

SULIT
55/1
Sains Kertas 1
Ogos 2010
1 jam

Nama :

Tingkatan :



**JABATAN PELAJARAN KELANTAN
DENGAN KERJASAMA
PERSIDANGAN PENGETUA-PENGETUA
SEKOLAH MENENGAH MALAYSIA
CAWANGAN KELANTAN
2010**



PEPERIKSAAN PERCUBAAN PMR 2010

SAINS

KERTAS 1

SATU JAM

**JANGAN BUKA KERTAS SOALAN INI
SEHINGGA DIBERITAHU**

1. *Tuliskan nombor kad pengenalan dan angka gilirannya pada ruang yang disediakan .*
2. *Kertas soalan ini adalah dalam Bahasa Inggeris dan Bahasa Malaysia*
3. *Calon dikehendaki menjawab soalan di dalam kertas jawapan OMR*
4. *Calon dikehendaki membaca maklumat dihalaman 2*

Kertas soalan ini mengandungi 20 halaman bercetak

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<http://sci-q.blogspot.com>

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1. Diagram 1 shows a thermometer.
Rajah 1 menunjukkan satu termometer.

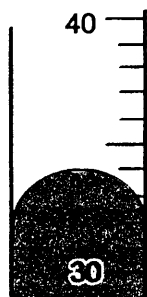


Diagram 1
Rajah 1

What is the reading?
Berapakah bacaan tersebut?

- A. 31.0°C C. 33.0°C
B. 32.0°C D. 34.0°C
2. Diagram 2 shows a leaf that has been traced onto graph paper.
Rajah 2 menunjukkan daun yang disurih di atas kertas graf.

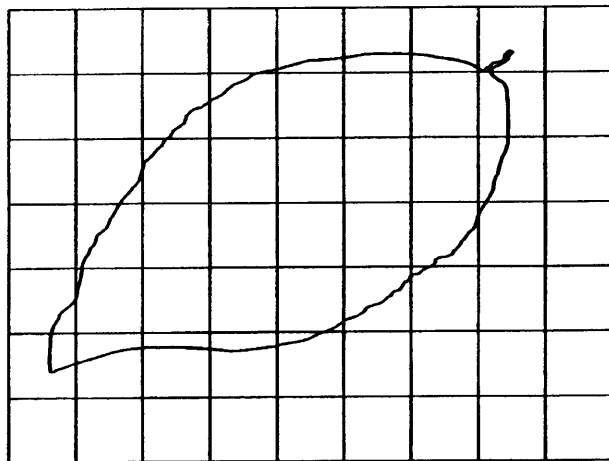


Diagram 2
Rajah 2

Estimate the area of the leaf.
Anggarkan luas permukaan daun tersebut.

- A. 15 cm^2 C. 20 cm^2
B. 17 cm^2 D. 24 cm^2

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3. Diagram 3 shows two types of cells found in the human body.
Rajah 3 menunjukkan dua jenis sel dalam badan manusia.

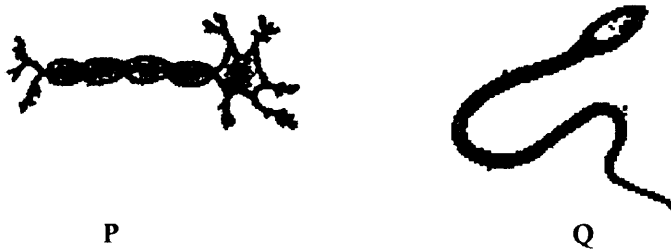


Diagram 3
Rajah 3

Which represents cells P and Q?
Apakah yang diwakili oleh sel P dan Q?

	P	Q
A	Nerve cell <i>Sel saraf</i>	Reproductive cell <i>Sel pembiakan</i>
B	White Blood Cell <i>Sel Darah Putih</i>	Reproductive cell <i>Sel pembiakan</i>
C	Red Blood Cell <i>Sel Darah Merah</i>	White Blood Cell <i>Sel Darah Putih</i>
D	Nerve Cell <i>Sel Saraf</i>	White Blood Cell <i>Sel Darah Putih</i>

4. Diagram 4 shows a multicellular organism
Rajah 4 menunjukkan suatu organisma multisel

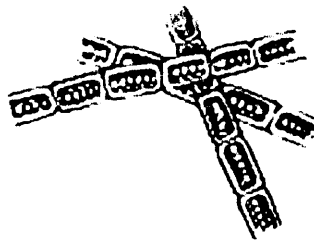


Diagram 4
Rajah 4

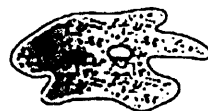
Which organism is in the same group as the organism shown?
Organisma manakah berada dalam kumpulan yang sama dengan organisma di atas?

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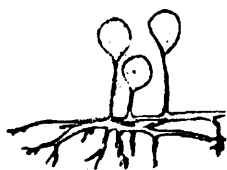
A



C



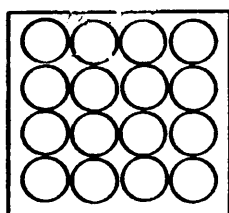
B



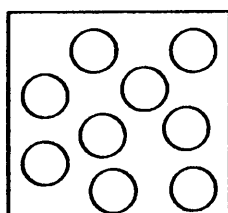
D



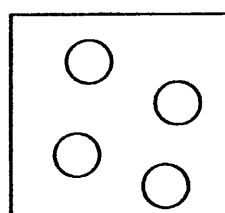
5. Diagram 5 shows the arrangement of particles in K, L and M .
Rajah 5 menunjukkan susunan zarah-zarah dalam K, L dan M.



K



L



M

Diagram 5
Rajah 5

Which represented by K, L and M?
Yang manakah diwakili oleh K, L dan M?

	K	L	M
A	Copper <i>Kuprum</i>	Mercury <i>Merkuri</i>	Oxygen <i>Oksigen</i>
B	Petrol <i>Petrol</i>	Kerosene <i>kerosin</i>	Hydrogen <i>Hidrogen</i>
C	Gold <i>Emas</i>	Ice <i>Ais</i>	Steam <i>Stim</i>
D	Wood <i>Kayu</i>	Steam <i>Stim</i>	Mercury <i>Merkuri</i>

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6. Which situation use the concept of density?
Situasi manakah menggunakan konsep ketumpatan?
- A. Boiling of water
Pendidihan air
 - B. Drying clothes
Mengeringkan pakaian
 - C. Ice melting in water
Ais melebur dalam air
 - D. Transporting logs through river
Pengangkutan kayu balak melalui sungai
7. Diagram 6 shows the mixture of substances that can be separated using a bar magnet.
Rajah 6 menunjukkan campuran bahan yang boleh diasingkan dengan menggunakan magnet bar.

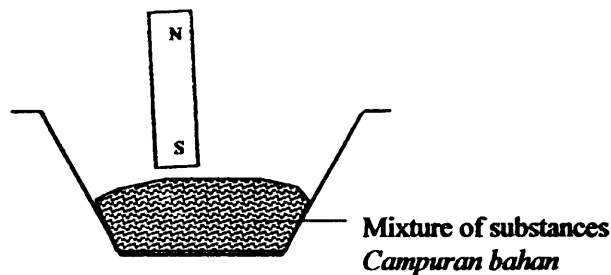


Diagram 6
Rajah 6

- Which is the mixture of substances?
Yang manakah campuran bahan tersebut?
- A. Iron fillings and sand
Serbuk besi dan pasir
 - C. Sand and zinc powder
Pasir dan serbuk zink
 - B. Sand and Sulphur powder
Pasir dan serbuk sulfur
 - D. Salt grains and sugar grains
Butir garam dan butir gula
8. Which is true about mercury, iron and copper at room temperature?
Yang manakah benar tentang merkuri, besi dan kuprum pada suhu bilik?
- A. Brittle
Rapuh
 - C. Conduct electricity
Mengkonduksi elektrik
 - B. Malleable
Boleh ditempa
 - D. Solid state
Keadaan pepejal

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9. Diagram 7 shows the combustion of charcoal in a gas jar.
Rajah 7 menunjukkan pembakaran arang di dalam balang gas.

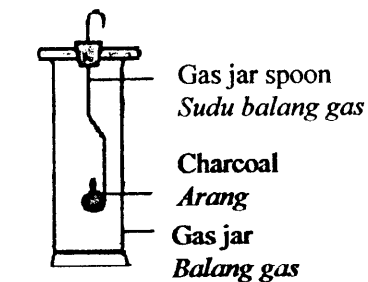
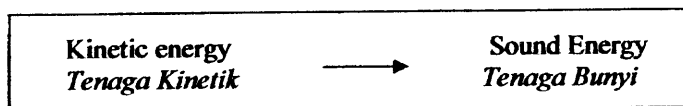


Diagram 7
Rajah 7

What is the product of the process?
Apakah produk proses ini?

- A. Carbon dioxide and water
Karbon dioksida dan air
- B. Carbon dioxide and heat
Karbon dioksida dan haba
- C. Carbon dioxide, water and heat
Karbon dioksida, air dan haba
- D. Water and heat
Air dan haba
10. Which gas has the same percentage in inhaled air and exhaled air?
Peratus gas manakah di dalam udara sedut dan udara hembus adalah sama?
- A. Nitrogen
Nitrogen
- C. Oxygen
Oksigen
- B. Carbon dioxide
Karbon dioksida
- D. Water vapour
Wap air
11. The following information shows energy changes.
Maklumat berikut menunjukkan perubahan tenaga.



Which objects shows the energy changes?
Objek manakah yang menunjukkan perubahan tenaga ini?

- I Guitar
Gitar
- II Computer
Komputer
- III Radio
Radio
- IV Bell
Loceng
- A. I and II
- B. I and IV
- C. II and III
- D. III and IV

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12. Diagram 8 shows an electric power station.

Rajah 8 menunjukkan sebuah stesen janakuasa elektrik.

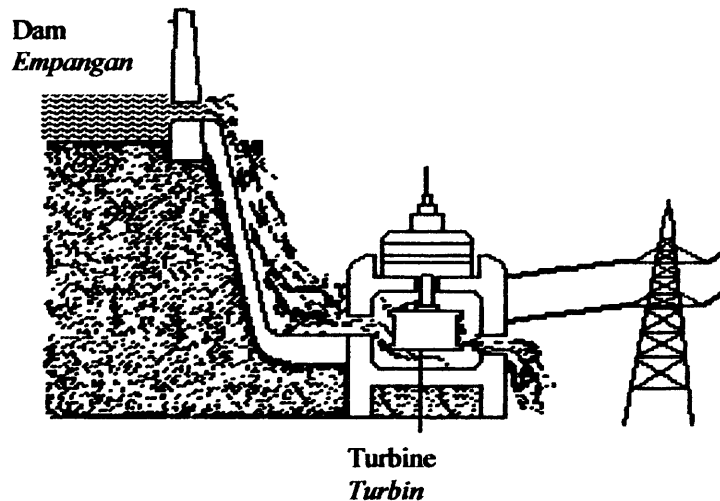


Diagram 8
Rajah 8

What is the source of energy used at this power station?

Apakah sumber tenaga yang digunakan di stesen janakuasa ini?

- | | |
|-------------------------|----------------------------------|
| A. Wind
<i>Angin</i> | C. The Sun
<i>Matahari</i> |
| B. Water
<i>Air</i> | D. Geothermal
<i>Geoterma</i> |
13. Which methods cause heat lost from a cup of hot coffee ?
- Kaedah manakah menyebabkan haba hilang daripada secawan kopi pa ias?*
- A. Conduction and convection
Konduksi dan perolakan
 - B. Convection and radiation
Perolakan dan sinaran
 - C. Radiation and reflection
Sinaran dan pantulan
 - D. Conduction and reflection
Konduksi dan pantulan

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14. The information shows the structure of human ear.
Maklumat menunjukkan struktur telinga manusia

P	: Ear Pinna <i>Cuping telinga</i>
Q	: Ossicles <i>Osikel</i>
R	: Auditory nerve <i>Saraf auditori</i>
S	: Cochlea <i>Koklea</i>

Which sequence represents the path of sound in the hearing mechanism?
Urutan manakah menunjukkan laluan bunyi dalam mekanisme pendengaran?

- A P → Q → R → S
B P → Q → S → R
C P → R → S → Q
D P → R → Q → S
15. Diagram 9 shows the incident ray and the reflected ray from a light source that is projected on a plane mirror.
Rajah 9 menunjukkan sinar tuju dan sinar pantulan daripada satu sumber cahaya yang dipancarkan kepada cermin satah.

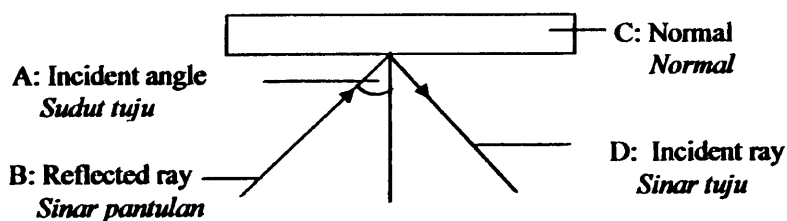


Diagram 9
Rajah 9

Which part A, B, C or D is correctly labelled?
Bahagian manakah yang dilabelkan A, B, C dan D dengan betul?

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16. The information shows the organs in the human alimentary canal.
Maklumat menunjukkan organ-organ di dalam salur pencernaan manusia

P-	mouth <i>mulut</i>
Q-	stomach <i>perut</i>
R-	small intestine <i>Usus kecil</i>

Which classes of food are digested in the organs P, Q and R?
Kelas makanan manakah dicernakan di dalam organ P, Q dan R?

	P	Q	R
A	Protein <i>Protein</i>	Carbohydrate <i>Karbohidrat</i>	Fat <i>Lemak</i>
B	Fat <i>Lemak</i>	Protein <i>Protein</i>	Carbohydrate <i>Karbohidrat</i>
C	Protein <i>Protein</i>	Fat <i>Lemak</i>	Carbohydrate <i>Karbohidrat</i>
D	Carbohydrate <i>Karbohidrat</i>	Protein <i>Protein</i>	Fat <i>Lemak</i>

17. Which of the following animals is an 'amphibian'?
Antara yang berikut, haiwan manakah adalah 'amfibia'?

- | | |
|-----------------------------|-----------------------------------|
| A Crocodile
<i>Buaya</i> | C Salamander
<i>Salamander</i> |
| B Lizard
<i>Cicak</i> | D Snake
<i>Ular</i> |

18. Diagram 10 shows interaction between two organisms
Rajah 10 menunjukkan interaksi antara dua organisma.

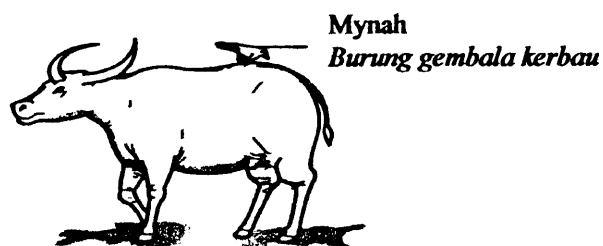


Diagram 10
Rajah 10

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Which pair of organisms represents the same type of interaction?
Pasangan organisma manakah mewakili interaksi yang sama?

- A. Tapeworms living in the human intestine
Cacing pita hidup di dalam usus manusia
- B. Algae and fungus in lichen
Alga dan kulat dalam liken
- C. Shark and remora fish
Ikan yu dan ikan remora
- D. An eagle and a snake
Seekor helang dan ular

19. The information shows organisms living in a habitat
Maklumat menunjukkan organisma hidup dalam suatu habitat

- Sparrow
Pipit
- Caterpillar
Beluncas
- Grass
Rumput
- Snake
Ular

Which food chain is correct?
Rantai makanan adalah betul?

- A. Caterpillar → Grass → Sparrow → Snake
Beluncas → Rumput → Pipit → Ular
- B. Grass → Caterpillar → Sparrow → Snake
Rumput → Beluncas → Pipit → Ular
- C. Snake → Sparrow → Caterpillar → Grass
Ular → Pipit → Beluncas → Rumput
- D. Grass → Caterpillar → Snake → Sparrow
Rumput → Beluncas → Ular → Pipit

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20. Diagram 11 shows same amount of water in different container left under the sunlight for a few hours.

Rajah 11 menunjukkan jumlah air yang sama di dalam bekas berlainan dibiarkan di bawah cahaya matahari selama beberapa jam.

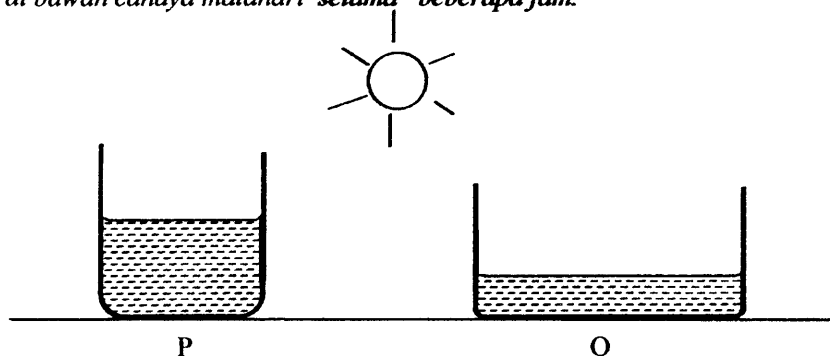


Diagram 11
Rajah 11

Water in Q dried up first. Which statement is the best explanation about the process?
Air di dalam bekas Q kering lebih awal. Pernyataan manakah adalah penerangan paling paling baik mengenai proses tersebut?

- A. The water in container Q has bigger exposed surface area
Air di dalam bekas Q mempunyai luas permukaan terdedah lebih besar
- B. The water in container Q has higher temperature
Air di dalam bekas Q mempunyai suhu lebih tinggi
- C. The water in container Q receives more heat
Air di dalam bekas Q menerima lebih banyak haba
- D. There are less water molecules in Q
Terdapat kurang molekul air di dalam Q

21. Diagram 12 shows the stages in water purification .

Rajah 12 menunjukkan peringkat-peringkat pembersihan air

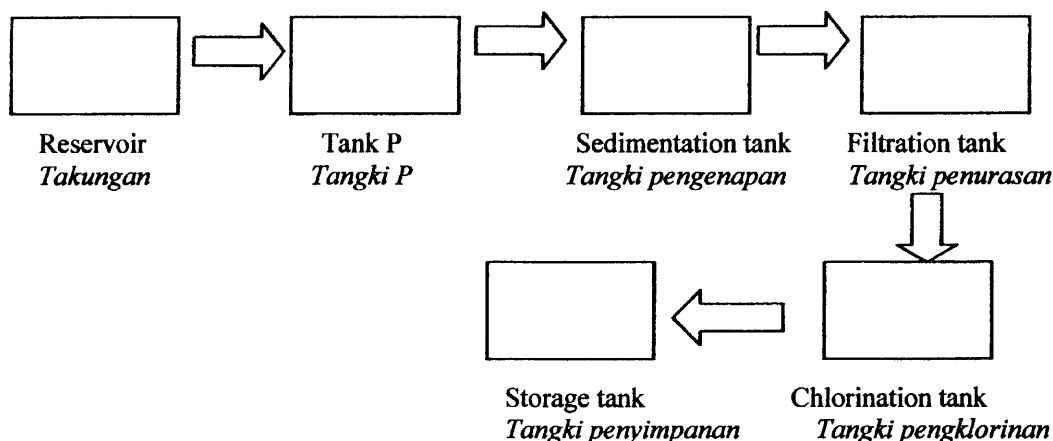


Diagram 12
Rajah 12

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What substance added in tank P and its purpose is correct?

Apakah bahan yang ditambah di dalam tangki P dan tujuannya adalah betul?

	Substance <i>Bahan</i>	Purpose <i>Tujuan</i>
A	Alum <i>Alum</i>	To purify the water <i>Untuk menuliskan air</i>
B	Slaked lime <i>Kapur mati</i>	To reduce the acidity of water <i>Untuk mengurangkan keasidan air</i>
C	Chlorine <i>Klorin</i>	To kill microorganisms in the water <i>Untuk membunuh mikroorganisma</i>
D	Fluorine <i>Fluorin</i>	To remove soluble impurities from the water <i>Untuk membuang bendasing terlarut dalam air</i>

22 The word equation below shows the neutralisation process

Persamaan dibawah menunjukkan proses peneutralan



Based on the equation, which represents P and Q correctly?

Berdasarkan persamaan di atas, manakah betul mewakili P dan Q?

	Solution P <i>Larutan P</i>	Q
A	Hydrochloric acid <i>Asid hidroklorik</i>	Carbon dioxide <i>Karbon dioksida</i>
B	Nitric acid <i>Asid nitrik</i>	Oxygen <i>Oksigen</i>
C	Hydrochloric acid <i>Asid hidroklorik</i>	Water <i>Air</i>
D	Nitric acid <i>Asid nitrik</i>	Water <i>Air</i>

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23. Diagram 13 shows syringe used to suck up water but the water did not rise up.
Rajah 13 menunjukkan satu picagari digunakan untuk menyedut air tetapi air tidak naik.

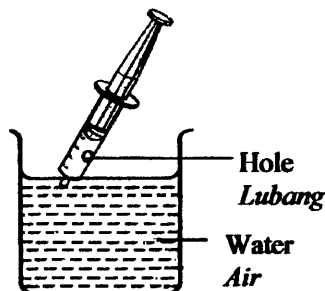


Diagram 13
Rajah 13

Which statement is true about the air pressure in the syringe?
Pernyataan manakah benar mengenai tekanan udara di dalam picagari?

- A. Higher than the water pressure
Lebih tinggi daripada tekanan air
 - B. Lower than the atmospheric pressure
Lebih rendah daripada tekanan atmosfera
 - C. Lower than the water pressure
Lebih rendah daripada tekanan air
 - D. Same as the atmospheric pressure
Sama dengan dengan tekanan atmosfera
24. A student of mass 40 kg climbs up a flight of stairs 4m in 10 seconds. Calculate the power of the student.
Seorang pelajar berjisim 40 kg menaiki tangga yang tingginya 4 m dalam masa 10 saat. Hitungkan kuasa pelajar tersebut.
[assume that 1 kg = 10N]

Given :
Diberi

$\text{Power} = \frac{\text{Force} \times \text{Distance}}{\text{Time}}$
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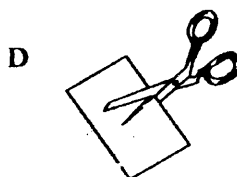
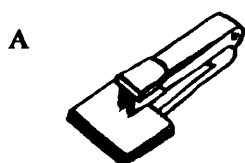
- A 32W
- B 50W
- C 160W
- D 200W

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- 25 A giraffe usually spreads out its legs when drinking water from a river. Which of the following is the best reason?
Seekor zirafah biasanya mengangkang kakinya semasa minum air di sungai. Antara yang berikut, manakah alasan paling baik?

- A To increase its base area
Untuk menambahkan luas tapak
- B To increase its centre of gravity
Untuk meningkatkan pusat graviti
- C To reduce its body weight
Untuk mengurangkan berat badan
- D To help it drink water easier
Untuk membantunya minum dengan lebih mudah

26. Which device has its fulcrum in between the effort and the load?
Alat manakah mempunyai fulkrum yang terletak diantara daya dan beban?



27. Which part of the lungs does exchange of gaseous take place?
Bahagian manakah dalam peparu pertukaran gas berlaku?

- A. Trachea
Trakea
- B. Bronchiole
Bronkiol
- C. Bronchus
Bronkus
- D. Alveolus
Alveolus

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28. Which is the effect of carbon monoxide in the cigarette smoke to human?
Manakah adalah kesan karbon monoksida dalam asap rokok kepada manusia?
- A. Cause addiction
Menyebabkan ketagihan
 - B. Damage trachea
Merosakkan trakea
 - C. Reduce oxygen supply to the body
Mengurangkan bekalan oksigen dalam badan
 - D. Trigger the growth of cancer cells
Merangsangkan pertumbuhan sel kanser
29. Diagram 14 shows the longitudinal section of human blood vessel
Rajah 14 menunjukkan keratan memanjang salur darah manusia

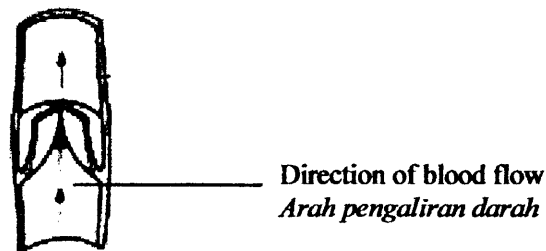


Diagram 14
Rajah 14

- Which statement is true?
Pernyataan manakah adalah benar?
- A. It has wall of one cell thick
Ia mempunyai yang tebalnya satu sel
 - B. It has very small lumen
Ia mempunyai lumen sangat kecil
 - C. It transports high pressure blood
Ia mengangkut darah bertekanan tinggi
 - D. It transports deoxygenated blood
Ia mengangkut darah terdeoksigen

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30. Which pair about blood group of blood donor and blood recipient is correct?
Pasangan manakah mengenai kumpulan darah penderma darah dan penerima darah adalah betul?

	Blood donor <i>Penderma darah</i>	Blood recipient <i>Penerima darah</i>
A	Blood group A <i>Kumpulan darah A</i>	Blood group O <i>Kumpulan darah O</i>
B	Blood group B <i>Kumpulan darah B</i>	Blood group A <i>Kumpulan darah A</i>
C	Blood group AB <i>Kumpulan darah AB</i>	Blood group B <i>Kumpulan darah B</i>
D	Blood group O <i>Kumpulan darah O</i>	Blood group AB <i>Kumpulan darah AB</i>

31. Diagram 15 shows the longitudinal section of the human kidney
Rajah 15 menunjukkan keratan memanjang ginjal manusia.

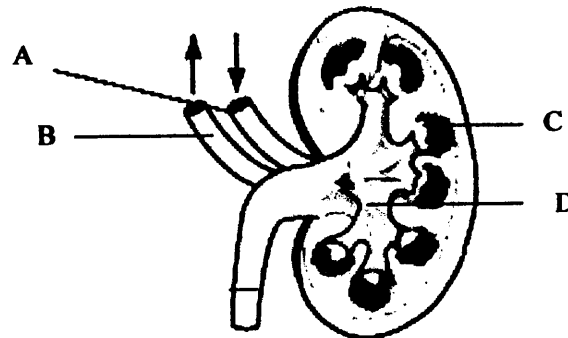


Diagram 15
Rajah 15

Which part labeled A, B, C or D filters waste products from the blood?
Bahagian berlabel manakah A, B, C atau D menapis bahan kumuh daripada darah?

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32. Diagram 16 shows the female reproductive system
Rajah 16 menunjukkan sistem pembiakan perempuan.

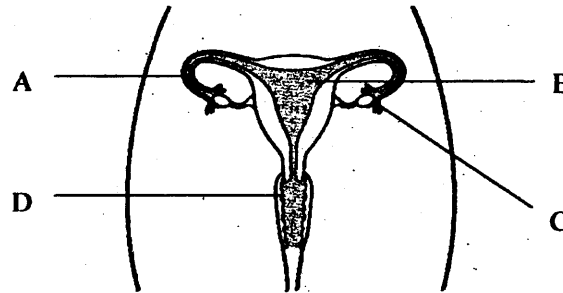


Diagram 16
Rajah 16

Which location A, B, C or D and the process taking place is correct?
Lokasi manakah A, B, C dan D dan proses yang berlaku adalah betul ?

	Process taking place <i>Proses yang berlaku</i>
A	Fertilisation <i>Persenyawaan</i>
B	Ovulation <i>Pengovulan</i>
C	Menstruation <i>Penghaidan</i>
D	Pregnancy <i>Kehamilan</i>

33. Which class of food if insufficient will lead to retarded growth of a child ?
Kelas makanan manakah jika kekurangan akan menyebabkan pertumbuhan terbantut pada kanak-kanak?



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34. Diagram 17 shows an activity to study the effect of heat on cockle shell
Rajah 17 menunjukkan satu aktiviti untuk mengkaji kesan haba ke atas cengkerang kerang

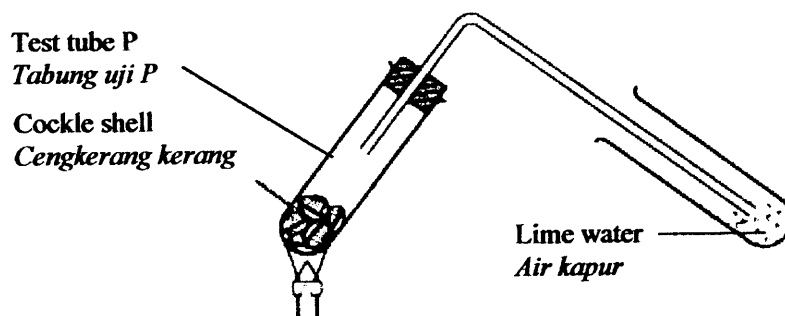


Diagram 17
Rajah 17

- Which substance is formed in test tube P after the reaction has taken place after heating?
Bahan manakah terbentuk di dalam tabung uji P selepas tindakbalas berlaku selepas pemanasan?
- A. Calcium hydroxide
Kalsium hidroksida
- B. Calcium oxide
Kalsium oksida
- C. Calcium chloride
Kalsium klorida
- D. Calcium hydrochloric
Kalsium hidroklorik
35. Which pair of petroleum fraction and its use is correctly matched?
Pasangan pecahan petroleum manakah dan kegunaannya dipadankan dengan betul?

	Petroleum fraction <i>Pecahan petroleum</i>	Use <i>Kegunaan</i>
A	Petrol <i>Petrol</i>	As aircraft fuel <i>Sebagai bahanapi kapal terbang</i>
B	Bitumen <i>Bitumen</i>	As ship fuel <i>Sebagai bahanapi kapal</i>
C	Kerosene <i>Kerosin</i>	As motorcycle fuel <i>Sebagai bahanapi motorsikal</i>
D	Diesel <i>Disel</i>	As lorry fuel <i>Sebagai bahanapi lori</i>

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36. Diagram 18 shows four similar bulbs connected in a circuit.
Rajah 18 menunjukkan empat mentol serupa disambungkan di dalam sebuah litar.

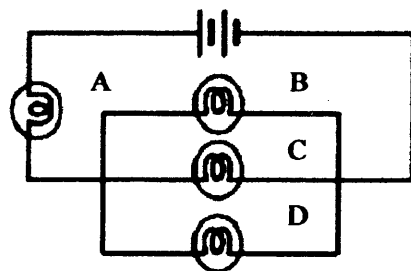
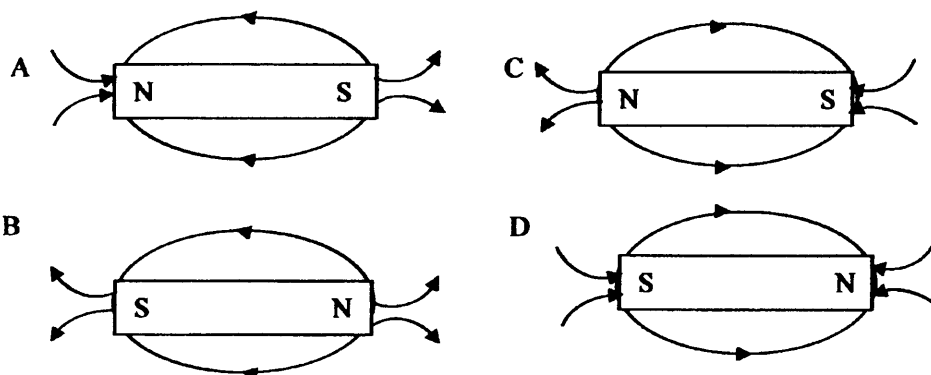


Diagram 18
Rajah 18

Damage to which bulb A, B, C or D will cause all other bulbs to go off?
Kerosakan pada mentol manakah A, B, C dan D akan menyebabkan mentol-mentol lain padam?

37. Which diagram shows the correct magnetic field lines around a magnet bar?
Rajah manakah menunjukkan urat daya medan magnet sekeliling magnet bar?



38. Diagram 19 shows the wiring system at home.
Rajah 19 menunjukkan sistem pendawaian di rumah

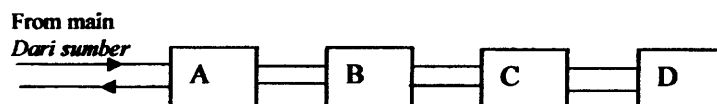


Diagram 19
Rajah 19

Which part labelled A, B, C or D measures the electrical energy used by the consumer?
Bahagian manakah berlabel A, B, C dan D mengukur tenaga elektrik yang digunakan oleh pengguna?

SULIT

39. Diagram 20 shows the structure of the Sun
Rajah 20 menunjukkan struktur matahari

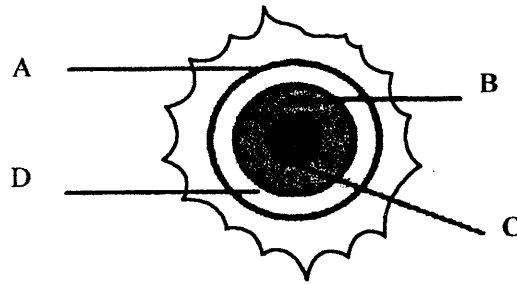


Diagram 20
Rajah 20

Which part labelled A, B, C or D is the Sun's core?
Bahagian berlabel manakah A, B, C dan D adalah teras matahari?

40. Diagram 21 shows a device used in the study of astronomy.
Rajah 21 menunjukkan alat yang digunakan dalam pengkajian astronomi.

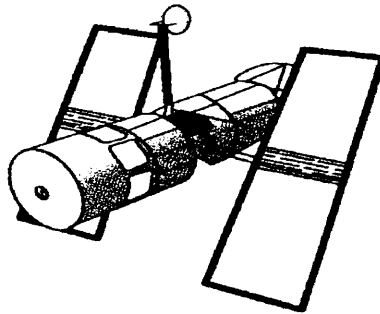


Diagram 21
Rajah 21

What is the function of the device?
Apakah fungsi alat tersebut?

- A. Carries the astronaut to outer space
Membawa angkasawan ke angkasa lepas
- B. Enable scientist to carry out research
Membenarkan ahli sains menjalankan penyelidikan
- C. Observe cosmic bodies such as galaxies and nebulae
Memerhati jasad kosmik seperti galaksi dan nebula.
- D. Collect informations and send back to the earth
Mengumpul maklumat dan menghantar balik ke bumi

END OF QUESTION PAPER

SULIT

55/2

Sains Kertas 2

Ogos 2010

1½ jam

Nama :

Tingkatan :



**JABATAN PELAJARAN KELANTAN
DENGAN KERJASAMA
PERSIDANGAN PENGETUA-PENGETUA
SEKOLAH MENENGAH MALAYSIA
CAWANGAN KELANTAN
2010**



PEPERIKSAAN PERCUBAAN PMR 2010

SAINS

KERTAS 2

Satu jam tiga puluh minit

**JANGAN BUKA KERTAS SOALAN INI
SEHINGGA DIBERITAHU**

1. *Tuliskan nombor kad pengenalan dan angka gilirannya pada ruang yang disediakan .*
2. *Kertas soalan ini adalah dalam Bahasa Inggeris dan Bahasa Malaysia*
3. *Calon dikehendaki menjawab soalan di dalam kertas ini.*
4. *Calon dibenarkan menjawab dalam bahasa Inggeris atau bahasa Malaysia..*

Kod Pemeriksa			
Bahagian	Soalan	Markah Penuh	Markah Diperolehi
A	1	5	
	2	6	
	3	6	
	4	7	
	5	7	
	6	9	
B	7	8	
	8	12	
Jumlah A + B		60	

Kertas soalan ini mengandungi 20 halaman bercetak

55/2

1

SULIT

[Lihat sebelah

SAINS 2 PERC PMR 2010

SULIT

SECTION A
[40 MARKS]

You are advised to spend 1 hour on this section.

1. Diagram 1 shows a pyramid number
Rajah 1 menunjukkan piramid nombor

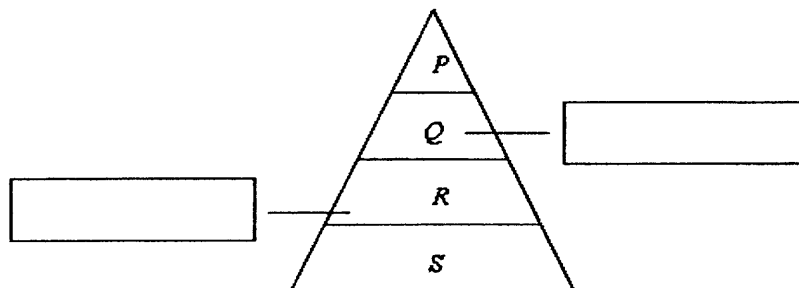


Diagram 1
Rajah 1

- a) On Diagram 1, label *Q* and *R* using the following words
Pada rajah 1, label Q dan R menggunakan perkataan berikut.

Primary consumer <i>Pengguna primer</i>	Secondary consumer <i>Pengguna sekunder</i>	Tertiary consumer <i>Pengguna tertier</i>
--	--	--

[2 marks]

- b) Draw lines to match the organisms to its correct level of the pyramid
Lukis garisan untuk memadankan organisma pada aras piramid yang betul

<i>P</i>
<i>R</i>
<i>S</i>

Leaf <i>Daun</i>
Grasshopper <i>Belalang</i>
Owl <i>Burung hantu</i>
Frog <i>Katak</i>

[3 marks]

1(a)

1(b)

Total

SULIT

2. Diagram 2 shows the apparatus set-up to study the composition of the water
Rajah 2 menunjukkan susunan alat radas untuk mengkaji komposisi air.

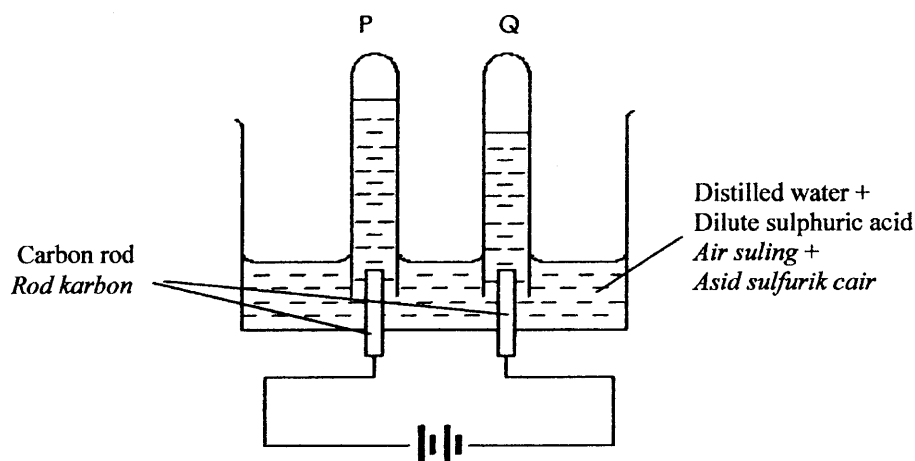


Diagram 2
Rajah 2

- (a)(i) At the end of the experiment, name the gases collected in the boiling tube P and Q.
Pada akhir eksperimen, namakan gas terkumpul dalam tabung didih P dan Q.

P:

Q:.....

[2 Marks]

2(a)(i)

- (ii) State the test to identify the gas collected in the boiling tube P and Q
Nyatakan ujian untuk mengenalpasti gas terkumpul dalam tabung didih P dan Q.

Gas in the boiling tube P :.....

Gas dalam tabung didih P

Gas in the boiling tube Q:.....

Gas dalam tabung didih Q

[2 Marks]

2(a)(ii)

- (b) Name the process in Diagram 2
Namakan proses dalam Rajah 2

.....

[1 mark]

2(b)

SULIT

- (c) Based on the experiment, why is water classified as a compound?
Berdasarkan eksperimen, mengapakah air adalah suatu sebatian?

.....

.....

[1 mark]

2(c)

Total

SULIT

3. Diagram 3.1 shows a mixture of iron filings and sulphur powder

Rajah 3.1 menunjukkan satu campuran serbuk besi dengan serbuk sulfur.

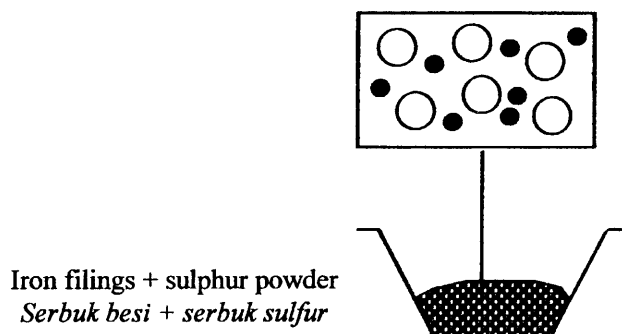


Diagram 3.1
Rajah 3.1

(a)(i) Based on Diagram 3.1, state **one** method that can be used to separate the mixture.

*Berdasarkan dalam Rajah 3.1, nyatakan **satu** cara yang boleh digunakan untuk mengasingkan campuran tersebut.*

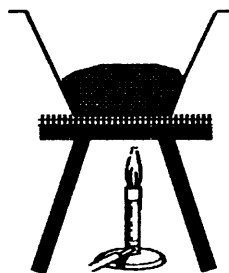
.....
[1 mark]

3 (a)



(b) Diagram 3.2 shows the mixture of iron filings and sulphur powder is heated

Rajah 3.2 menunjukkan serbuk besi dan serbuk sulfur dipanaskan.

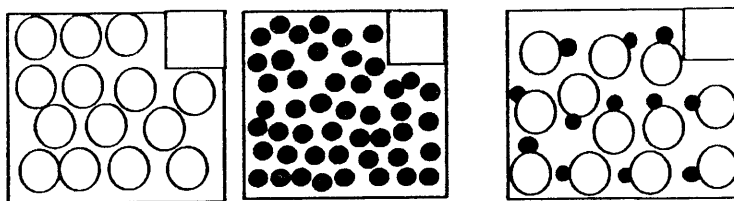


Heated
Dipanaskan

Diagram 3.2
Rajah 3.2

SULIT

- (b)(i) Mark (✓) in the box provided to show the arrangement of particles of substances after heating process.
Tanda(✓) dalam kotak yang disediakan yang menunjukkan susunan zarah-zarah bahan selepas proses pemanasan.



[1 mark]

3 (b)(i)

☐

- (ii) What is the type of substance formed in (b)(i)?
Apakah jenis bahan yang terbentuk dalam (b)(i)?

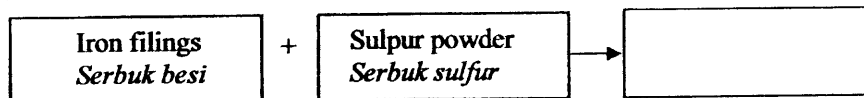
[1 mark]

3 (b)(ii)

☐

- (iii) Complete the word equation to show the reaction in (b)(ii)
Lengkapkan persamaan perkataan untuk menunjukkan tindakbalas dalam (b)(ii)

3 (b)(iii)



[1 mark]

☐

- (c) Suggest **one** method to obtain salt from sea water. Explain your answer
*Cadangkan **satu** kaedah untuk mendapatkan garam daripada air laut. Terangkan jawapan anda*

Method :

Kaedah

Explanation ;

Penerangan

[2 marks]

3 (c)

☐

Total

☐

SULIT

4. (a) Diagram 4.1 shows the result obtained when some materials are placed in a container with 250 cm^3 of water.

Rajah 4.1 menunjukkan keputusan yang diperolehi apabila beberapa bahan diletakkan ke dalam bekas yang berisi 250 cm^3 air.

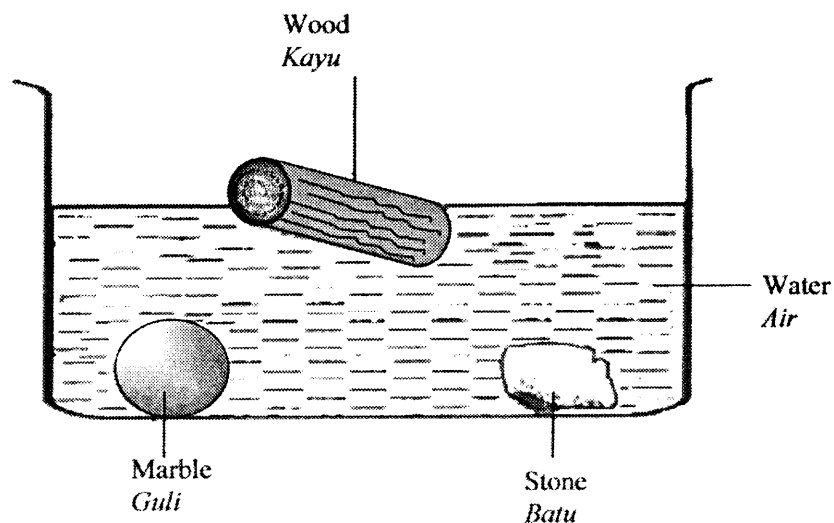


Diagram 4.1

Rajah 4.1

- (i) State the difference in the density of wood compared to marble in the water.

Nyatakan perbezaan ketumpatan kayu berbanding dengan guli di dalam air.

4(a)(i)

[1 mark]

- (ii) Give **one** reason for the answer in 4(a)(i).
*Berikan **satu** alasan bagi jawapan di 4(a)(i).*

4(a)(ii)

[1 mark]

SULIT

- (b). Table 4.2 shows the readings of two materials on the electronic balance.
Jadual 4.2 menunjukkan bacaan dua bahan yang berbeza di neraca elektronik.

Materials <i>Bahan</i>	Volume(cm ³) <i>Isipadu(cm³)</i>	Mass (g) <i>Jisim(g)</i>	Density(g/cm ³) <i>Ketumpatan(g/cm³)</i>
Rubber ball <i>Bola getah</i>	9	14.6	1.6
Iron block <i>Blok besi</i>	9	36.0	P

Table 4.2
Jadual 4.2

- (i) Based on the table 4.2, calculate the P.
Berdasarkan jadual 4.2. hitungkan nilai P.

Given:
Diberi

		Mass (g) <i>Jisim</i>
Density <i>Ketumpatan</i>	=	$\frac{\text{Mass (g)}}{\text{Volume (cm}^3\text{)}}$ <i>$\frac{\text{Jisim}}{\text{Isipadu}}$</i>

4(b)(i)

[2 marks]

- (ii) The density of water is 1.0 g/cm³ while the density of mercury is 13.6 g/cm³.
 What will happen if the rubber ball is placed in a beaker containing water and mercury ?

Ketumpatan air adalah 1.0 g/cm³ manakala ketumpatan merkuri adalah 13.6g/cm³. Apakah yang akan berlaku sekiranya bola getah diletakkan di dalam bikar yang berisi air dan merkuri ?

4(b)(ii)

[1 mark]

SULIT

- (c) Photo 4.3 shows a girl using float to swim in the swimming pool.
Gambar 4.3 menunjukkan budak perempuan menggunakan pelampung untuk berenang di dalam kolam renang.



Diagram 4.3
Rajah 4.3

Explain how the float help the girl in Diagram 4.3 keep her afloat
Terangkan bagaimana pelampung membantu budak perempuan dalam Rajah 4.3 terapung

.....

.....

[2 marks]

4(b)(ii)

Total

SULIT

5. Diagram 5.1 shows an experiment to study the transport system in a plant
Rajah dalam 5.1 menunjukkan eksperimen untuk mengkaji sistem pengangkutan dalam tumbuhan.

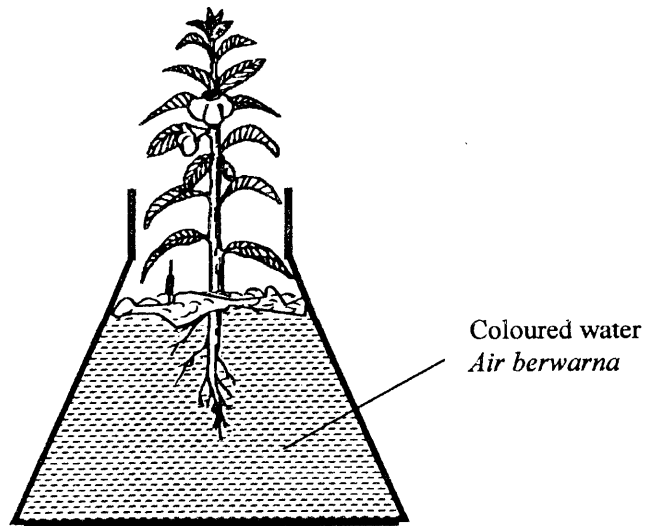


Diagram 5.1
Rajah 5.1

- (a)(i) On Diagram 5.2, label the part seen colored red with R.
Rajah 5.2, label bahagian batang tumbuhan yang berwarna merah dengan R.

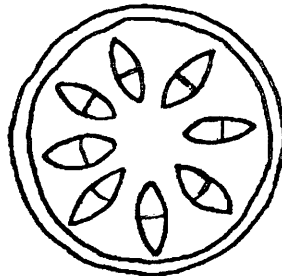


Diagram 5.2
Rajah 5.2

- (ii) Name the parts labelled **R** in a(i)
Namakan bahagian berlabel R dalam a (i)

.....
[1mark]

5(a)(i)

[1 mark]

5(a)(ii)

SULIT

- (iii) State the substances transported by the (a)(ii) .
Nyatakan bahan-bahan yang diangkut oleh (a)(ii).

5(a)(iii)

[1 mark]

- b) Diagram 5.3 shows parts of hibiscus stem which has been ringed,
Rajah 5.3 menunjukkan bahagian batang pokok bunga raya yang telah Digelangkan.

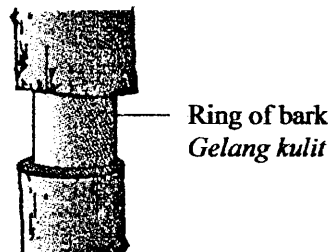


Diagram 5.3

Rajah 5.3

- (i) What happened to the upper part of the stem after few weeks?
Apakah yang berlaku kepada bahagian atas batang itu selepas beberapa minggu?

Explain your answer
Terangkan jawapan anda.

5(b)(i)

[2 marks]

- (ii) What will happen to the hibiscus plant after a few months? Explain your answer.
Apakah yang berlaku kepada pokok bunga raya itu selepas beberapa bulan?
Jelaskan jawapan anda.

5(b)(ii)

Total

[2 marks]

6. Diagram 6.1 shows electrical power transmission and distribution system.
Rajah 6.1 menunjukkan system penghantaran dan pengagihan kuasa elektrik

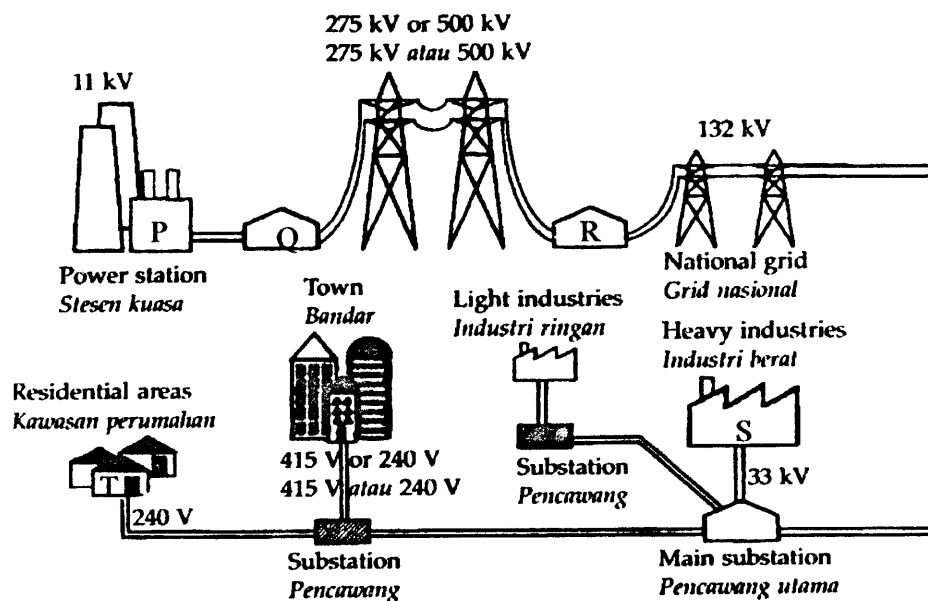


Diagram 6.1
Rajah 6.1

- (a)(i) State the type of transformer Q and R.
Nyatakan transformer Q dan R?

Transformer Q :

Transformer R :

[2 marks]

- (ii) State the difference in function between transformer Q and R?
Nyatakan perbezaan fungsi antara transformer Q dan R?

.....

[1 mark]

- (iii) What type of current is generated by power station P?
Apakah jenis arus yang dijanakan oleh stesen kuasa P?

.....

[1 mark]

6(a)(i)

6(a)(ii)

6(a)(iii)

SULIT

- (iv) Explain why electrical energy is sent through the cables at a very high voltage.
Terangkan mengapa tenaga elektrik dihantar melalui kabel pada voltan yang sangat tinggi.

6(a)(iv)

[1 mark]

- (b)(i) If the power station P is closed for maintenance, what happen to the electrical supply in the industrial area?
Jika stesen kuasa P ditutup untuk pembaikpulihan, apa akan terjadi kepada bekalan elektrik di kawasan industri S?

6(b)(i)

[1 mark]

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

6(b)(ii)

[1 mark]

- (c) What happen to house T if the electrical supply is 300V? Explain
Apakah yang akan berlaku kepada rumah T jika bekalan elektrik adalah 300V? Terangkan.

6(c)

[2 marks]

Total

SULIT

SECTION B
[20 MARKS]

You are advised to spend 30 minutes in this section

7. Diagram 7 shows the structure of flowers P, Q, R and S.

Rajah 7 menunjukkan struktur bunga P, Q, R dan S.

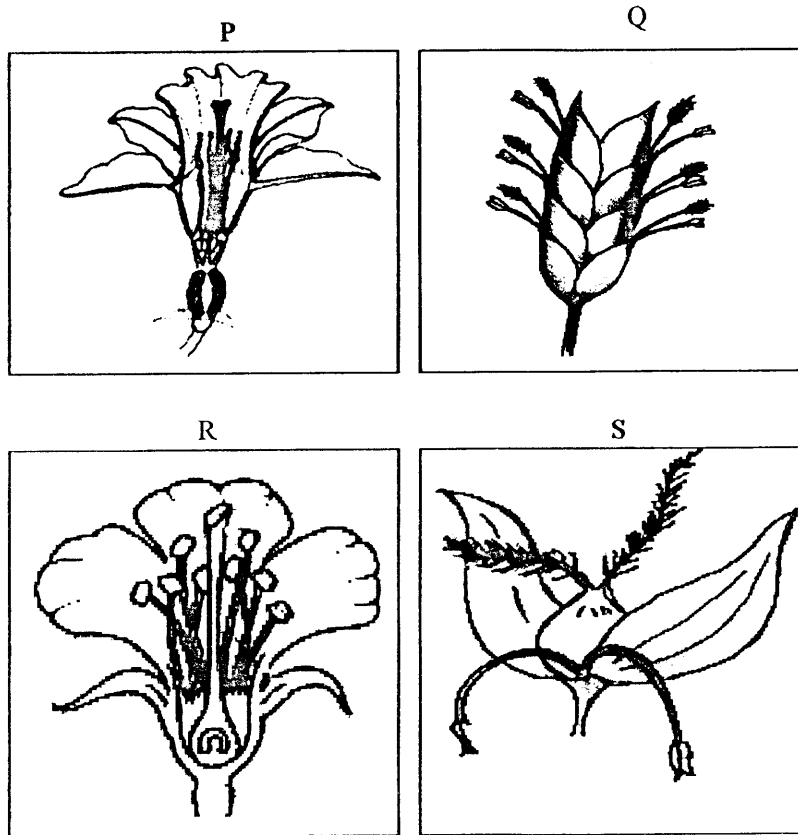


Diagram 7
Rajah 7

SULIT

- a) Observe Diagram 7.
State **one** characteristic of each flower based on the position of the stamen
Perhatikan Rajah 7.
*Nyatakan **satu** ciri setiap bunga berdasarkan kedudukan stamen.*

P:

Q:

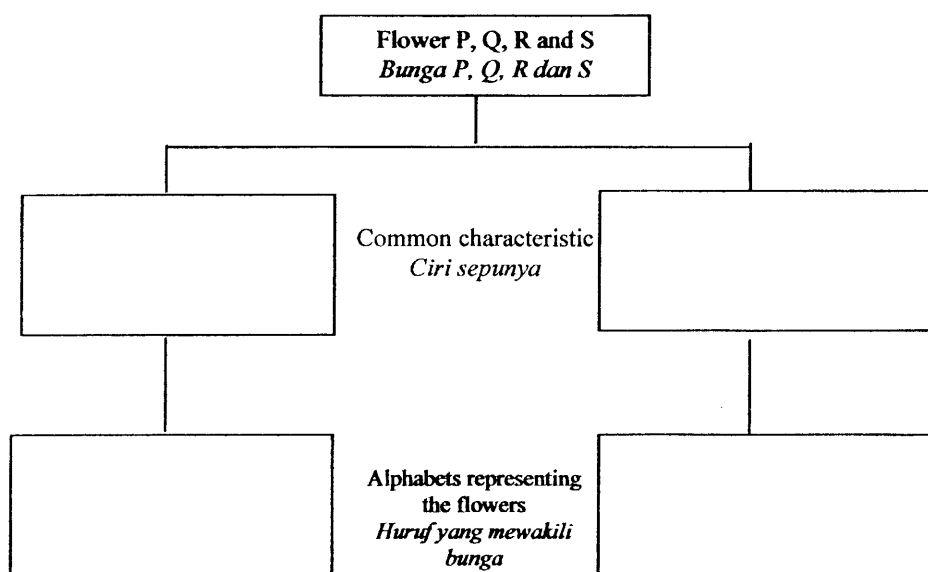
R:

S:

[4 marks]

7 (a)

- (b) Classify P, Q, R and S into two groups based on common pollinating agents.
Write letters representing the flower
Kelaskan P, Q, R dan S kepada dua kumpulan berdasarkan agen pendebungaan. Tuliskan huruf yang mewakili bunga tersebut.



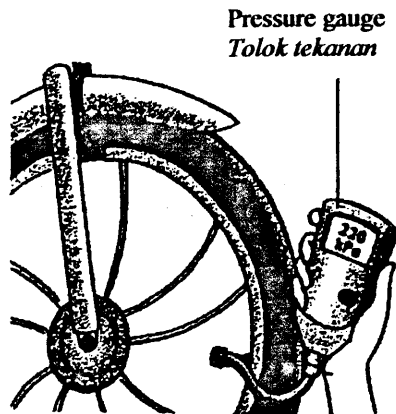
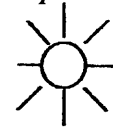
[4 marks]

7(b)

Total

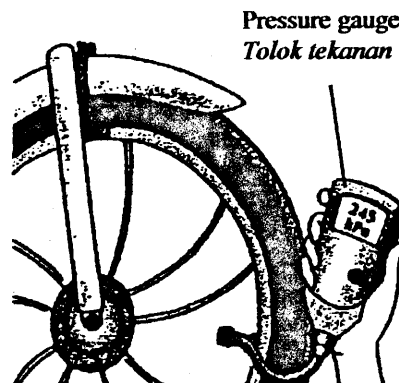
SULIT

- 8 (a) Diagram 8.1 and 8.2 shows air pressure in a tyre of a bicycle at two different temperature .
Rajah 8.1 dan 8.2 menunjukkan tekanan udara dalam satu tayar basikal pada suhu yang berbeza .



Temperature - 28°C
Suhu

Diagram 8.1
Rajah 8.1



Temperature - 40°C
Suhu

Diagram 8.2
Rajah 8.2

- (i) Based on your observation in Diagram 8.1 and 8.2 , state the difference of air pressure in the tyre .
Berdasarkan pemerhatian anda dalam Rajah 8.1 dan 8.2 , nyatakan perbezaan tekanan udara pada tayar.

8 (a)(i)

[1 mark]

- (ii) What inference can be made based on diagram 8.1 and 8.2 ?
Apakah inferens yang boleh dibuat berdasarkan rajah 8.1 dan 8.2?

8 (a)(ii)

[1 mark]

- (iii) State your hypothesis based on your observation in diagram 8.1 and 8.2 .
Nyatakan hipotesis anda berdasarkan pemerhatian pada rajah 8.1 dan 8.2 .

8 (a)(iii)

[1 mark]

SULIT

- (b) Diagram 8.3 shows an apparatus set up the effect of temperature on air pressure.
Rajah 8.3 menunjukkan susunan alat radas untuk mengkaji kesan suhu terhadap tekanan udara .

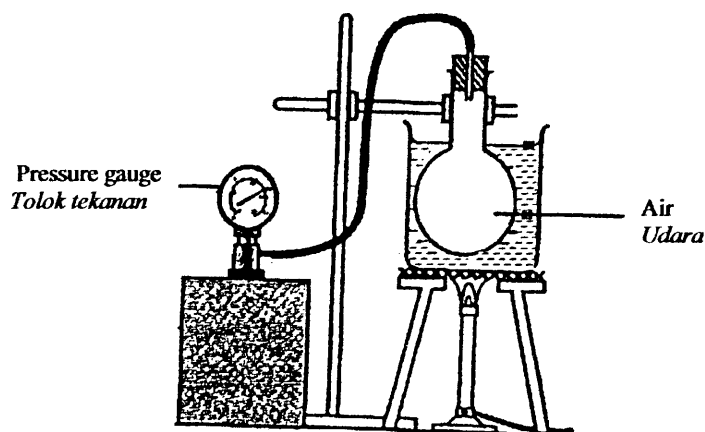
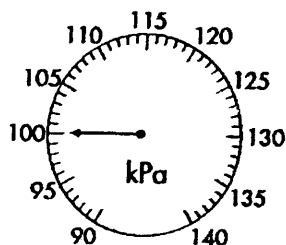
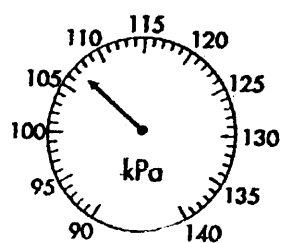


Diagram 8.3
Rajah 8.3

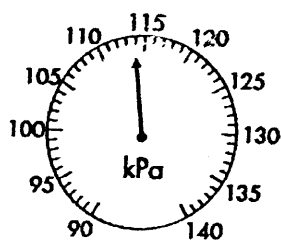
The air pressure is recorded when the temperature increases .
Tekanan udara direkod apabila suhu meningkat .



Temperature = 20°C
Suhu
 Air Pressure = 100 kPa
Tekanan udara

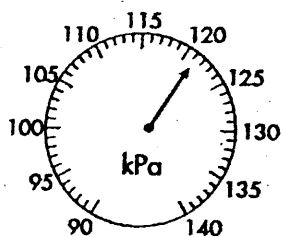


Temperature = 40°C
Suhu
 Air Pressure = kPa
Tekanan udara

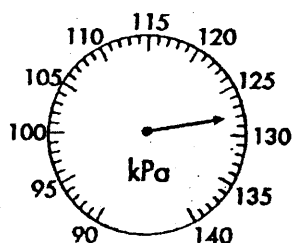


Temperature = 60°C
Suhu
 Air Pressure = kPa
Tekanan udara

SULIT



Temperature = 80°C
 Suhu
 Air Pressure = kPa
 Tekanan udara



Temperature = 100°C
 Suhu
 Air Pressure = 128 kPa
 Tekanan udara

- (i) Record the reading of the pressure gauge in Table 8.4
 Rekodkan bacaan tolok tekanan di dalam Jadual 8.4

Temperature, °C Suhu, °C	20	40	60	80	100
Air Pressure, kPa Tekanan udara, kPa	100				128

Table 8.4
 Jadual 8.4

[2 marks]

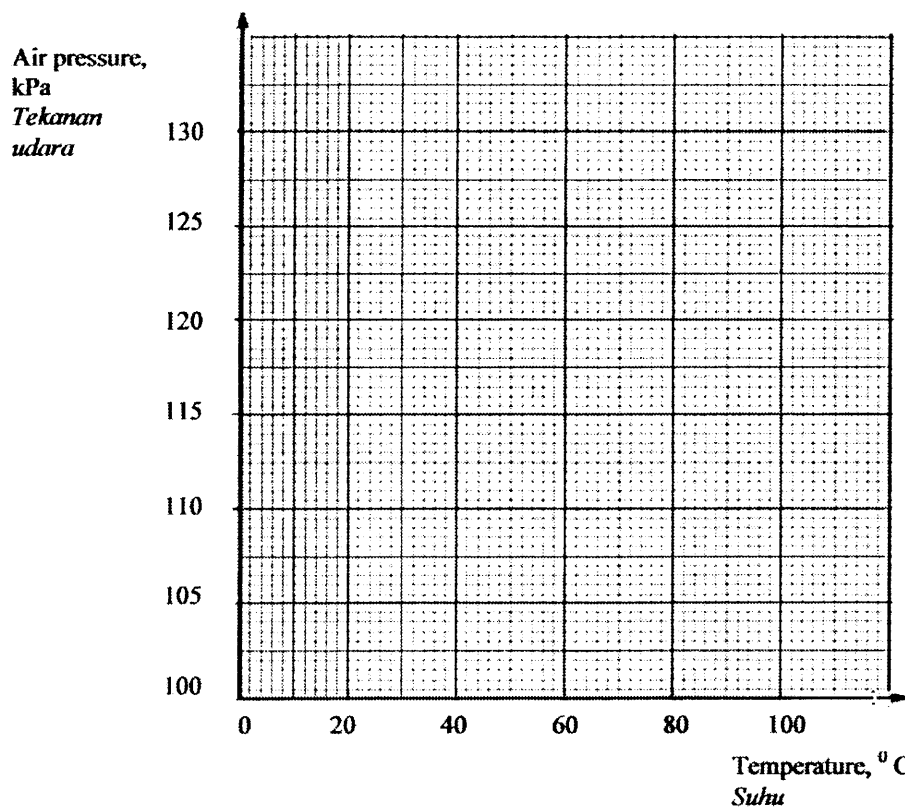
8 (b)(i)



SULIT

(c) Using table 8.4 draw a graph of temperature against air pressure.

Menggunakan jadual 8.4 lukiskan graf suhu melawan tekanan udara .



[2 marks]

(d) State the variables involved in this experiment :

Nyatakan pemboleh ubah yang terlibat dalam eksperimen ini :

Manipulated variable :

Pemboleh ubah yang di manipulasi :

Responding variable

Pemboleh ubah bergerakbalas :

[2 marks]

(e) Based on the graph in (c), predict the air pressure reading when the temperature is 70°C.

Berdasarkan graf di (c) , ramalkan bacaan tekanan udara apabila suhu 70°C.

.....
[1 mark]

(f) State the relationship between temperature and air pressure .

Nyatakan hubungan antara suhu dan tekanan udara .

.....
[1 mark]

8 (c)

8 (d)

8 (e)

8 (f)

SULIT

- (g) Define operationally ' Air pressure'.
Definisikan secara operasi ' Tekanan udara'

[1 mark]

8 (g)

Total

END OF QUESTION PAPER

SULIT



**PERSATUAN KEBANGSAAN PENGETUA-PENGETUA
SEKOLAH MENENGAH MALAYSIA
CAWANGAN KELANTAN**

**PEPERIKSAAN PERCUBAAN
PENILAIAN MENENGAH RENDAH 2010**

**SKEMA
SAINS**

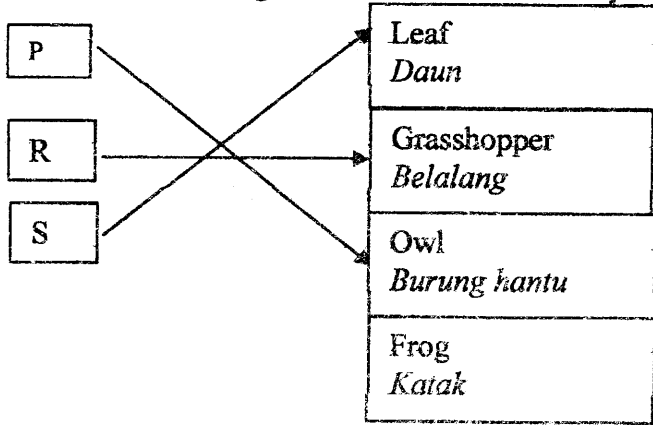
SULIT

Mark scheme Science Paper 1

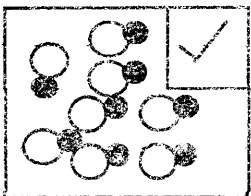
No	Answer
1	D
2	C
3	A
4	B
5	A
6	D
7	A
8	C
9	B
10	A
11	B
12	B
13	A
14	B
15	A
16	D
17	C
18	B
19	B
20	A

No	Answer
21	B
22	C
23	D
24	C
25	A
26	D
27	D
28	C
29	D
30	D
31	C
32	A
33	A
34	B
35	D
36	A
37	C
38	B
39	C
40	C

Mark Scheme Trial Science Form 3

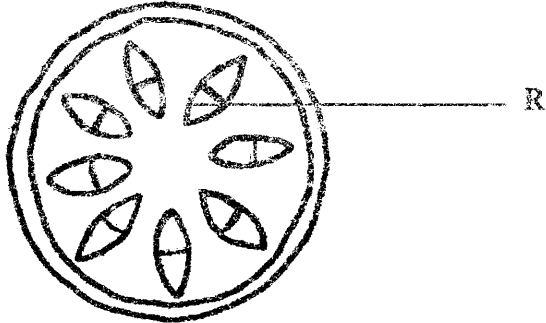
No	Mark Scheme	Mark	
1.	a) Able to label the cell correctly		
	Q : Secondary consumer	1	
	R : Primary consumer	1	2
	b) Able to match the organisms to its level correctly.		
		1	
		1	3
		1	
		1	
	Total	5	
2	a) Able to state the gas collected		
	i. P : Oxygen	1	
	Q : Hydrogen	1	2
	ii. Able to state the test to identify the gas collected		
	Gas in test tube P : ignites glowing splinter Menyalakan kayu uji berbara	1	
	Gas in test tube Q : produces 'pop' sound with lighted wooden splinter Menghasilkan bunyi 'pop' dengan kayu uji menyala	1	2
	b) Able to name the process		
	Electrolysis Elektrolisis	1	1
	c) Able to give reason why		
	(Water is) made up / consists of two different elements that	1	1

	combined chemically // water can only be separated into its element by electrolysis <i>Air terbentuk / terdiri daripada dua unsure berlainan yang terikat secara kimia // air hanya boleh dipisahkan secara elektrolisis</i>		
	Note : Combine chemically must be written.		
		Total	6

No	Mark Scheme	Mark	
3 a)	Able to state the method to separate the mixture Using / Use / a magnet (bar)// place / put / bring a magnet near <i>Menggunakan magnet (bar)// membawa /meletakkan sebatang magnet berdekatan campuran</i> Note : reject if the answer does not mention ' using/use'	1	1
b)(i)	Able to tick the correct box  Note : accept any kind of mark	1	1
(ii)	Able to state the type of substance formed Compound <i>Sebatian</i> Note : reject if the answer is name of substance -'iron sulphide'	1	1
(iii)	Able to complete the word equation Iron sulphide <i>Besi sulfida</i>	1	1
(c)	Able name the method and give reason Sample answer Method 1: Evaporation <i>Penyejatan / sejatan</i>	1	

	<p>Explanation : Water will evaporate and salt is left behind <i>Air akan tersejat dan garam tertinggal</i></p> <p>Method 2 : Distillation <i>Penyulingan</i></p> <p>Explanation : Sea water boils and escape through the condenser and salt is collected in the flask behind <i>Air laut mendidih dan keluar melalui kondenser dan garam tertinggal di dalam kelalang.</i></p> <p>Note : Method and explanation must be correct.</p>	1	2
		Total	6

No	Mark Scheme	Mark	
4	(a) i. Able to state the difference in density		
	<p>Wood is less dense than marble (in the water) // marble is denser /more dense than wood <i>Kayu kurang tumpat daripada guli (dalam air) // guli lebih tumpat daripada kayu</i></p>	1	1
	<p>ii. Able to give reason</p> <p>Wood floats but marble sinks in the water <i>Kayu terapung manakala guli tenggelam dalam air</i></p>	1	1
	(b). i. Able to calculate the density		
	$\text{Density} = \frac{36 \text{ g}}{9 \text{ cm}^3}$ $= 4 \text{ g / cm}^3$ <p>Note : Correct transfer of data – 1 mark Correct answer with unit - 1 mark</p>	1 1	2

ii.	<p>Able to state what happen to the rubber ball</p> <p>(It sinks) in the water but floats in mercury // (It floats in mercury but sinks in water)</p> <p><i>Ia tenggelam di dalam air tetapi terapung dalam merkuri // Ia terapung dalam merkuri tetapi tenggelam di dalam air</i></p>	1	1
c)	<p>Able to explain how float keep the girl afloat</p> <p>Float is filled with air</p> <p><i>Pelampung berisi udara</i></p> <p>Air is less dense than water</p> <p><i>Udara kurang tumpat daripada air</i></p>	1 1	2
	TOTAL	7	7
No	Mark scheme	Mark	Total
5 (a)	<p>i. Able to label the part correctly</p> <div data-bbox="395 1070 943 1391">  </div> <p>Note : reject if label 'xylem'</p> <p>ii. Able to name R</p> <p>Xylem</p> <p><i>Xilem</i></p> <p>iii. Able to state the substance transported by R</p> <p>Water (and minerals) // coloured water</p> <p><i>Air dan (mineral) // air berwarna</i></p>	1 1 1	1 1 1

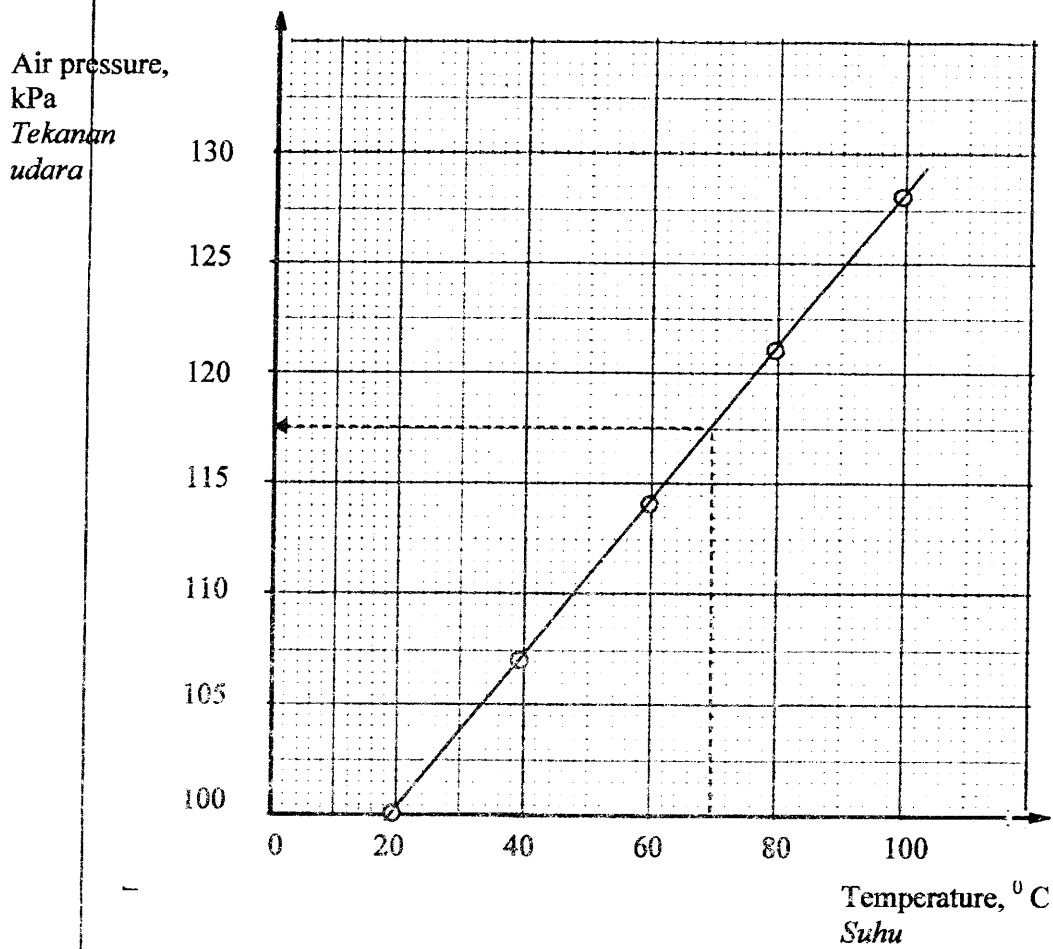
(b) i.	<p>Able to state what happen and explain the answer</p> <p>Become swollen // it swells <i>Menjadi bengkak // ia membengkak</i></p> <p>Explanation</p> <p>The food accumulates at the upper part / top portion of the stem because it cannot be transported to the lower part / portion below <i>Makanan terkumpul dibahagian atas kerana tidak boleh diangkut ke bawah.</i></p>	1	2
ii	<p>Able to state what happen and give explanation</p> <p>a. The lower portion/ part cannot receives food - 1 mark <i>Bahagian bawah tidak boleh menerima makanan</i></p> <p>b. (Because) the phloem that carries /transports food has been removed - 1 mark <i>(Kerana) floem yang mengangkut makanan telah dibuang</i></p> <p>c. The plant will soon die – 1 mark <i>Pokok akhirnya mati</i></p> <p>Note : combination of a and b or b and c or a, b and c</p>	1	2
		1	
	TOTAL	7	7
6 (a) i.	<p>Able to state the type of transformer</p> <p>P: Step-up transformer <i>Transformer injak naik</i></p> <p>Q : Step-down transformer <i>Transformer injak turun</i></p>	1	2
ii.	<p>Able to state the difference in function between transformer P and Q</p> <p>Transformer P increases/ raises the voltage while transformer Q decreases/ lower the voltage <i>Transformer P meninggikan/menaikkan voltan manakala transformer merendahkan/ merendahkan voltan</i></p>	1	1

iii.	Able to state the type of current produced by power station P		
	Alternating current <i>Arus ulang alik</i>	1	1
iv.	Able to explain		
	To reduce wastage of (electrical) energy <i>Mengurangkan pembaziran tenaga (elektrik.)</i>	1	1
(b)			
i.	Able to give reason		
	(The industrial area S) will get continuous supply of energy <i>Kawasan industri S akan mendapat bekalan tenaga berterusan</i>		
ii.	Able to explain.	1	1
	If station P breaks down, the electrical power supply is taken over by other power station in the national grid network <i>Jika satu stesen rosak, bekalan kuasa elektrik diambil alih oleh stesen lain dalam rangkaian grid nasional</i>	1	1
(c)	Able to state what happen and explain		
	The main fuse melts <i>Fius utama lebur</i>	1	
	Electric supply is cut down <i>Bekalan elektrik terputus</i>	1	2
TOTAL		9	9

No	Mark Scheme	Mark	
7 a)	<p>Able to state one characteristic of flower based on the position of stamen</p> <p>P : Stamen inside the petal <i>Stamen berda di dalam ranggi</i></p> <p>Q : Stamen hang outside the petal <i>Stamen terjulur/ tergantung di luar ranggi</i></p> <p>R : Stamen inside the petal <i>Stamen berda di dalam ranggi</i></p> <p>S : Stamen hang outside the petal <i>Stamen terjulur/ tergantung di luar ranggi</i></p>	1 1 1 1	4
b)	<p>Able to classify and write the letter of flower based on the pollinating agent</p> <div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> Flower P,Q, R and S <i>Bunga P, Q, R dan S</i> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="border: 1px solid black; padding: 5px; width: 40%;"> Insect pollinated // Pollinated by insect <i>Pendebungaan oleh serangga</i> </div> <div style="border: 1px solid black; padding: 5px; width: 40%;"> Wind pollinated // Pollinated by wind <i>Pendebungaan oleh angin</i> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="border: 1px solid black; padding: 5px; width: 20%;">P, R</div> <div style="border: 1px solid black; padding: 5px; width: 20%;">Q, S</div> </div>	2 2	4
TOTAL		8	8

No	Mark scheme	Mark	Total
8			
(a) i	<p>Able to state the difference of air pressure</p> <p>Air pressure in diagram 8.1 is lower than air pressure in diagram 8.2 // air pressure at temperature 28°C is lower than air pressure at temperature 40°C. Or vice versa</p> <p><i>Tekanan udara pada rajah 8.1 lebih rendah daripada tekanan udara pada rajah 8.2 // tekanan udara pada suhu 28°C lebih rendah daripada tekanan udara pada suhu 40°C.</i></p> <p>Atau sebaliknya</p>	1	1
ii.	<p>Able to state inference</p> <p>Sample answer</p> <p>Air pressure depends on the temperature of the surrounding <i>Tekanan udara bergantung kepada suhu persekitaran</i></p> <p>If the temperature is higher, the air pressure is higher <i>Jika suhu tinggi, maka tekanan udara juga tinggi</i></p> <p>Air pressure is higher if / because the temperature is higher <i>Tekanan udara semakin tinggi jika/ kerana suhu semakin tinggi</i></p>	1	1
iii.	<p>Able to state the hypothesis</p> <p>The higher the temperature, the higher the air pressure <i>Semakin tinggi suhu, semakin tinggi tekanan udara</i></p>	1	1
(b) i	<p>Able to record the reading</p> <p>40 $^{\circ}\text{C}$ - 107 60 $^{\circ}\text{C}$ - 114 80 $^{\circ}\text{C}$ - 121</p> <p>Note : 3 readings correct – 2 marks 2 readings correct – 1 marks</p>		2

(c) Able to draw a graph of temperature against air pressure.



Note : All points correct – award 1 mark
Smooth and correct graph – 1 mark

(d)	Able to state variables		
	Manipulated variables : Temperature value <i>Nilai suhu</i>	1	2
	Responding variable : Reading of pressure gauge/ Air pressure value <i>Bacaan tolok tekanan/ nilai tekanan udara</i>	1	
(e)	Able to predict the air pressure 117.5 kPa Note : must show on the graph	1	1
(f)	Able to state the relationship between temperature and air pressure Sample answer The higher the temperature, the higher the air pressure <i>Semakin tinggi suhu, semakin tinggi tekanan udara</i>	1	1
(g)	Able to define operationally Air pressure is shown by the reading of pressure gauge <i>Tekanan udara ditunjukkan oleh bacaan tolok tekanan</i>	1	1
	TOTAL	12	12