

Section A
Bahagian A

[40 marks]
[40 markah]

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

For
Examiner's
use

1. Diagram 1 shows a cross-section of the human skin.
Rajah 1 menunjukkan keratan rentas kulit manusia

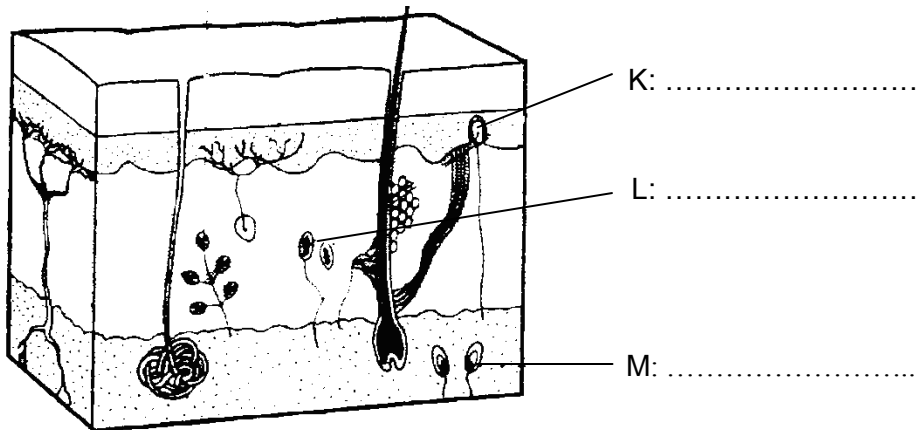


Diagram 1
Rajah 1

- (a) On Diagram 1, label structures K, L dan M using the following words.
Pada rajah 1, labelkan struktur K, L dan M menggunakan perkataan berikut.

Cold receptor <i>Reseptor sejuk</i>	Touch receptor <i>Reseptor sentuhan</i>	Pressure receptor <i>Reseptor tekanan</i>
--	--	--

[3 marks]
[3 markah]

1(a)

- (b) State the type of receptor that helps blind people to read Braille?
Nyatakan jenis reseptor yang membantu orang buta membaca Braille?

[1 mark]
[1 markah]

1(b)

- (c) Which is more sensitive, the fingertips or the soles of the feet ? Give **one** reason.
 Yang manakah lebih sensitif, hujung jari atau tapak kaki? Berikan **satu** sebab.

.....

1(c)

TOTAL

[2 marks]
 [2 markah]

2. Diagram 2 shows a plunger placed on the surface of a clogged sink.
 Rajah 2 menunjukkan pelocok diletakkan di permukaan singki yang tersumbat.

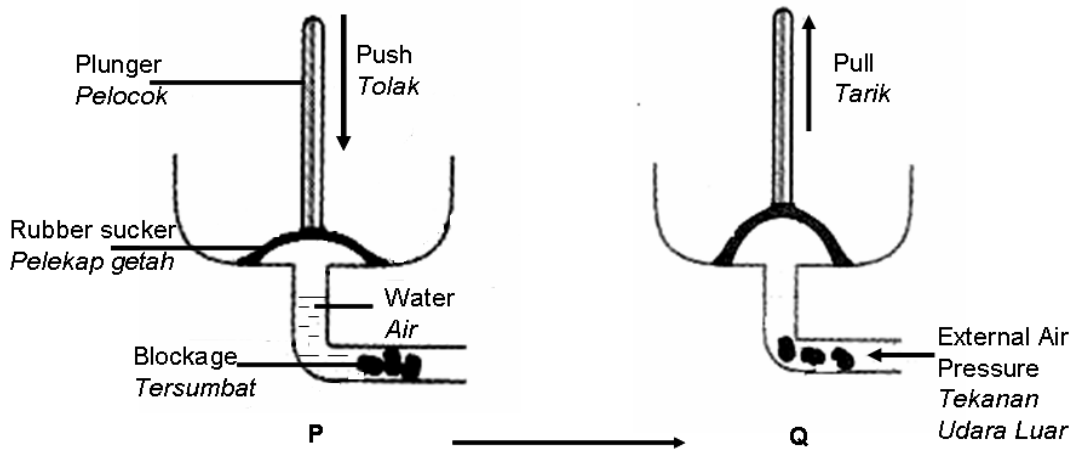


Diagram 2
 Rajah 2

- (a) What is the purpose of using the plunger as shown in Diagram 2?
 Apakah tujuan menggunakan pelocok seperti yang ditunjukkan pada Rajah 2?

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

2(a)

- (b) What happens to the air pressure under the rubber sucker when the plunger is pushed downward?
 Apakah yang berlaku kepada tekanan udara di bawah pelekap getah jika pelocok ditolak ke bawah?

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

2(b)

[Lihat sebelah
SULIT

(c) When the plunger is pulled upward as shown in Q, what happens to
Apabila pelocok ditarik ke atas seperti yang ditunjukkan di Q, apakah yang berlaku kepada

(i) the air pressure under the rubber sucker?
Tekanan udara di bawah pelekap getah?

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

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2(c)(i)

(ii) the external air pressure in the pipe?
tekanan udara luar di dalam paip?

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

2(c)(ii)

(d) State the relationship between the air pressure and the volume of air in a closed container.
Nyatakan hubungan antara tekanan udara dan isipadu udara di dalam suatu bekas yang tertutup?

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

2(d)

(e) Give one other factor which affects the air pressure in a closed container?
Berikan satu faktor lain yang mempengaruhi tekanan udara di dalam bekas yang tertutup?

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

2(e)

TOTAL

3. Diagram 3 shows the apparatus set-up to study the process of absorption of digested food.
Rajah 3 menunjukkan alat radas untuk mengkaji proses penyerapan hasil pencernaan.

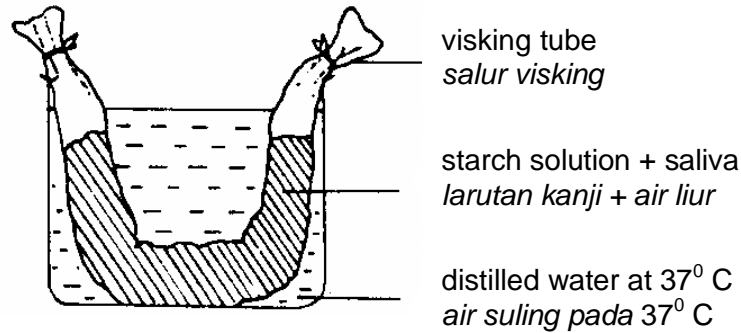


Diagram 3
Rajah 3

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- a) Which part of the human digestive system is represented by
Bahagian sistem pencernaan manusia yang manakah diwakili oleh

i) Visking tube:
Tiub visking:

.....

3(a)(i)

ii) Distilled water in the beaker
Air suling dalam bikar

.....

[2 marks]
 [2 markah]

3(a)(ii)

- b) A few drops of distilled water is removed to test for the presence of starch and glucose. Record the results of the experiment in the table provided below.
Sedikit air suling telah dipindahkan untuk mengkaji kehadiran kanji dan glukosa. Rekodkan keputusan eksperimen di dalam jadual yang disediakan di bawah.

Particular Perkara	Food test Ujian makanan	
	Starch Kanji	Glucose Glukosa
At the beginning of the experiment <i>Pada awal eksperimen</i>	Absent <i>Tiada</i>	Absent <i>Tiada</i>
After 10 minutes <i>Selepas 10 minit</i>		

[2 marks]
 [2 markah]

3(b)

- c) Explain what happen to the starch inside the visking tube?
Terangkan apa yang berlaku kepada kanji yang berada dalam tiub visking?

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

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3(c)

- d) Why must the visking tube containing starch solution and saliva must be kept in the water bath at 37 °C?
Mengapakah salur visking yang mengandungi larutan kanji dan air liur direndamkan dalam kukus air bersuhu 37°C?

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

3(d)

TOTAL

- 4 Diagram 4 shows the human urinary system.
Rajah 4 menunjukkan sistem perkumuhan manusia

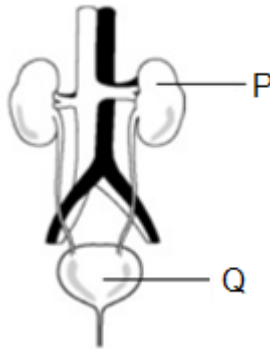


Diagram 4
 Rajah 4

- a) (i) What is the excretory product of P?
Apakah hasil perkumuhan P?

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

4(a)(i)

(ii) What is the function of structure **Q**?
*Apakah fungsi struktur **Q**?*

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

4 (a)(ii)

b) A kidney failure patient can be treated using dialysis machine that acts as kidney. State the substance that can be filtered (removed) by a dialysis machine.
Seorang pesakit dengan ginjal yang tidak berfungsi boleh dirawat menggunakan mesin dialisis yang bertindak sebagai ginjal. Nyatakan bahan yang boleh di singkirkan melalui mesin dialisis.

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

4(b)

c) (i) Plants do not have specific excretory organs. They expel their waste products by diffusion through the stomata. Name **two** processes carried out by the plants involving the production of gases.
*Tumbuhan tidak mempunyai organ perkumuhan spesifik. Tumbuhan menyingkirkan bahan kumuh secara resapan melalui stomata. Namakan **dua** proses yang dijalankan oleh tumbuhan yang melibatkan penghasilan gas-gas.*

1.
 2.
 [2 marks]
 [2 markah]

4(c)(i)

(ii) Name **one** example of excretory product of plant.
*Namakan **satu** contoh hasil perkumuhan tumbuh-tumbuhan.*

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

4(c)(ii)

TOTAL

5. Diagram 5 shows a wooden block being pulled on the surface of a table with a force of Q Newton
Rajah 5 menunjukkan bongkah kayu ditarik di atas permukaan meja dengan daya Q Newton.

*For
Examiner's
use*

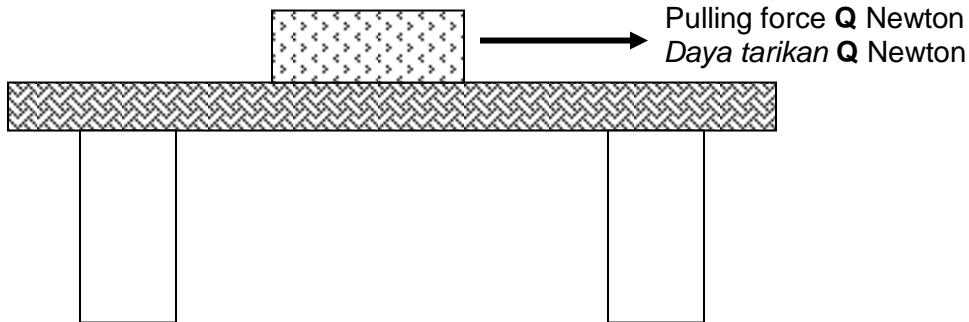


Diagram 5
Rajah 5

- (a) (i) The motion of the wooden block is opposed by a force. Mark the direction of this force in Diagram 5 above.

Pergerakan bongkah kayu ditentang oleh satu daya. Tandakan arah tindakan daya dalam Rajah 5 di atas

[1 mark]
 [1 markah]

5 (a)(i)

- (ii) Name the force in (a) (i)
Namakan daya di (a) (i)

[1 mark]
 [1 markah]

5 (a)(ii)

.....

- (iii) State **two** importance of the force in (a) (ii) our daily life
*Nyatakan **dua** kepentingan daya di (a)(ii) dalam kehidupan harian*

1.

2.

[2 marks]
 [2 markah]

5 (a)(iii)

[Lihat sebelah
SULIT

(b) Given :
Diberi

Pulling force = 60 N
Daya tarikan

Distance traveled by wooden block = 0.5 m
Jarak blok kayu ditarik.

Calculate work done
Kira kerja yang dilakukan

Work done = Force x distance
Kerja dilakukan = Daya x Jarak

[2 marks]
 [2 markah]

5 (b)

(c) Wooden blocks with the same weight are added to the block of wood above.
 Force needed to pull them are listed as in the Table 5.

Satu bongkah kayu yang sama berat ditambahkan di atas blok kayu tersebut. Daya yang diperlukan untuk menarik blok-blok tersebut adalah seperti dalam Jadual 5.

Number of block <i>Bilangan bongkah</i>	Pulling force / N <i>Daya tolakan</i>
1	60
2	120
3	180
4	Y

Table 5
Jadual 5

(i) State the relationship between the weight of the blocks and the frictional force.
Nyatakan hubungan antara berat bongkah dengan daya geseran.

.....

.....

[1 mark]
 [1 markah]

5 (c)(i)

(ii) Based on Table 5, predict the force needed to pull **four** wooden blocks

Berdasarkan Jadual 5, ramalkan daya yang diperlukan untuk menarik empat bongkah kayu

5 (c)(ii)

TOTAL

[1 mark]
[1 markah]

6. Table 6 shows the densities of four different liquids J, K, L and M .
Jadual 6 menunjukkan ketumpatan empat cecair yang berlainan J,K,L dan M

Liquid <i>Cecair</i>	Volume (cm ³) <i>Isipadu (cm³)</i>	Mass (g) <i>Jisim (g)</i>	Density (g/cm ³) <i>Ketumpatan (g/cm³)</i>
J	15	15.0	1
K	15	45.0	
L	15	10.5	0.70
M	15	204	13.6

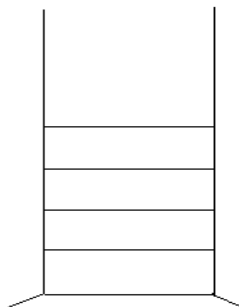
Table 6
Jadual 6

a) Calculate the density of liquid K.
Kira ketumpatan cecair K.

[3 marks]
[3 markah]

6 (a)

b) The liquids are then poured into a gas jar and allowed to stand for a while.
Mark the positions of the liquids J, K, L and M in the gas jar below.
*Cecair-cecair tersebut dituangkan ke dalam balang gas dan dibiarkan seketika.
Tandakan kedudukan cecair J, K, L and M dalam balang gas di bawah.*



Gas jar
balang gas

[2 marks]
[2 markah]

6 (b)

c) The student poured liquid P with density 0.8 g/cm^3 into the gas jar.
Pelajar tersebut telah menuang cecair P dengan ketumpatan 0.8 g/cm^3 ke dalam balang gas itu.

i. State the location of the liquid P by marking (\checkmark) in the box below.
Nyatakan kedudukan cecair P dengan menandakan (\checkmark) dalam kotak di bawah.

Settled on top of liquid J <i>Berada di atas cecair J</i>	
Settled on top of liquid K <i>Berada di atas cecair K</i>	

[1 mark]
 [1 markah]

6 (c)(i)

ii. Explain your answer in (c) (i) by using the concept of density?
Terangkan jawapan anda dalam (c) (i) dengan menggunakan konsep ketumpatan?

[1 mark]
 [1 markah]

6 (c)(ii)

d) State **one** type of transportation that apply the principle of density.
*Nyatakan **satu** pengangkutan yang menggunakan prinsip ketumpatan.*

[1 mark]
 [1 markah]

6 (d)

TOTAL

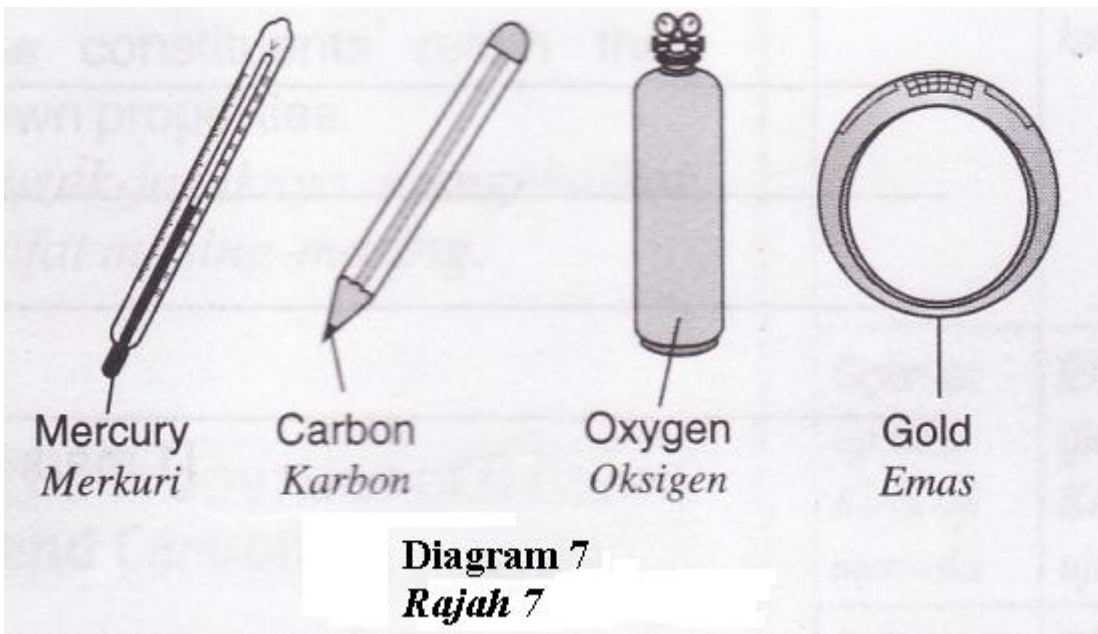
Section B
Bahagian B

[20 marks]
[20 markah]

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

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7. Diagram 7 shows four objects that **contain** or are **made up** of different substances.
*Rajah 7 menunjukkan empat objek yang **mengandungi** atau **diperbuat** daripada bahan-bahan berbeza.*



- a) What is the state of each substance at room temperature?
Apakah keadaan setiap bahan pada suhu bilik?

- i. Mercury
Merkuri = _____
- ii. Carbon
Karbon = _____
- iii. Oxygen
Oksigen = _____
- iv. Gold

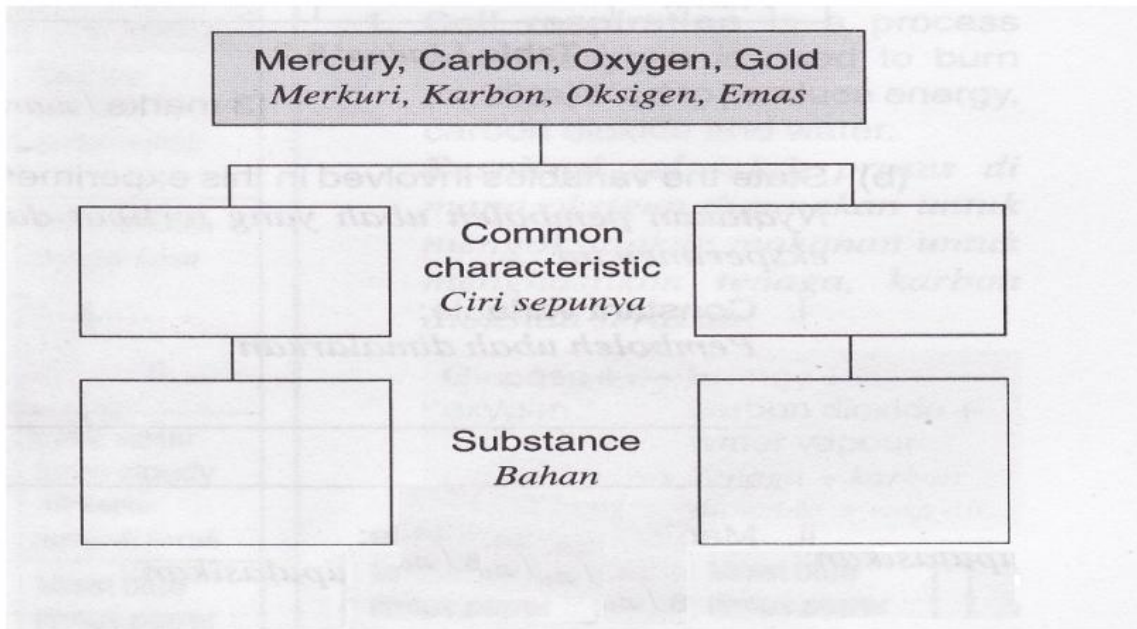
7(a)

Emas = _____

[4 marks]
[4 markah]

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- b) Classify the substances into two groups based on their common characteristics that is the state of matter at room temperatura.
Kelaskan bahan-bahan itu kepada dua kumpulan berdasarkan ciri-ciri sepunya ia itu keadaan jirim pada suhu bilik.



[4 marks]
[4 markah]

7(b)

- c) State **two** characteristics of copper that makes it suitable to be used as wires.
Nyatakan **dua** ciri kuprum yang menjadikannya sesuai digunakan untuk membuat wayar.

7(c)

i.

ii.

[2 marks]
[2 markah]

TOTAL

8. Diagram 8.1 shows an electrical circuit.
Rajah 8.1 menunjukkan suatu litar elektrik.

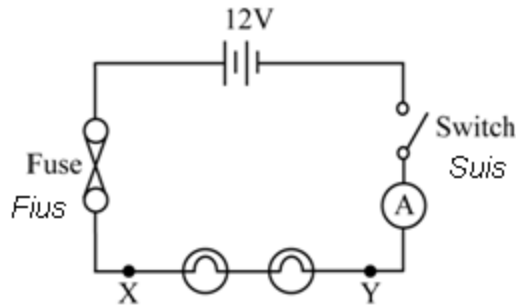


Diagram 8.1
Rajah 8.1

- (a) State **one** inference about bulb when the switch is turned on?
*Nyatakan **satu** inferens tentang mentol apabila suis dihidupkan?*

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8 (a)

[1 mark]
 [1 markah]

Diagram 8.2 shows the experimental set-up to study the relationship between voltage and current.
Rajah 8.2 menunjukkan persediaan eksperimen untuk mengkaji hubungan kait di antara voltan dan arus.

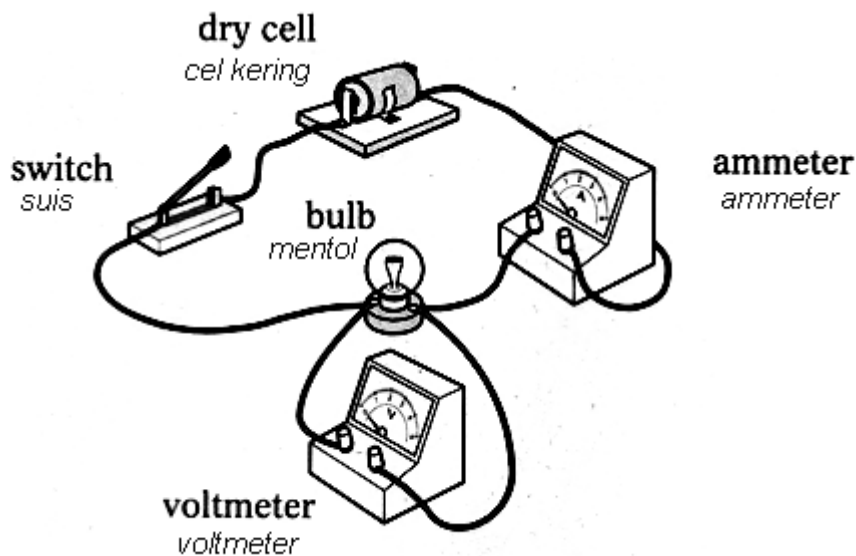


Diagram 8.2
Rajah 8.2

[Lihat sebelah
SULIT

The steps of the experiment are as follows:

Langkah-langkah ujikaji tersebut adalah seperti berikut:

Step 1: The switch is turned on.

Langkah 1: Dipasangkan suisnya.

Step 2: The ammeter and voltmeter readings are recorded.

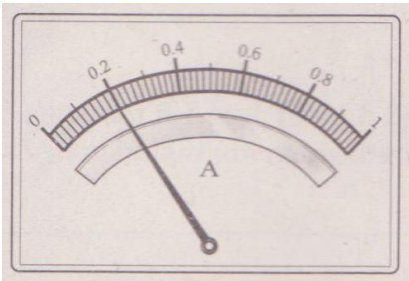
Langkah 2: Bacaan ammeter dan voltmeter dicatatkan.

Step 3: Step 1 and Step 2 are repeated by using two, three, four and five dry cells alternately.

Langkah 3: Langkah 1 dan 2 diulang dengan menggunakan dua, tiga, empat dan lima sel kering berselang seli.

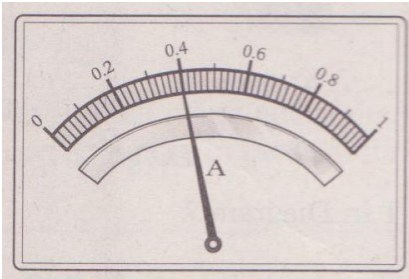
(b) Record the ammeter readings in the spaces provided.

Catatkan bacaan ammeter di dalam ruang yang disediakan.



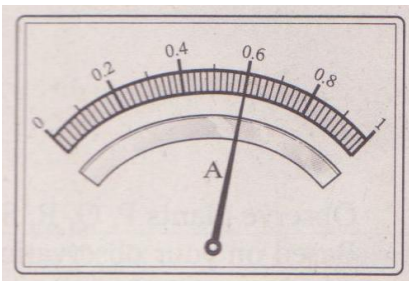
The voltmeter reading
Bacaan voltmeter = 1.5 V

Ammeter reading /
Bacaan ammeter = 0.2 A



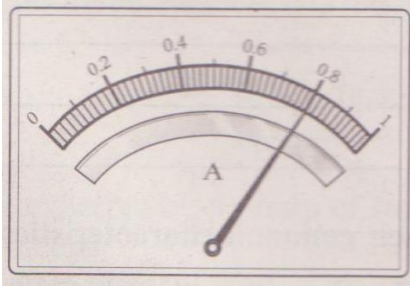
The voltmeter reading
Bacaan voltmeter = 3.0 V

Ammeter reading
Bacaan ammeter = _____ A



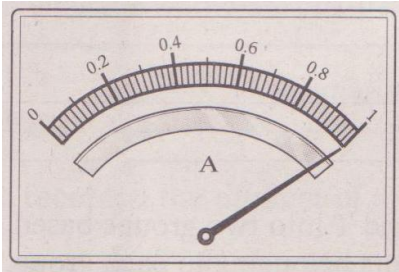
The voltmeter reading
Bacaan voltmeter = 4.5 V

Ammeter reading
bacaan ammeter = _____ A



The voltmeter reading
Bacaan voltmeter = 6.0 V

Ammeter reading
Bacaan ammeter = _____ A



The voltmeter reading
Bacaan voltmeter = 7.5 V

Ammeter reading
Bacaan ammeter = _____ A

Complete Table 8.3 by recording the ammeter readings on the respective voltmeter readings.
Lengkapkan Jadual 8.3 dengan mencatatkan bacaan ammeter yang sepadan dengan bacaan voltmeter.

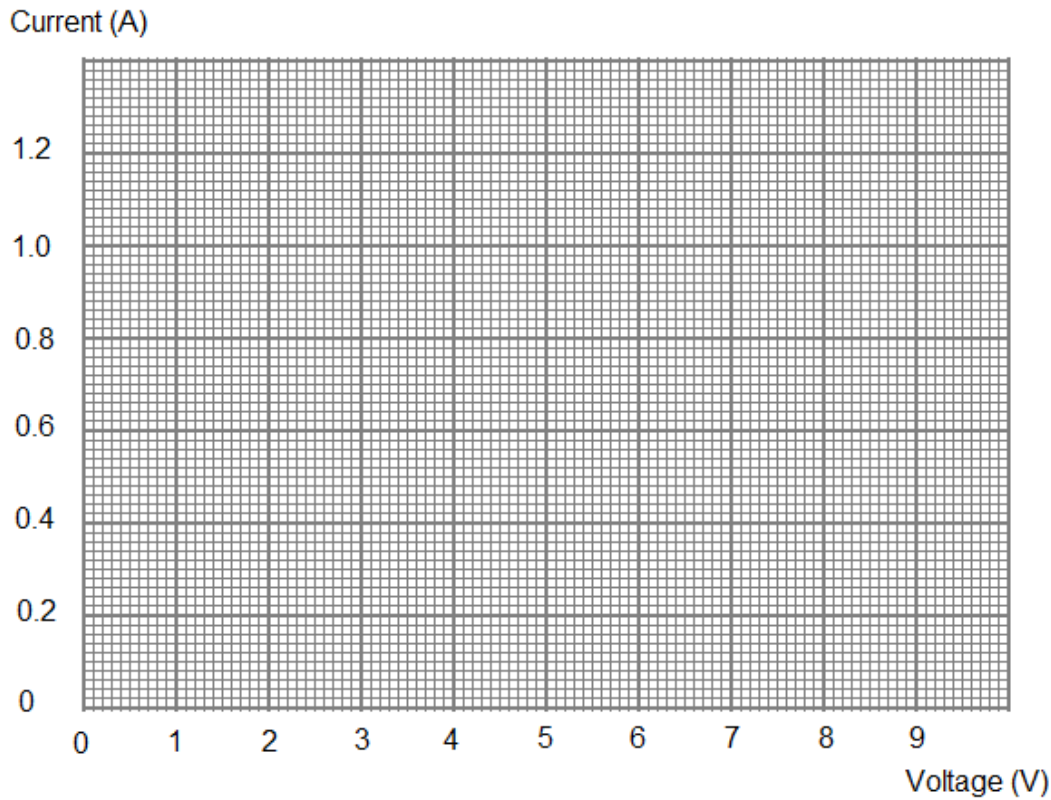
Number of dry cells <i>Bilangan cel kering</i>	1	2	3	4	5
Voltmeter reading (V) <i>Bacaan voltmeter (V)</i>	1.5	3.0	4.5	6.0	7.5
Ammeter reading (A) <i>Bacaan ammeter (A)</i>	0.2				

Table 8.3
Jadual 8.3

[2 mark]
 [2 markah]

8 (b)

- (c) Using Table 8.3, draw a graph of current against voltage.
 Menggunakan Jadual 8.3, lukiskan graf arus melawan voltan.



[2 marks]
 [2 markah]

8 (c)

- (d) State the relationship between the voltage and the current.
 Nyatakan hubungan antara voltan dan arus.

.....

.....

[1 mark]
 [1 markah]

8 (d)

- (e) State the variables involved in this experiment.
 Nyatakan pemboleh ubah yang terlibat dalam eksperimen ini.

Manipulated variable <i>Pemboleh ubah dimanipulasikan</i>	
Responding variable <i>Pemboleh ubah bergerak balas</i>	
Constant variable <i>Pemboleh ubah dimalarkan</i>	Number of dry cells/ Thickness of wire <i>Bilangan sel kering/ ketebalan wayar</i>

[2 marks]
 [2 markah]

8 (e)

- (f) Based on the graph in (c), predict the ammeter reading if the voltmeter reading is 9.0 V.

Berdasarkan graf di (c), ramalkan bacaan ammeter jika bacaan voltmeter ialah 9.0 V.

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

8 (f)

- (g) Define operationally "current".

Definisikan secara operasi "arus".

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

8 (g)

TOTAL

END OF QUESTION PAPER

KERTAS SOALAN TAMAT