

SULIT
55/2
Sains
Kertas 2
Ogos 2011
1 ½ jam

55/2

Nama :

Tingkatan :

NO. KAD PENGENALAN

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ANGKA GILIRAN

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JABATAN PELAJARAN KELANTAN
DENGAN KERJASAMA
MAJLIS PENGETUA SEKOLAH MALAYSIA
CAWANGAN KELANTAN



PERCUBAAN PENILAIAN MENENGAH RENDAH
2011

SAINS
KERTAS 2

Satu jam tiga puluh minit

JANGAN BUKA KERTAS SOALAN INI
SEHINGGA DIBERITAHU

1. Tuliskan nama, no kad pengenalan dan angka giliran anda pada ruang yang disediakan.
2. Kertas soalan ini adalah dalam Bahasa Inggeris dan Bahasa Malaysia.
3. Kertas soalan ini mengandungi 2 Bahagian iaitu **Bahagian A** dan **Bahagian B**.
4. Calon dikehendaki membaca maklumat di halaman belakang kertas soalan ini.
5. Calon dibenarkan menjawab dalam Bahasa Inggeris atau Bahasa Melayu.

| Untuk Kegunaan Pemeriksa | | | |
|--------------------------|--------|--------------|-------------------|
| Kod Pemeriksa: | | | |
| Bahagian | Soalan | Markah Penuh | Markah Diperolehi |
| A | 1 | 6 | |
| | 2 | 6 | |
| | 3 | 6 | |
| | 4 | 6 | |
| | 5 | 8 | |
| | 6 | 8 | |
| B | 7 | 8 | |
| | 8 | 12 | |
| JUMLAH | | 60 | |

Kertas soalan ini mengandungi 20 halaman bercetak

INFORMATION FOR CANDIDATES

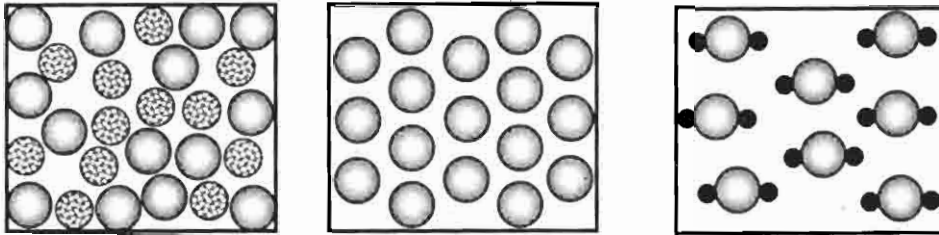
1. This question paper consists of two sections: **Section A** and **Section B**.
2. Answer **all** questions in both sections.
3. Write your answers in the spaces provided in the question paper.
4. Show your working, it may help you to get marks.
5. If you wish to change your answer, neatly cross out the answer that you have done. Then write down the new answer.
6. The diagrams in the questions provided are not drawn to scale unless stated.
7. Marks allocated for each question or sub-part of a question are shown in brackets.
8. The time suggested to complete **Section A** is 60 minutes and **Section B** is 30 minutes.
9. You may use a non-programmable scientific calculator.
10. Hand in this question paper at the end of the examination.

SECTION A
[40 MARKS]

Answer **all** the questions. You are advised to spend 60 minutes on this section.
Jawab semua soalan. Anda dinasihatkan mengambil masa 60 minit untuk bahagian ini.

*For
examiner's
use*

1. Diagram 1 shows the arrangement of particles in substance P, Q and R.
Rajah 1 menunjukkan susunan zarah-zarah dalam bahan P, Q dan R.



P: _____ Q: _____ R: _____

Diagram 1
Rajah 1

- (a) On Diagram 1, label substances P, Q and R using the following words:
Pada Rajah 1, labelkan bahan P, Q dan R menggunakan perkataan berikut:

| | | |
|----------------------------|-----------------------------|-------------------------|
| Mixture <i>Campuran</i> | Compound <i>Sebatian</i> | Element <i>Unsur</i> |
|----------------------------|-----------------------------|-------------------------|

[3 marks]

1(a)

- (b) Draw lines to match each substance with the correct example.
Lukiskan garisan untuk memadankan bahan dengan contoh yang betul.

P

Water
Air

Q

Mercury
Merkuri

R

Blood
Darah

[3 marks]

1(b)

TOTAL

2. Diagram 2 shows the skeletal system of a land vertebrate.
Rajah 2 menunjukkan sistem rangka suatu haiwan vertebrata darat.

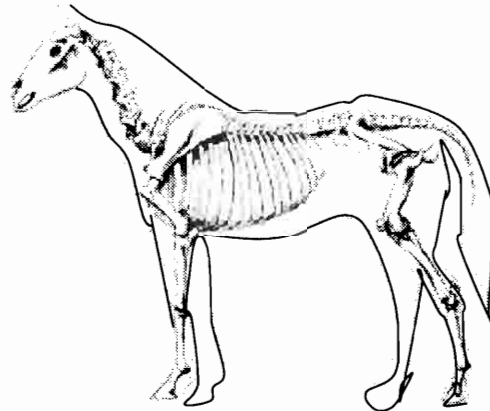


Diagram 2
Rajah 2

- (a) (i) Name the type of support system of the animal.
Namakan jenis sistem sokongan pada haiwan ini.

.....
 [1 mark]

2(a)(i)

- (ii) State how aquatic vertebrate such as whale support their body weight.
Nyatakan bagaimana vertebrata akuatik seperti ikan paus menyokong berat badannya.

.....
 [1 mark]

2(a)(ii)

- (b) State **two** functions of support system in animal.
*Nyatakan **dua** fungsi sistem sokongan pada haiwan.*

- i.
 ii.
 [2 marks]

2(b)

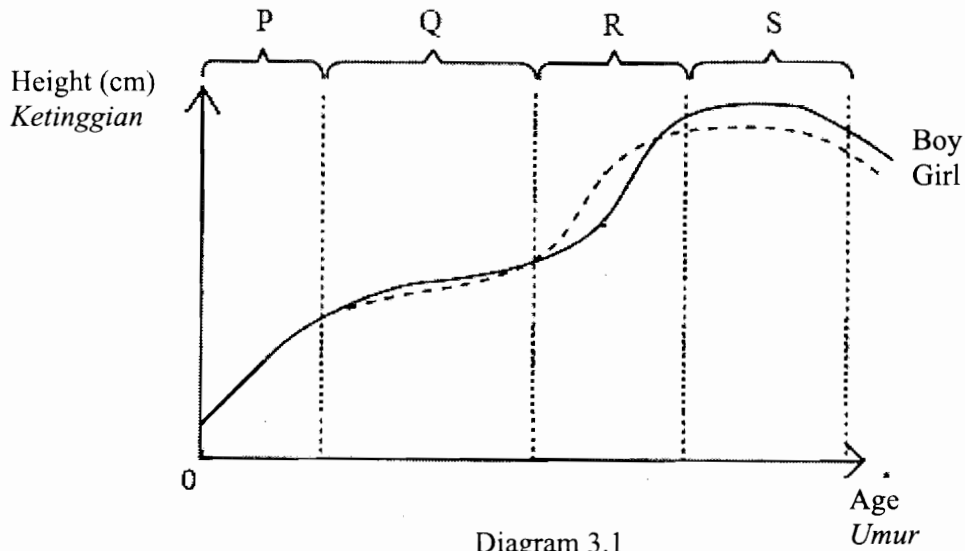
- (c) State other types of support system in the land animals
Nyatakan jenis sistem sokongan lain pada haiwan darat.

- i.
 ii.
 [2 marks]

2(c)

TOTAL

3. Diagram 3.1 shows the human growth curve.
Rajah 3.1 menunjukkan lengkung pertumbuhan manusia.



- (a) What is 'growth'
Apakah 'pertumbuhan'

.....
 [1 mark]

3(a)

- (b) At which stage is the growth rate of the girl the same as the boy?
Pada peringkat manakah kadar pertumbuhan perempuan sama dengan lelaki?

.....
 [1 mark]

3(b)

- (c) At which stage in diagram 3.1, does the girl start to experience menstrual cycle?
Pada peringkat manakah dalam rajah 3.1, seorang budak perempuan akan mula mengalami kitar haid?

.....
 [1 mark]

3(c)

- (d) Diagram 3.2 shows a menstrual cycle of a girl
Rajah 3.2 menunjukkan kitar haid seorang budak perempuan.

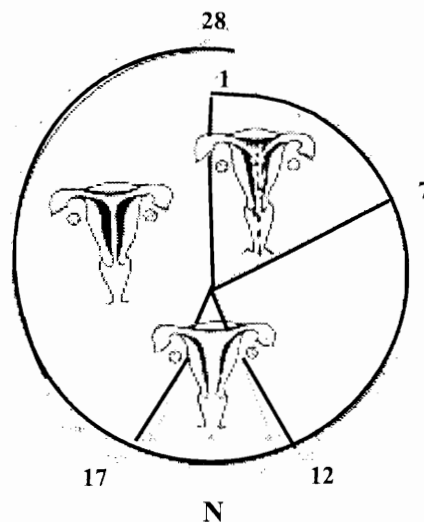


Diagram 3.2
Rajah 3.2

- (i) Based on diagram 3.2 , name phase N.
Berdasarkan rajah 3.2, namakan fasa N.
-
 [1 mark]
- (ii) State what happen to the ovary during the phase.
Nyatakan apa yang berlaku kepada ovary semasa fasa ini.
-
 [1 mark]
- (e) The calendar shows that a girl’s last period began on 2 August 2011.
 Circle the date on the calendar when her next period will probably begin.
Kalendar menunjukkan haid seorang budak perempuan yang bermula pada 2 Ogos 2011. Bulatkan pada kalendar tarikh haid yang berikut akan bermula.

| | | | | | | | | |
|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| 28 | 29 | 30 | 31 | | | | | |

[1 mark]

3(d)(i)

3(d)(ii)

3(e)

TOTAL

4. Diagram 4.1 shows an activity to show heat transfer in water.
Rajah 4.1 menunjukkan suatu aktiviti pemindahan haba dalam air.

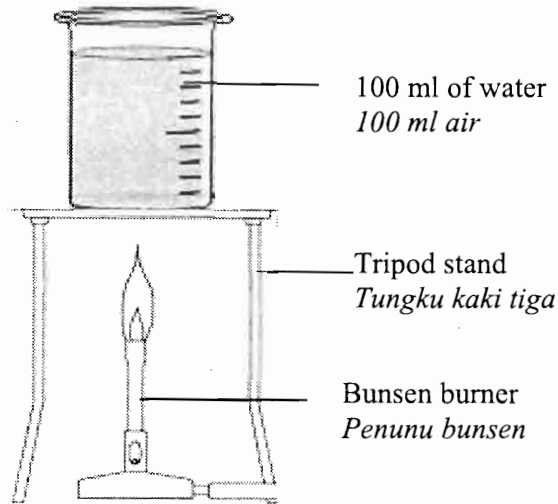


Diagram 4.1
Rajah 4.1

- (a) (i) State the method of heat transferred in the beaker.
Nyatakan kaedah haba dipindahkan di dalam bikar.

4(a)(i)

[1 mark]

- (ii) Explain how the heat is transferred in the answer (a) (i)
Terangkan bagaimana haba dipindahkan dalam jawapan (a)(i).

4(a)(ii)

[2 marks]

- (iii) Draw by using (→) to show how heat is transferred in diagram 4.1
Lukis menggunakan (→) untuk menunjukkan bagaimana haba dipindahkan dalam rajah 4.1.

4(a)(iii)

[1 mark]

- (b) Diagram 4.2 shows a house at day time.
Rajah 4.2 menunjukkan sebuah rumah pada hari siang.



Diagram 4.2
Rajah 4.2

Explain how does the open window and ventilation hole help keep the house cool.

Terangkan bagaimana tingkap terbuka dan sisip angin membantu menjadikan rumah lebih sejuk.

.....
.....

[2 marks]

4(b)

TOTAL

5. Diagram 5.1 shows a boy pushing a box on a horizontal floor.
Rajah 5.1 menunjukkan seorang budak lelaki sedang menolak sebuah kotak di atas lantai mendatar.

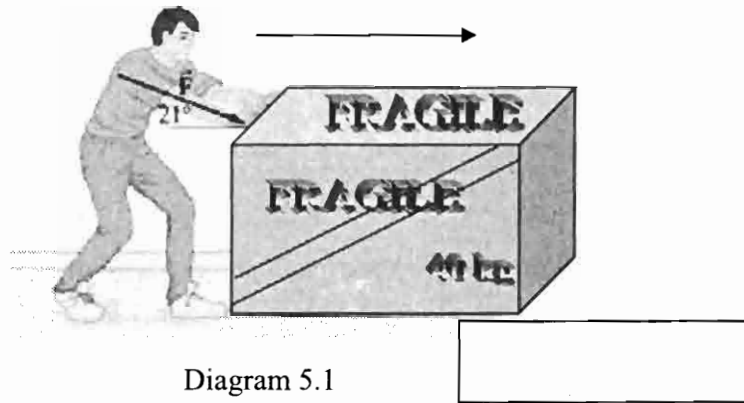


Diagram 5.1
Rajah 5.1

- (a) Why is the boy said to do work?
Mengapakah budak lelaki itu dikatakan melakukan kerja?

5(a)

[1 mark]

- (b) If the boy used force of 400 N to move the box at a distance of 2 meter, calculate his work done.
Jika budak lelaki itu menggunakan daya 400 N untuk menggerakkan kotak itu sejauh 2 meter, hitungkan kerja yang dilakukan.

| |
|---------------------------------------------------------------------------------------------------------------------------------------------|
| $\text{Work done (J)} = \text{Force (N)} \times \text{Distance (m)}$ $\text{Kerja dilakukan (J)} = \text{Daya (N)} \times \text{Jarak (m)}$ |
|---------------------------------------------------------------------------------------------------------------------------------------------|

5(b)

[2 marks]

- (c)(i) Draw the arrow in the space provided to show the frictional force acting on the box in diagram 5.1.
Lukiskan anak panah dalam ruang yang disediakan untuk menunjukkan daya geseran bertindak ke atas kotak dalam rajah 5.1.

5(c)(i)

[1 marks]

- (ii) Suggest **one** way to overcome the force in (c)(i)
*Cadangkan **satu** cara mengatasi daya dalam (c)(i).*

5(c)(ii)

[1 mark]

- (iii) Explain your answer in (c)(ii)
Terangkan jawapan di (c)(ii)

5(c)(iii)

[1 mark]

- (d) Diagram 5.2 shows a caution warning symbol placed after the floor was mopped.
Rajah 5.2 menunjukkan tanda amaran berjaga-jaga yang diletakkan di atas lantai selepas dimop.



Diagram 5.2
Rajah 5.2

- (i) What happen to the people who walk in hurry if there is no warning there?
Apakah yang akan terjadi kepada orang yang berjalan dengan cepat jika tiada amaran tersebut?

5(d)(i)

[1 mark]

- (ii) Explain your answer in (d)(i)
Terangkan jawapan di (d)(i)

5(d)(ii)

[1 mark]

TOTAL

6. Diagram 6.1 shows two potted plants, A and B being left under a very hot sun.

Rajah 6.1 menunjukkan dua tumbuhan dalam pasu A dan B yang dibiarkan di bawah cahaya matahari terik.

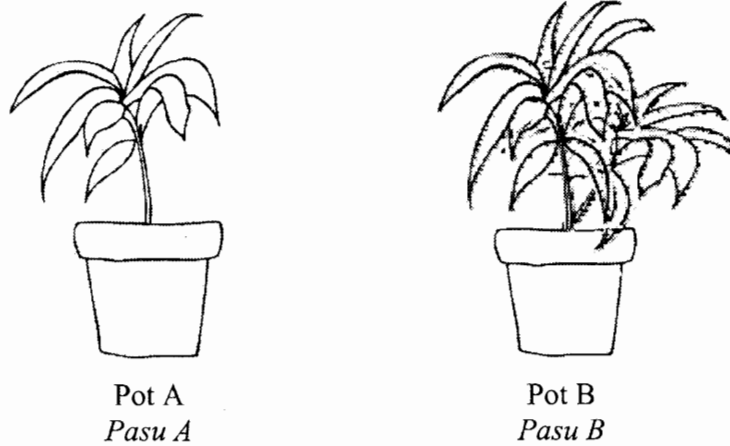


Diagram 6.1
Rajah 6.1

- a) (i) State the difference in the condition of the plants after a few hours.
Nyatakan perbezaan keadaan tumbuhan selepas beberapa jam.

.....
[1 mark]

6(a)(i)

- (ii) State **one** reason for your answers.
*Nyatakan **satu** alasan bagi jawapan anda.*

.....
[1 mark]

6(a)(ii)

- b) Plants gets rids of water through the transpiration process.
Tumbuhan mengeluarkan air berlebihan melalui proses transpirasi

- (i) Name the structure in the leaf involved in the process.
Namakan struktur pada daun yang terlibat dalam proses ini.

.....
[1 mark]

6(b)(i)

- (ii) Explain how this structure controls the lost of water during the hot day.
Jelaskan bagaimana struktur ini mengawal kehilangan air pada hari yang panas.

.....
.....
[2 marks]

6(b)(ii)

- c) State **one** factor that affects the rate of transpiration.
*Nyatakan **satu** faktor yang mempengaruhi kadar transpirasi pada tumbuhan.*

.....
[1 mark]

6(c)

- d) Give **one** importance of transpiration to the plants.
*Berikan **satu** kepentingan transpirasi pada tumbuhan.*

.....
[1 mark]

6(d)

- e) Diagram 6.2 shows a farmer watering his vegetable farm
Rajah 6.2 menunjukkan seorang petani sedang menyiram kebun sayuran

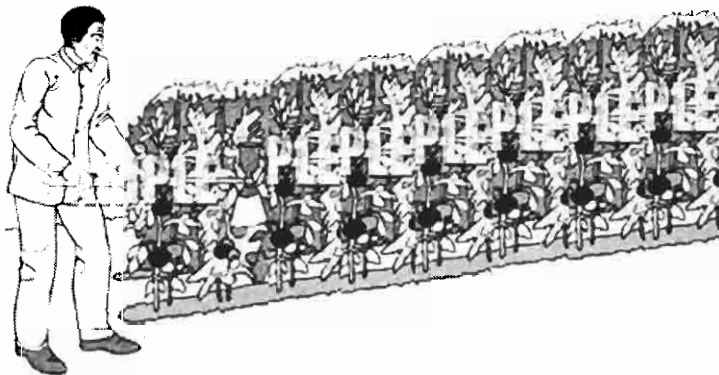


Diagram 6.2
Rajah 6.2

Explain why is it important for the farmer to water his vegetable in the morning to prevent the vegetables from wilting.
Terangkan mengapakah pentingnya petani menyiram sayurannya pada waktu pagi mengelakkan sayurannya layu kemudiannya.

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

6(e)

TOTAL

SECTION B
[20 MARKS]

Answer **all** questions. You are advised to spend 30 minutes for this section.
Jawab semua soalan. Anda dinasihatkan menjawab bahagian ini dalam masa 30 minit.

- 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 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 g/cm^3 .

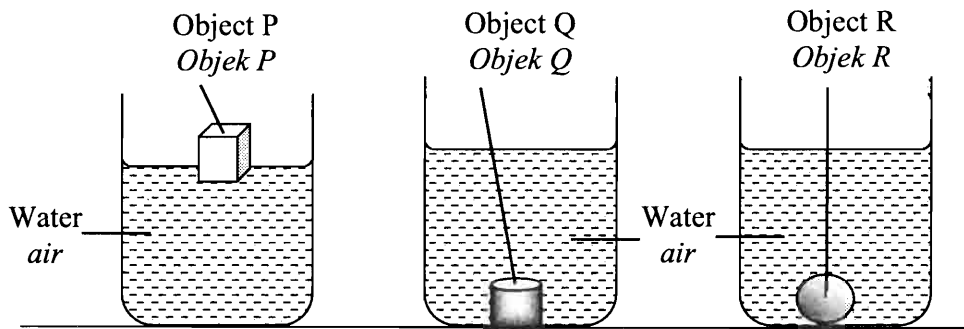


Diagram 7.1
Rajah 7.1

- (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]

7 (a)(i)

- (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]

7 (a)(ii)

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

.....

[1 mark]

7 (a)(iii)

- (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]

7 (a)(iv)

- (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 g/cm ³ | |
| Wood block <i>Bongkah Kayu</i> | 0.9 g/cm ³ | |
| Glass block <i>Bongkah kaca</i> | 2.5 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 g/cm³.

Ramalkan apa yang berlaku kepada gabus dan kayu jika dimasukkan ke dalam bekas berisi minyak dalam jadual 7.2. Ketumpatan minyak adalah 0.75 g/cm³.

[2 marks]

7 (b)

TOTAL

8. Diagram 8.1(a) and 8.1 (b) shows bulbs is connected in an electric circuit.
Rajah 8.1(a) dan 8.1(b) menunjukkan mentol-mentol yang disambungkan dalam suatu litar elektrik.

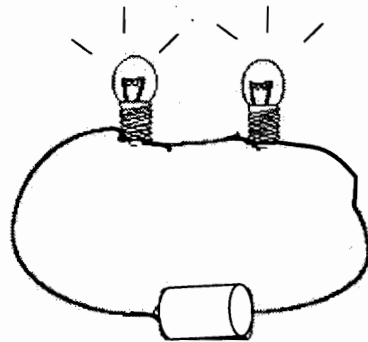


Diagram 8.1(a)
Rajah 8.1 (a)

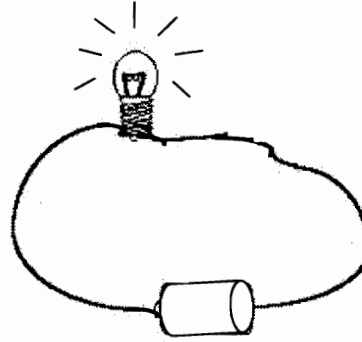


Diagram 8.1(b)
Rajah 8.1 (b)

(a)(i) Based on the observation, state the difference in brightness of the bulbs in diagram 8.1(a) and 8.1(b).

Berdasarkan pemerhatian, nyatakan perbezaan kecerahan mentol-mentol dalam rajah 8.1(a) dan 8.1(b).

.....
 [1 mark]

8 (a)(i)

(ii) State **one** inference based on the observation.

*Nyatakan **satu** inferens berdasarkan pemerhatian.*

.....
 [1 mark]

8 (a)(ii)

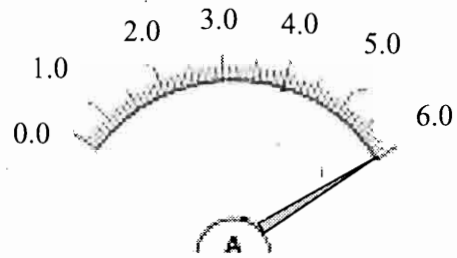
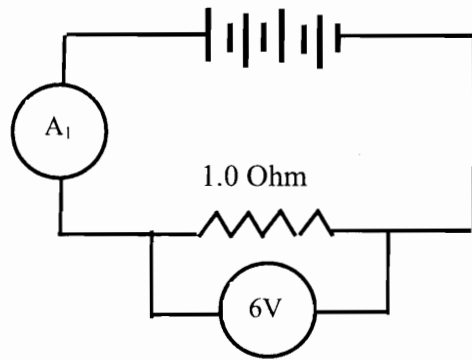
(iii) State the hypothesis based on the observation.

Nyatakan hipotesis berdasarkan pemerhatian.

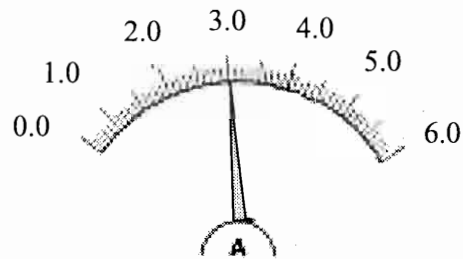
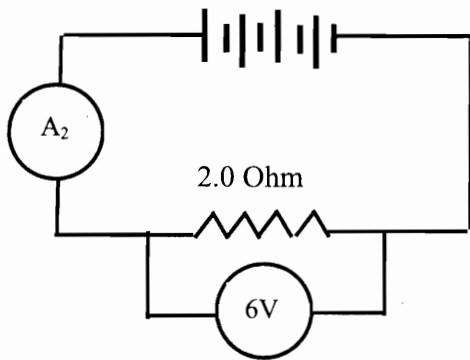
.....
 [1 mark]

8 (a)(iii)

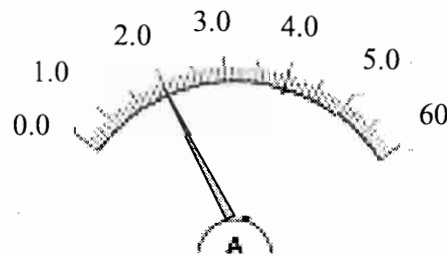
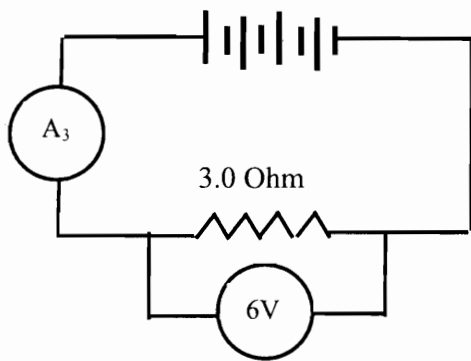
- (b) Diagram 8.2 shows an experiment to determine the relationship between the resistance in circuit and the electric current flowing in the circuit.
Rajah 8.2 menunjukkan suatu eksperimen untuk menentukan hubungan antara rintangan dalam litar dengan arus elektrik yang mengalir dalam litar.



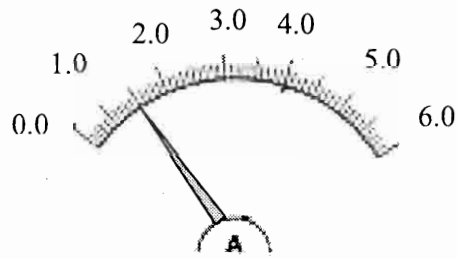
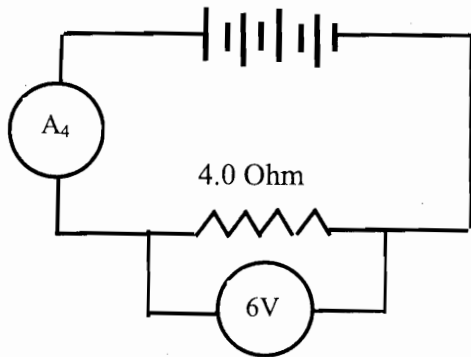
Ammeter reading, $A_1 = 6 \text{ A}$
 Bacaan ammeter, $A_1 =$



Ammeter reading, $A_2 =$
 Bacaan ammeter, $A_2 =$



Ammeter reading, $A_3 =$
 Bacaan ammeter, $A_3 =$



Ammeter reading, $A_4 = 1.5A$
 Bacaan ammeter, $A_4 = 1.5A$

Diagram 8.2
 Rajah 8.2

- (i) State the variables involved,
 Nyatakan pembolehubah yang terlibat,

Manipulated variable :
 Pembolehubah dimanipulasi

Responding variable:
 Pembolehubah bergerakbalas:

[2 marks]

8 (b)(i)

- (ii) Record the ammeter reading in table 8.3
 Recordkan bacaan ammeter dalam jadual 8.3

| | | | | |
|------------------------------------------|-----|-----|-----|-----|
| Resistance value, Ohm Nilai rintangan | 1.0 | 2.0 | 3.0 | 4.0 |
| Ammeter reading, A Bacaan ammeter, A | 6.0 | | | 1.5 |

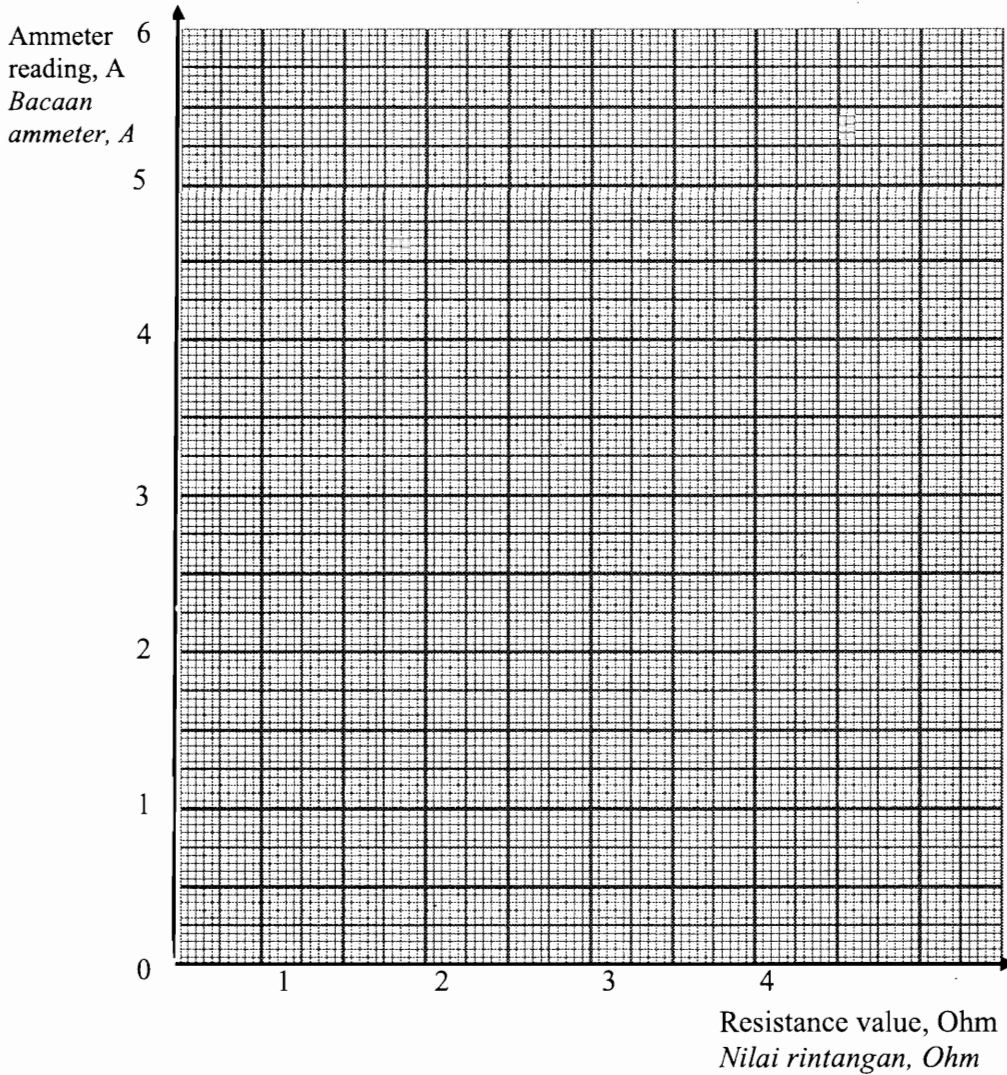
Table 8.3
 Jadual 8.3

[2 marks]

8 (b)(ii)

- (c) Based on table 8.3, draw a graph current against resistance
 Berdasarkan jadual 8.3, lukiskan satu graf arus melawan rintangan.

[2 marks]



8 (c)

- (d) Based on the experiment, define 'current flow' operationally.
 Berdasarkan eksperimen, definisikan 'arus mengalir' secara operasi.

8 (d)

[1 mark]

- (e) Based on the graph, predict the ammeter reading if the resistance in the circuit is 2.5 Ohm.
Berdasarkan graf, ramalkan bacaan ammeter jika rintangan dalam litar adalah 2.5 Ohm.

.....
[1 mark]

8 (e)

- (f) Based on the experiment, state your conclusion.
Berdasarkan eksperimen, nyatakan kesimpulan anda.

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

8 (f)

END OF QUESTION PAPER