan pemeriksa

- 5 (a) Diagram 5.1 shows an electric circuit.  
Rajah 5.1 menunjukkan satu litar elektrik.

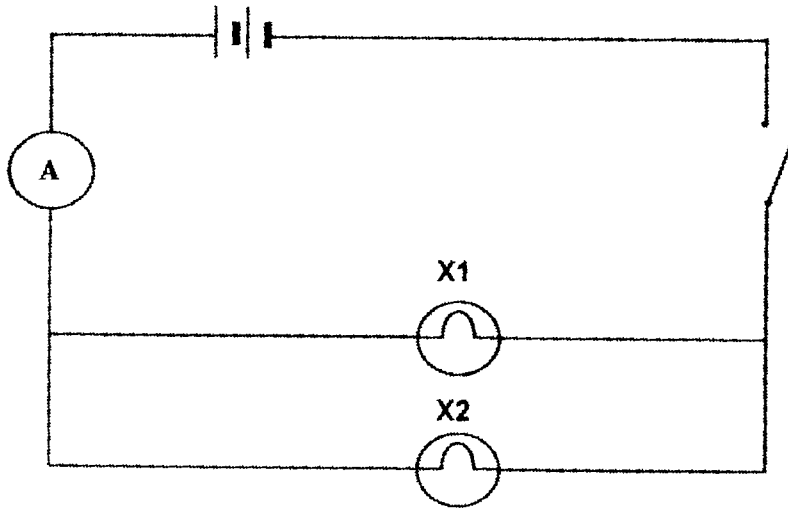


Diagram 5.1  
Rajah 5.1

- i) How the two bulbs are connected in the circuit above?  
Bagaimanakah dua mentol itu disambung dalam litar di atas ?
- .....
- [ 1 mark ]
- ii) State one reason for the answer in 5(a)(i).  
Nyatakan satu sebab bagi jawapan di 5(a)(i).
- .....
- [ 1 mark ]
- iii) Based on Diagram 5.1, suggest one way to increase the reading of ammeter A.  
Berdasarkan Rajah 5.1, cadangkan satu cara untuk menambahkan bacaan ammeter A.
- .....
- [ 1 mark ]

5(a)

3
---

- b) State the brightness of the bulbs X1 and X2 if they are connected in series.  
Nyatakan kecerahan mentol X1 dan X2 jika disambungkan secara bersiri.
- .....
- [ 1 mark ]

5(b)

1
---

For Examiner's use  
Untuk kegunaan pemeriksa

- c) Diagram 5.2 shows a circuit  
Rajah 5.2 menunjukkan satu litar

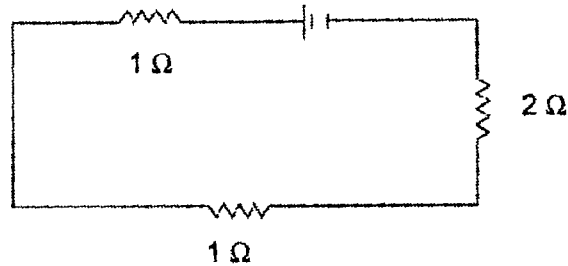


Diagram 5.2  
Rajah 5.2

If the current that flows in the circuit is 2 A, calculate the voltage  
( Given  $V = IR$  )  
Jika arus yang mengalir di dalam litar ialah 2A, kirakan voltan.  
( Diberi  $V = IR$  )

[ 2 marks ]

5(c)

2

- d) Diagram 5.2 shows the brightness of bulb K and the brightness of bulb L.  
Rajah 5.2 menunjukkan kecerahan mentol K dan mentol L.

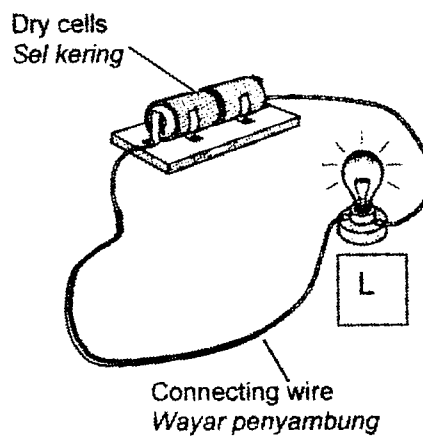
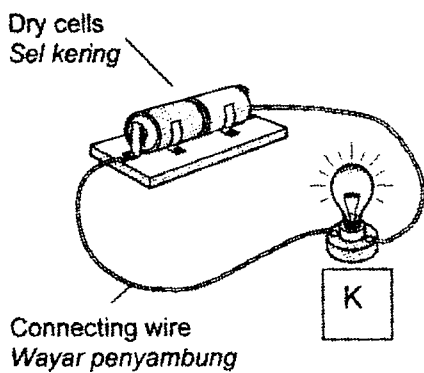


Diagram 5.3 / Rajah 5.3

Why does the bulb K is more bright than bulb L?  
*Mengapakah mentol K lebih cerah berbanding mentol L?*

.....  
.....

[ 1 mark ]

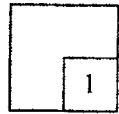
e) Why the circuit in homes is connected in parallel.  
*Mengapakah litar di rumah disambung secara selari.*

.....

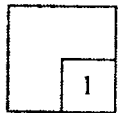
[ 1 mark ]

For Examiner's use  
*Untuk kegunaan pemeriksa*

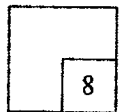
5(d)

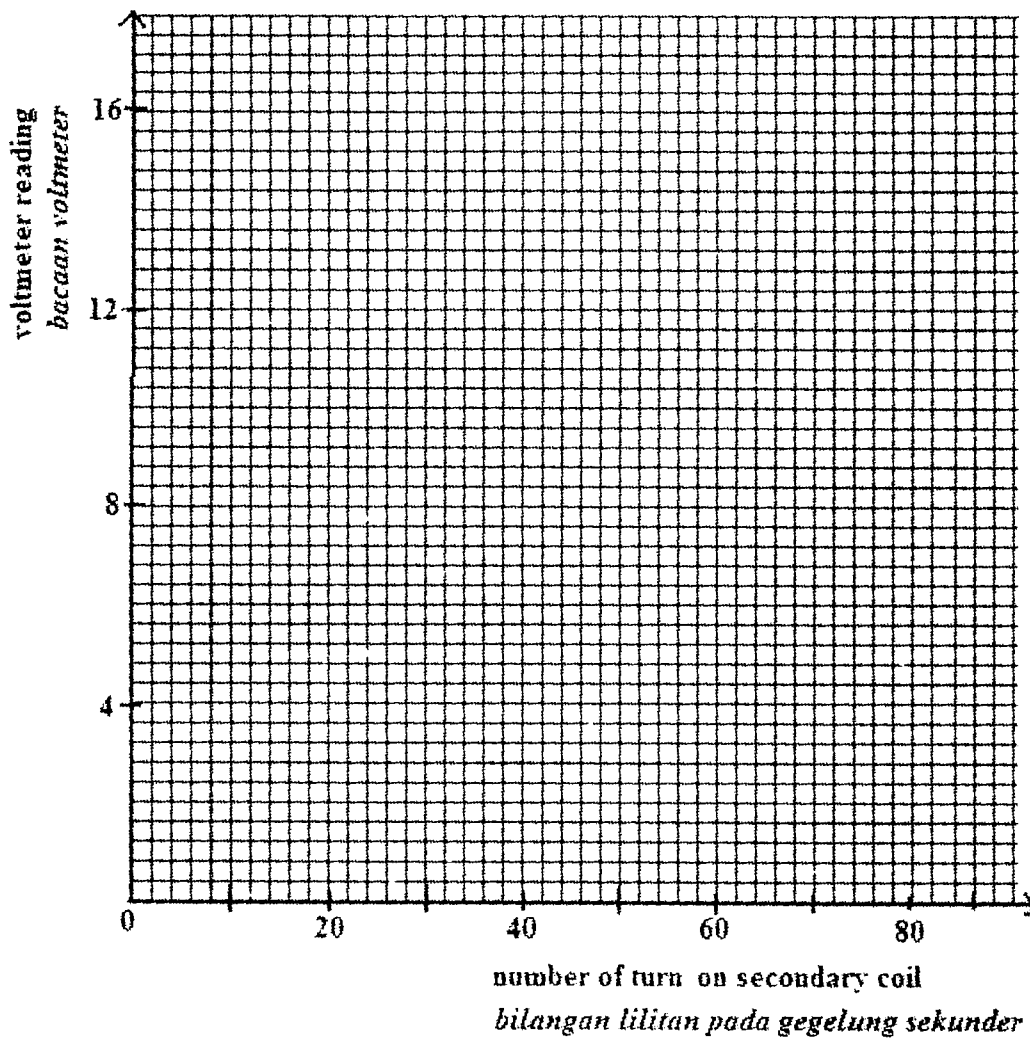


5(e)



**Total**





[ 2 marks ]

- (e) State a hypothesis based on result in Table 8.2.  
 Nyatakan hipotesis berdasarkan keputusan pada Jadual 8.2.

.....  
 .....  
 [ 1 mark ]

- (f) Define 'step up transformer' operationally.  
 Definasi 'transformer injak naik' secara operasi ?

.....  
 .....  
 [ 1 mark ]

For  
 Examiner's  
 use  
 Untuk  
 kegunaan  
 pemeriksa

8(d)

	2
--	---

8(e)

	1
--	---

8(f)

	1
--	---

**Total**

	11
--	----

Based on Table 8.4, predict the voltmeter reading for number of turns on the secondary coil is 80.

*Berdasarkan Rajah 8.4, ramalkan bacaan voltmeter untuk bilangan lilitan pada Gegelung sekunder ialah 80*

..... [ 1 mark ]

(c) State the variables that involve in this experiment.  
*Nyatakan pembolehubah yang terlibat dalam eksperimen ini.*

i) Manipulated variable  
*Pembolehubah yang dimanipulasi*

.....

ii) Responding variable  
*Pembolehubah yang bergerakbalas*

.....

iii) Controlled variable  
*pembolehubah yang dimalarkan*

.....

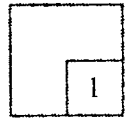
[ 3 marks ]

(d) Based on Table 8.2 draw a graph of voltmeter reading against number of turns on the secondary coil.

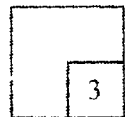
*Berdasarkan Jadual 8.4, lukis graf bacaan voltmeter melawan bilangan lilitan pada gegelung sekunder*

For Examiner's use  
*Untuk kegunaan pemeriksa*

8(b)



8(c)



- iii) Based on Diagram 8.2, record the readings of the voltmeter.  
 Berdasarkan Rajah 8.2, catatkan bacaan voltmeter.

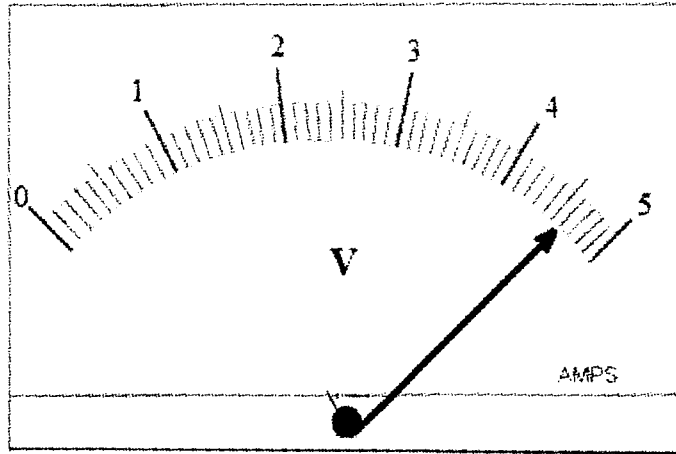


Diagram 8.2  
 Rajah 8.2

Number of turns on secondary coil = 23  
 Bilangan lilitan pada gegelung sekunder = 23

Bacaan voltmeter = ..... V  
 Bacaan voltmeter = ..... V

[ 1 mark ]

8(a)



- (b) Table 8.2 shows the voltmeter reading of different number of turns on the secondary coil.  
 Jadual 8.2 menunjukkan bacaan voltmeter untuk bilangan lilitan berbeza pada gegelung sekunder.

Number of turns on the primary coil <i>Bilangan lilitan pada gegelung primer</i>	Number of turns on the secondary coil <i>Bilangan lilitan pada gegelung sekunder</i>	Voltmeter reading <i>Bacaan voltmeter</i>
10	20	4
10	40	8
10	60	12
10	80	.....

Table 8.2  
 Jadual 8.2

For  
 Examiner's  
 use  
 Untuk  
 kegunaan  
 pemeriksa

For  
Examiner's  
use  
Untuk  
kegunaan  
pemeriksa

- 6 (a) Diagram 6.1 shows the condition of a plant at different times of the day.  
*Rajah 6.1 menunjukkan perubahan satu pokok pada waktu yang berbeza dalam satu hari*

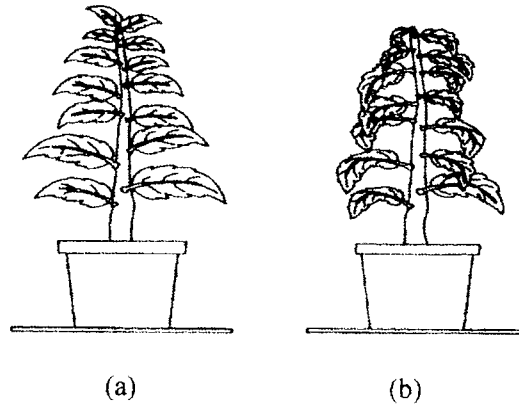


Diagram 6.1  
*Rajah 6.1*

- (i) State the time of day that causes the condition in diagram 6.1 (b).  
*Nyatakan masa pada hari itu yang menyebabkan keadaan dalam Rajah 6.1 (b).*

.....  
[ 1 mark ]

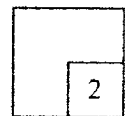
- (ii) Explain the condition in 6(b)(i) related to transpiration.  
*Terangkan keadaan di 6(b)(i) dengan mengaitkan kepada transpirasi.*

.....  
[ 1 mark ]

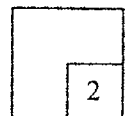
- (b) State two other factors besides the time of day that make the wilting worse.  
*Nyatakan dua faktor lain selain masa pada hari itu yang menyebabkan keadaan layu bertambah teruk.*

- (i) .....
- (ii) .....
- [ 2 marks ]

6(a)



6(b)



For  
Examiner's  
use  
Untuk  
kegunaan  
pemeriksa

- (c) Diagram 6.2 shows an experiment to study the transport system in plant.  
Rajah 6.2 menunjukkan eksperimen untuk mengkaji sistem pengangkutan dalam tumbuhan.

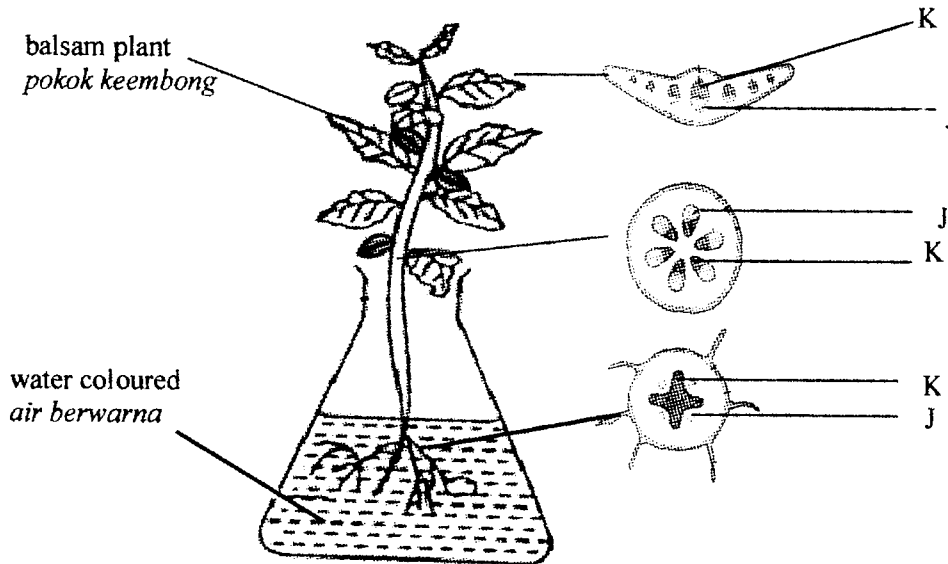


Diagram 6.2/ Rajah 6.2

At the end of the activity, the part labelled K are seen coloured. Why?  
Di akhir aktiviti bahagian yang dilabelkan K kelihatan berwarna. Apa yang boleh anda simpulkan daripada pemerhatian ini?

.....  
[ 1 mark ]

6(c)



- (d) Diagram 6.3 shows a plant tied with a wire for three weeks.  
Rajah 6.3 menunjukkan sebatang pokok diikat dengan dawai selama tiga minggu.

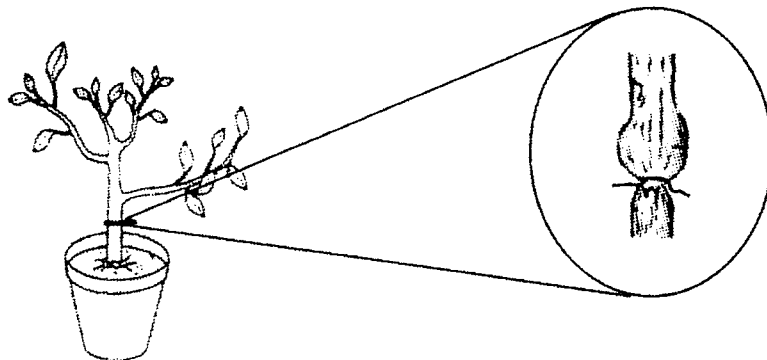


Diagram 6.3/Rajah 6.3

For  
Examiner's  
use  
Untuk  
kegunaan  
pemeriksa

(i) After three weeks the parts above the tied part becomes swollen. Why?  
*Selepas tiga minggu bahagian atas ikatan menjadi bengkak. Mengapa?*

.....  
.....

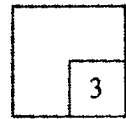
[ 1 mark ]

(ii) If the plant is left for a long period, the lower part of the stem will die more quickly than the upper part . Explain .  
*Sekiranya tumbuhan itu dibiarkan lama, batang di bahagian bawah mati lebih cepat daripada bahagian di atas ikatan. Terangkan.*

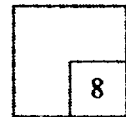
.....  
.....

[ 2 marks]

6(d)



Total



For  
Examiner's  
use  
Untuk  
kegunaan  
pemeriksa

SECTION B  
(20 marks)  
Answer all questions

7 Diagram 7.1 shows four situation P, Q, R and S .  
*Rajah 7.1 menunjukkan empat situasi P, Q, R dan S.*

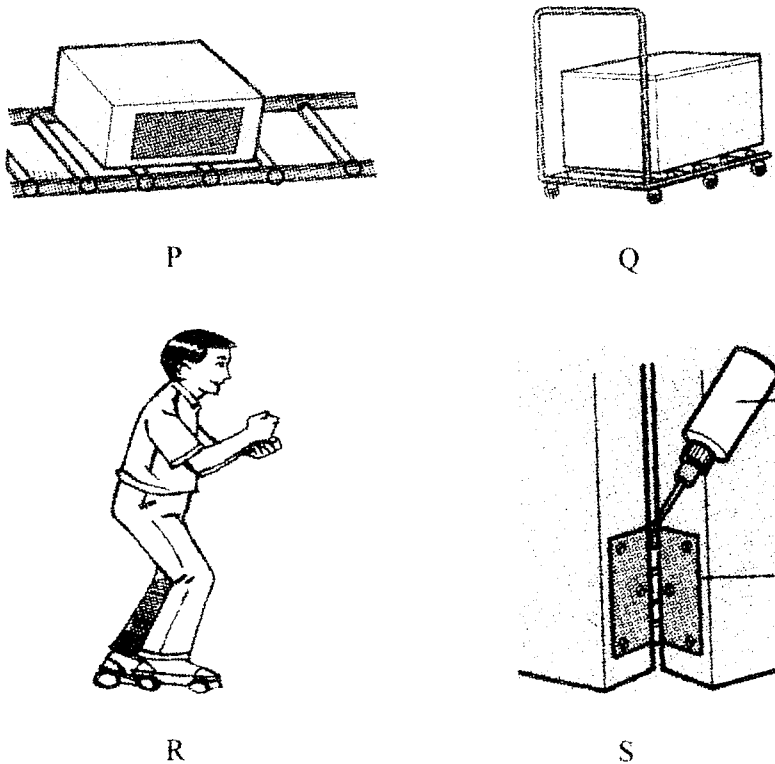


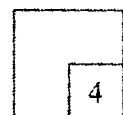
Diagram 7.1  
Rajah 7.1

(a) Based on your observation, state the way friction can be reduced.  
*Berdasarkan pemerhatian, nyatakan bagaimana geseran dapat dikurangkan.*

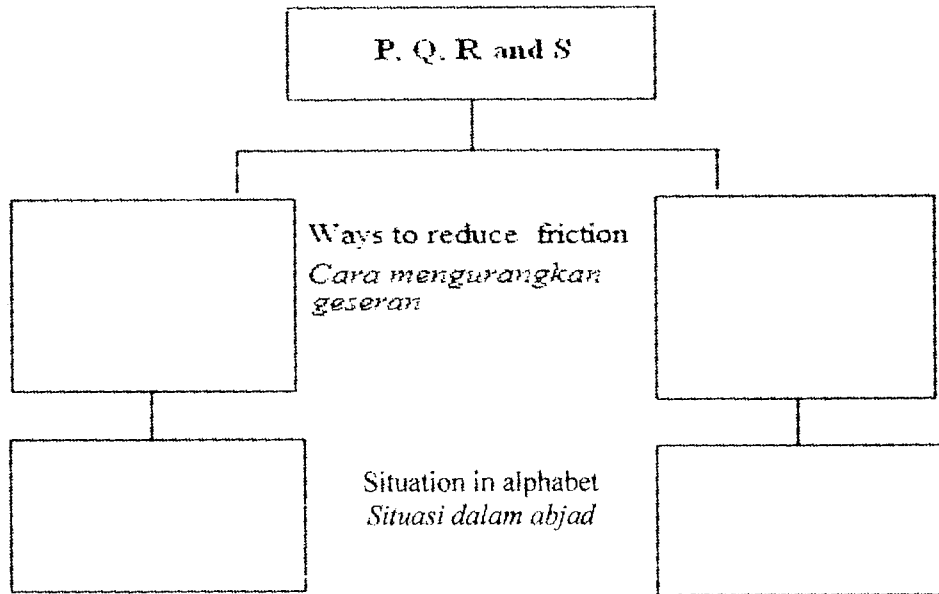
- P: .....
- Q: .....
- R: .....
- S: .....

[ 4 marks ]

7(a)

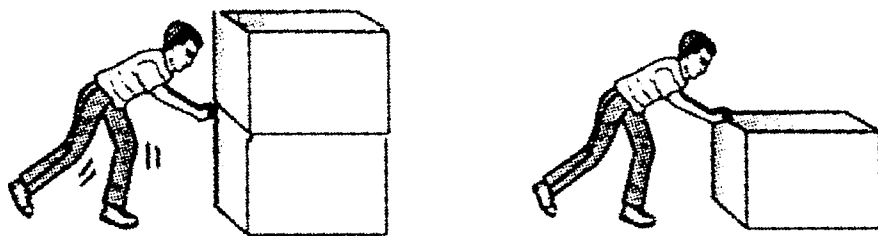


- (b) Classify P, Q, R and S into two groups based on their ways to reduce friction.  
*Kelaskan P, Q, R dan S kepada dua kumpulan berdasarkan cara geseran dikurangkan.*



[ 4 marks ]

- (c) Diagram 7.2 shows a man pushing boxes in different situation. Each box has the same weight. It is harder to push the boxes in situation A than in situation B.  
*Rajah 7.2 menunjukkan seorang lelaki sedang menolak kotak dalam situasi yang berbeza. Setiap kotak mempunyai berat yang sama. Kotak dalam situasi A lebih sukar ditolak berbanding dalam situasi B.*



Situation A  
*Situasi A*

Situation B  
*Situasi B*

Diagram 7.2

Based on Diagram 7.2, what is the relationship between weight and friction.  
*Berdasarkan Rajah 7.2, apakah hubungan di antara berat dengan geseran.*

.....

[ 1 mark ]

For  
 Examiner's  
 use  
*Untuk  
 kegunaan  
 pemeriksa*

7(b)

4

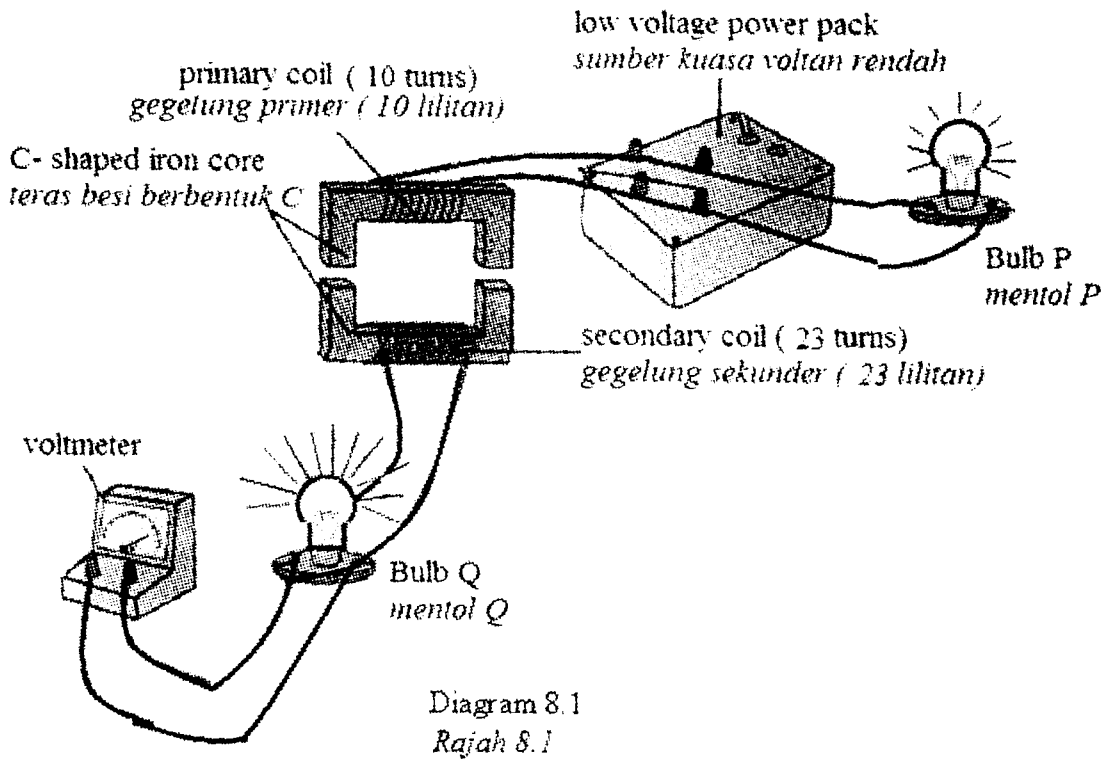
7(c)

1

Total

9

- 8 (a) Diagram 8.1 shows the apparatus set-up to study the function of a step up transformer.  
*Rajah 8.1 menunjukkan susunan radas untuk mengkaji fungsi transformer injak naik.*



For  
 Examiner's  
 use  
*Untuk  
 kegunaan  
 pemeriksa*

- i) Based on Diagram 8.1, state the difference of the brightness between Bulb P and Bulb Q.  
*Berdasarkan Rajah 8.1, nyatakan perbezaan kecerahan antara mentol P dan mentol Q.*

.....  
 .....

[ 1 mark ]

- ii) What inference can be made based on Diagram 8.1  
*Apakah inferens yang boleh dibuat berdasarkan Rajah 8.1*

.....  
 .....

[ 1 mark ]

# PEPERIKSAAN PERCUBAAN PMR 2010

## SUGGESTED MARKING SCHEME SCIENCE PAPER ONE (55/1) FORM THREE

QUESTION NO.	ANSWER	QUESTION NO.	ANSWER
1	A	21	A
2	B	22	B
3	B	23	D
4	B	24	C
5	B	25	D
6	C	26	B
7	A	27	A
8	D	28	D
9	C	29	B
10	C	30	D
11	C	31	<del>C</del> D
12	A	32	A
13	C	33	D
14	B	34	D
15	C	35	A
16	A	36	D
17	D	37	D
18	C	38	C
19	B	39	A
20	A	40	B

SULIT

1

55/2  
PEPERIKSAAN OTI 3 (PERCUBAAN PMR) TAHUN 2010

## FORM THREE

## MARKING SCHEME

SUBJECT CODE		55 / 2
SUBJECT		SCIENCE
PAPER		TWO

QUESTION SOALAN	ANSWER IN ENGLISH VERSION / JAWAPAN DALAM VERSI BAHASA MELAYU	MARK MARKAH
1	<p>a. A student should be able to write</p> <p>P : Protein/protein Q : Fibre/Fiber R : Carbohydrate/karbohidrat</p>	3 marks
	<p>b. A student should be able to match</p> <p>P ○ ————— ○ Build new tissue and replace dead tissue Membina tisu baru dan menggantikan</p> <p>Q ○ ————— ○ Supply our body with energy Membekalkan tenaga kepada badan</p> <p>R ○ ————— ○ Help in defecation and prevent constipation Membantu pembuangan najis dan mencegah sembelit</p>	3 marks
2	<p>a. A student should be able to write</p> <p>i. P ii. Black paint /absorb heat better iii. Radiation</p>	1 mark 1 mark 1 mark

55 / 2

SULIT

2

55/2

	b.	A student should be able to write				
		The surface condition of the object <i>Keadaan permukaan object</i>	Explanation <i>Penerangan</i>	True/False <i>Betul/Salah</i>		
		Dark dull surface <i>Permukaan hitam legap</i>	Absorb heat better <i>Menyerap haba dengan baik</i>	TRUE		1 mark
		Shiny surface <i>Permukaan berkilat</i>	Give out heat Better <i>Membebaskan haba yang baik</i>	FALSE	1 mark	
	c.	A student should be able to write To prevent explosion / to prevent absorption of heat			1 mark	
3	a.	A student should be able to write				
		i) carbon dioxide // <i>karbon dioksida</i> ii) calcium oxide / quicklime // <i>kalsium oksida/kapur tohor</i> iii) calcium/carbon/oxygen			1 mark 1 mark 1 mark	
	b.	A student should be able to write				
		i) metal sulphide// <i>logam sulfida</i> ii) Both corrects 1 mark <div style="display: flex; align-items: center; justify-content: center;"> <div style="border: 1px solid black; padding: 5px; margin-right: 10px;">Iron <i>Besi</i></div> <div style="margin-right: 10px;">+</div> <div style="border: 1px solid black; padding: 5px; margin-right: 10px;">Sulphur sulfur</div> <div style="margin-right: 10px;">→</div> <div style="border: 1px solid black; padding: 5px; margin-right: 10px;">Iron sulphide Besi sulfida</div> </div> <div style="margin-left: 100px; text-align: center;"> <math>\xrightarrow[\text{panaskan}]{\text{heat}}</math> </div>			1 mark  1 Mark	
		iii) metals react with sulphur at different rate / magnesium reacts very fast with sulphur / copper react slowly with sulphur			1 mark	

55 / 2

Lihat sebelah

SULIT

SULIT

3

55/2

4	a	A student should be able to write  (i) Yes (ii) She push a trolley through a distance P to Q	1 mark 1 mark
	b	A student should be able to calculate  i) Work done = Force x Distance = 450 N x 3 M = 1350 J  ii) Power (W) = $\frac{\text{Work done (J)}}{\text{Time taken (S)}}$ = $\frac{1350 \text{ J}}{9 \text{ S}}$ = 150 W	2 marks 2 marks
5	a.	A student should be able to write  (i) parallel circuit  (ii) - the current flows through more than one path/ - If one bulb burnt of, the other bulb will light up/ - Each bulb receives the full voltage from the electrical source  (iii) Add more batteries./ dry cells / voltage	1 mark 1 mark 1 mark
	b.	A student should be able to write  the brightness of the bulbs are dimmer.	1 mark
	c.	A student should be able to calculate  Voltage = Current x Resistance = 2 A x 4Ω = 8 V	1 mark 1 mark

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	d.	A student should be able to write bulb K has short wire / lower resistance, ( vice versa )	1 mark
	e.	A student should be able to write Each electrical component can be controlled by separate switches. ( or any suitable answer )	1 mark
6	a.	A student should be able to write i. Day time , noon, 11.00 am, 12.00 pm ...any acceptable time <i>Siang hari , tengahari , siang , 11.00 pagi. 12.00 tgh ..mana-mana jam yang sesuai</i> ii. Water lost through transpiration is more than it absorbed <i>Air yang hilang melalui transpirasi lebih banyak berbanding air yang diserap</i>	1 mark  1 mark
	b.	A student should be able to write i. The presence of wind <i>Kehadiran angin</i> ii. Dry weather(situation)/less humid <i>Keadaan(Cuaca )kering /kurang lembab</i>	2 marks
	c.	A student should be able to write K transport water / K is xylem <i>K mengangkut air/K adalah xylem</i>	1 mark
	d.	A student should be able to write i. Food(Glucose) accumulated/Food(Glucose) cannot be transported to the lower part <i>Makanan(Glukos) terkumpul/Makanan(Glukos) tidak dapat di angkut ke bahagian bawah</i> ii. The upper part receive water and food/Glucose meanwhile the lower part only receive water but not food/glucose/food cannot be transported down	1 mark  2 marks
7	a.	A student should be able to state characteristic of any four ..... based on observation :  P: using roller Q: using wheel	1 for every characteristic ( max. 4 )

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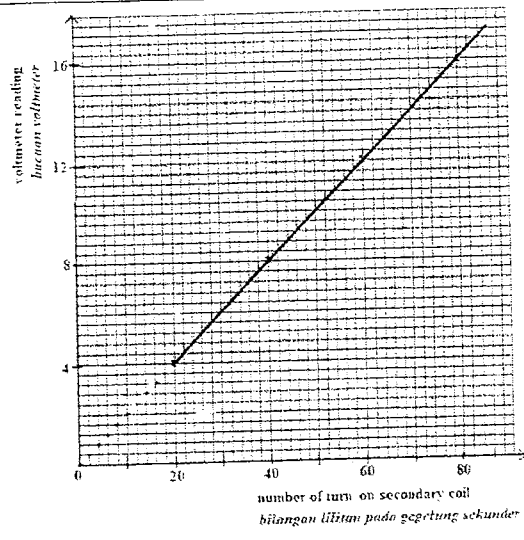
		R: using wheel S: applying oil	
	b	A student should be able to classify ..... into two groups  Using wheel      Not using wheel Q,R              P,S  or Using roller      Not using roller P                Q, R, S  or Using oil            Not using oil S                P,Q, R	2 – in pairs  2 marks
	c	A student should be able to write  The heavier the weight, the higher the friction.	1 mark
8	a	A student should be able to write  i) The brightness of bulb Q is higher than bulb P// Bulb Q brighter than bulb P  ii) The brightness of bulb is depend on the number of turns on the secondary coil  iii) 4.6 V	1 mark  1 mark  1 mark
	b	A student should be able to write  16	1 mark
	C	A student should be able to write  i) number of turns on the secondary coil  ii) voltmeter reading  iii) number of turns on the primary coil	3 marks

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<p>d</p>		<p>2 marks</p>
<p>e</p>	<p>A student should be able to write The higher the number of turns on the secondary coil, the higher the voltmeter reading</p>	<p>1 mark</p>
<p>f</p>	<p>A student should be able to write Step up transformer is the voltmeter reading</p>	<p>1 mark</p>

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Lihat sebelah

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