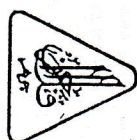


INFORMATION FOR CANDIDATES
MAKLUMAT UNTUK CALON



1. This question paper consists of 40 questions.
Kertas ini mengandungi 40 soalan.

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

3. Answer each question by blackening the correct space on the answer sheet.
Jawab dengan menghitamkan ruangan yang betul pada kertas jawapan.

4. Blacken only one space for each question.
Hitamkan satu ruangan sahaja bagi setiap soalan.

5. If you wish to change your answer, erase the blackened mark that you have made.
Then blacken the space for your new answer.
*Sekiranya anda hendak menukarkan jawapan, padamkan tanda yang telah dibuat.
Kemudian hitamkan jawapan yang baru.*

6. The diagrams in the questions provided are not drawn to scale unless stated.
Rajah yang mengiringi soalan tidak dilukis mengikut skala kecuali dinyatakan.

7. You may use a **non-programmable** scientific calculator.
Anda dibenarkan menggunakan kalkulator saintifik yang tidak boleh diprogramkan.

55/1

Sains
Kertas 1Ogos
2010
1 jam

JABATAN PELAJARAN NEGERI JOHOR

PEPERIKSAAN PERCUBAAN

PENILAIAN MENENGAH RENDAH 2010

SAINS

Kertas 1

Satu jam

JANGAN BUKA KERTAS SOALAN INI SEHINGGA DIBERITAHU

1. Kertas ini adalah dalam dwibahasa

2. Calon dikehendaki membaca maklumat di halaman 36.

3. Rajah yang mengiringi soalan dimaksudkan untuk memberi maklumat yang berguna bagi menjawab soalan. Rajah tidak semestinya dilukis mengikut skala

Kertas soalan ini mengandungi 36 halaman bercetak.

- 3 Diagram 3 shows arrangement of particles in gas and liquid state.
Rajah 3 menunjukkan susunan zarah-zarah dalam keadaan gas dan cecair.

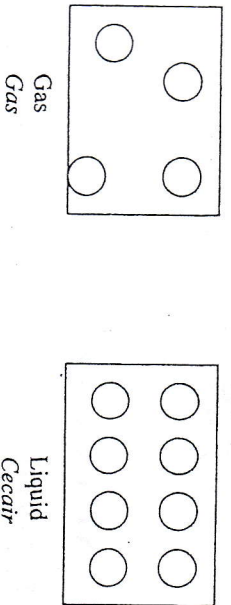


Diagram 3
Rajah 3

Gas particles can diffuse at a faster rate than the liquid particles.
 Which of the following does not explain the statement above?

*Zarah-zarah gas boleh meresap lebih cepat berbanding zarah-zarah cecair.
 Manakah antara yang berikut tidak menerangkan pernyataan di atas?*

- A The gas particles can move faster.
Zarah-zarah gas boleh bergerak lebih laju.
- B The gas particles are in smaller size.
Zarah-zarah gas bersaiz lebih kecil.
- C The space between the gas particles are larger.
Ruang di antara zarah-zarah gas adalah lebih besar.
- D The gas particles have more kinetic energy than liquid particles.
Zarah-zarah gas mempunyai lebih tenaga kinetik berbanding zarah-zarah cecair.

- 4 Which of the following is not a mixture?
Manakah antara berikut bukan campuran?

- A Air
Udara
- B Soil
Tanah
- C Sand
Pasir
- D Coffee
Kopi

- 5 Diagram 4 shows an electrical bulb which is filled with gas Z.
Rajah 4 menunjukkan mentol elektrik yang diisi dengan gas Z.

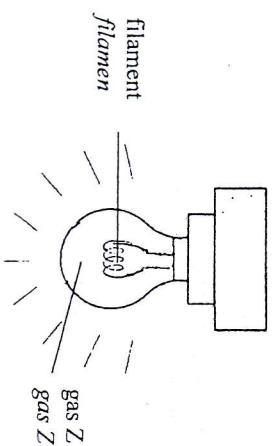


Diagram 4
Rajah 4

Which of the following gases are not gas Z?
Manakah antara yang berikut bukan gas Z?

- I Argon
Argon
- II Oxygen
Oksigen
- III Carbon dioxide
Karbon dioksida

- A 1 and II only
I dan II sahaja
- B 1 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

The information below shows two situations.
Maklumat di bawah menunjukkan dua situasi.

A book on a rack.
Buku di atas rak.
A stretched spring.
Spring yang diregangkan.

What type of energy do the objects in the situations above have?
Apakah jenis tenaga yang dimiliki oleh objek-objek dalam situasi di atas?

- A Heat energy
Tenaga haba
- B Kinetic energy
Tenaga kinetik
- C Electrical energy
Tenaga elektrik
- D Potential energy
Tenaga keupayaan

7 Diagram 5 shows an experiment to study the effect of the inner layer of a cup on the temperature of water. The initial temperature of water in both cups is 80 °C.
Rajah 5 menunjukkan satu eksperimen untuk mengkaji kesan lapisan dalam cawan ke atas suhu air. Suhu awal air dalam kedua-dua cawan adalah 80 °C.

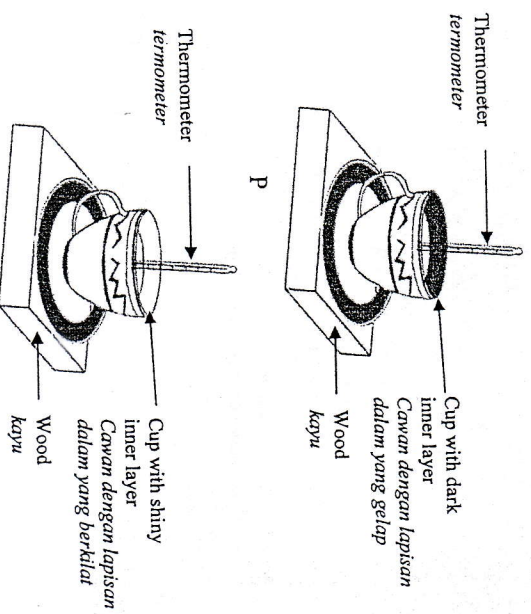


Diagram 5
Rajah 5

After 10 minutes, what is the temperature in cups P and Q?
Selepas 10 minit, berapakah bacaan suhu pada cawan P dan Q?

| | P | Q |
|---|-------|-------|
| A | 70 °C | 75 °C |
| B | 75 °C | 70 °C |
| C | 75 °C | 75 °C |
| D | 90 °C | 85 °C |

- 8 Diagram 6 shows human tongue.
Rajah 6 menunjukkan lidah manusia.

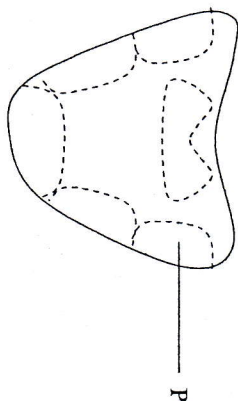


Diagram 6
Rajah 6

Part labelled P is sensitive towards
Bahagian berlabel P adalah sensitif terhadap

- A sour
masam
B salty
masin
C sweet
manis
D bitter
pahit

- 9 Benedict's test is carried out on food K.
What can be observed to show the presence of glucose in K?

Ujian Benedict dijalankan ke atas makanan K.
Apakah pemerhatian yang menunjukkan kehadiran glukosa dalam makanan K?

- A White precipitate.
Mendakan putih.
B Dark red precipitate.
Mendakan merah gelap.
C Brick red precipitate.
Mendakan merah bata.
D Blue-black precipitate.
Mendakan biru gelap.

- 10 Diagram 7 shows tests for certain classes of food.
Rajah 7 menunjukkan ujian bagi kelas-kelas makanan tertentu.

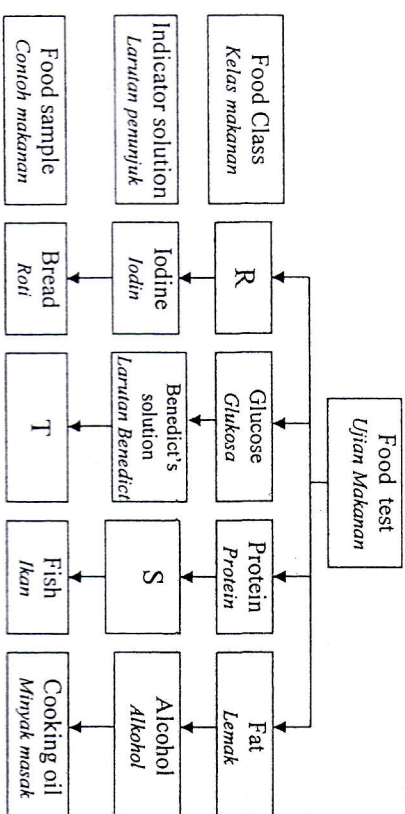


Diagram 7
Rajah 7

Give suitable examples for R, S and T.
Berikan contoh yang sesuai bagi R, S dan T.

| | R | S | T |
|---|---------------------------|--|----------------------|
| A | Starch <i>Kanji</i> | Millon's reagent <i>Reagen Millon</i> | Sugar <i>Gula</i> |
| B | Starch <i>Kanji</i> | Iodine <i>Iodin</i> | Bread <i>Roti</i> |
| C | Glucose <i>Glukosa</i> | Benedict's Solution <i>Larutan Benedict</i> | Sugar <i>Gula</i> |
| D | Protein <i>Protein</i> | Millon's reagent <i>Reagen Millon</i> | Fish <i>Ikan</i> |

Diagram 8 shows a maize plant.
Rajah 8 menunjukkan pokok jagung.

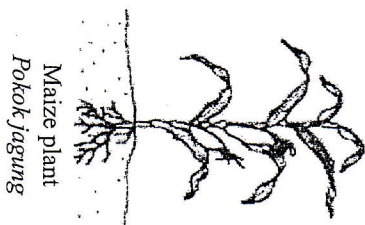


Diagram 8
Rajah 8

What characteristic can be found on the plant?
Apakah ciri yang boleh didapati pada pokok tersebut?

- A Leaves with parallel veins.
Daun berurat selari.
- B Leaves with network veins.
Daun berurat jejala.
- C A woody-stem plants.
Pokok batang berkayu.
- D Has tap root.
Mempunyai akar tunjang.

Diagram 9 shows a type of interaction between two organisms.
Rajah 9 menunjukkan sejenis interaksi antara dua organisma.

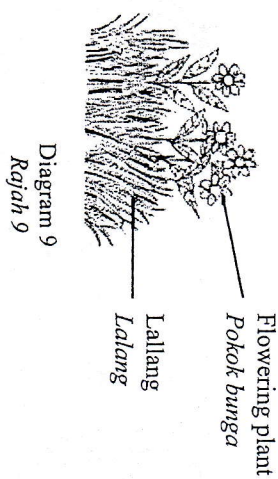


Diagram 9
Rajah 9

State the type of interaction involved.
Nyatakan jenis interaksi yang terlibat.

- A Prey-predator
Mangsa-pemangsa
- B Competition
Persaingan
- C Parasitism
Parasitisme
- D Mutualism
Mutualisme

- 15 Diagram 12 shows an experiment to determine the composition of water by electrolysis process.
Rajah 12 menunjukkan satu eksperimen untuk menentukan komposisi air melalui proses elektrolisis.

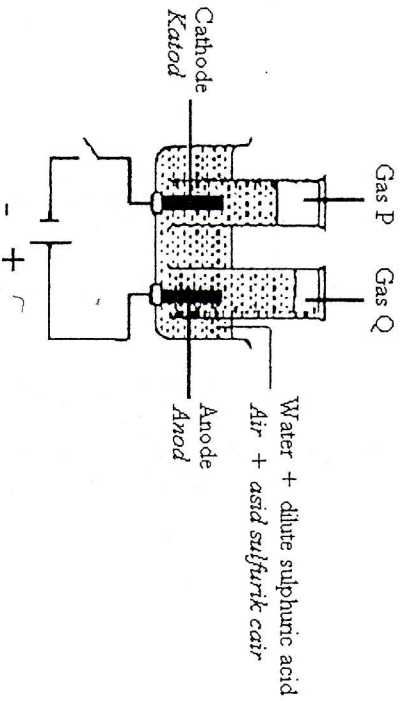


Diagram 12
Rajah 12

What are gas P and Q?
Apakah gas P dan Q?

| | Gas P | Gas Q |
|---|-----------------------------|-----------------------------|
| A | Oxygen <i>Oksigen</i> | Hydrogen <i>Hidrogen</i> |
| B | Hydrogen <i>Hidrogen</i> | Oxygen <i>Oksigen</i> |
| C | Oxygen <i>Oksigen</i> | Oxygen <i>Oksigen</i> |
| D | Hydrogen <i>Hidrogen</i> | Hydrogen <i>Hidrogen</i> |

- 16 Diagram 13 shows an activity that investigates air pressure.
Rajah 13 menunjukkan satu aktiviti yang mengkaji tekanan udara.

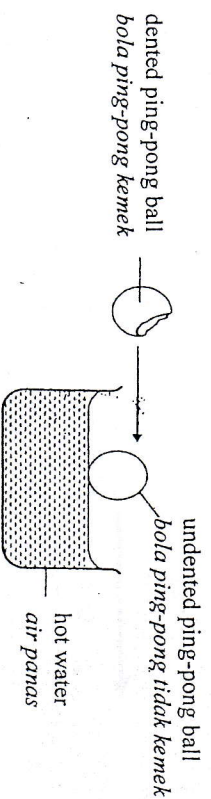


Diagram 13
Rajah 13

Which of the following explanations is true about the air particles in the ping-pong ball?

Antara penerangan berikut, yang manakah benar mengenai zarah-zarah udara dalam bola ping-pong itu?

- A Air particles in the ping-pong ball expand.
Zarah-zarah udara dalam bola ping-pong itu mengembang.
- B Mass of the air particles in the ping-pong ball increases.
Jisim zarah-zarah udara dalam bola ping-pong itu bertambah.
- C Air particles in the ping-pong ball exert greater pressure.
Zarah-zarah udara dalam bola ping-pong mengenakan tekanan yang lebih tinggi.
- D Kinetic energy of the air particles in the ping-pong ball decreases.
Tenaga kinetik zarah-zarah udara dalam bola ping-pong itu berkurang.

- 17 Diagram 14 shows a brick which is being pulled to the left.
Rajah 14 menunjukkan sebuah batu-bata yang ditarik ke kiri.

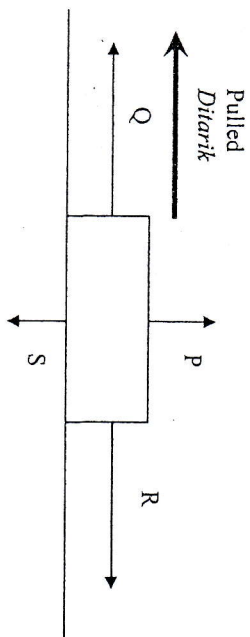


Diagram 14
Rajah 14

Which of the following is the direction of the frictional force that acts on the brick?
 Yang manakah di antara berikut menunjukkan arah daya geseran yang bertindak ke atas batu bata tersebut?

- A P
 B Q
 C R
 D S

- 18 Diagram 15 shows a boy with a body mass of 50 kg climbing up a monkey bar.
Rajah 15 menunjukkan seorang budak lelaki yang mempunyai jisim 50 kg sedang memanjat palang besi.

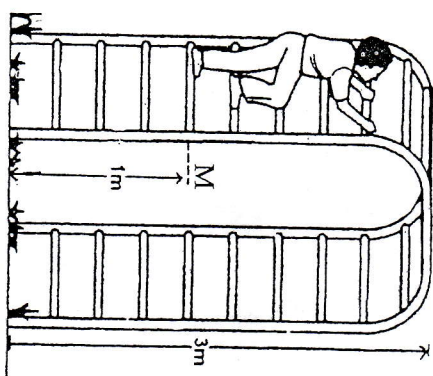


Diagram 15
Rajah 15

Calculate the power of the student if he climbs up to the top of the monkey bar in 5 seconds from position M.

Kirakan kuasa budak lelaki itu jika ia dapat memanjat ke bahagian atas palang besi itu dari kedudukan M dalam masa 5 saat.

- A 20 W
 B 100 W
 C 200 W
 D 300 W

- 21 Diagram 17 shows a wooden stool.
Rajah 17 menunjukkan sebuah bangku kayu.

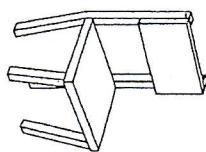


Diagram 17
Rajah 17

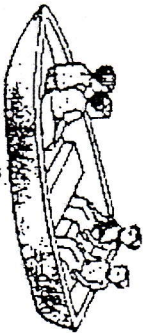
It is unstable because
Ia tidak stabil kerana

- A it has a lower centre of gravity.
pusat gravitinya rendah.
- B it has a small base area.
luas tapaknya kecil.
- C it is made of wood.
diperbuat daripada kayu.
- D it is light.
kernsi itu ringan.

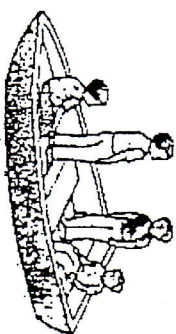
- 22 The following diagrams show a boat with four passengers. Which boat is the most stable?
Rajah berikut menunjukkan sampan dengan empat orang penumpang. Sampan manakah yang paling stabil?



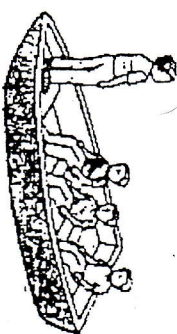
B



C



D



- 23 Diagram 18 shows a bar with a load.
Rajah 18 menunjukkan sebatang kayu dengan beban.

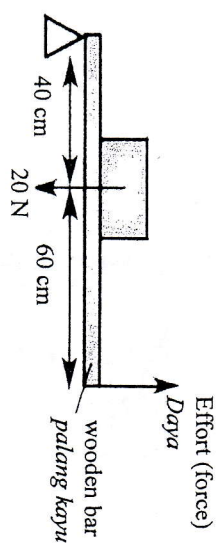


Diagram 18
Rajah 18

Calculate the effort needed to keep the bar in equilibrium.
Kira daya yang diperlukan supaya batang kayu itu berada dalam keadaan seimbang.

- A 8.0 N
- B 12.0 N
- C 13.3 N
- D 20.0 N

- 19 Diagram 16 shows a plant with a special structure S.
Rajah 16 menunjukkan tumbuhan dengan satu struktur khas S.

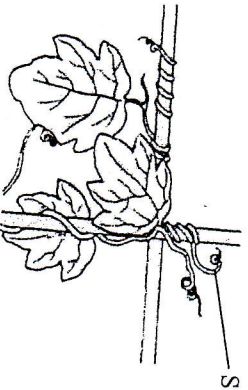


Diagram 16
Rajah 16

Which of the following represents S?
Antara berikut, yang manakah mewakili S?

- A Buttress root
Akar banir
- B Clasping root
Akar cengkam
- C Tendril
Sulur paut
- D Thorn
Duri

- 20 The following information shows the characteristics of an organism.
Maklumat berikut menunjukkan ciri-ciri satu organisma.

- Invertebrate organism
Organisma invertebrata
- Hydrostatic skeleton
Rangka hidrostatik
- Aquatic organism
Organisma akuatik

Which of the following organisms has these characteristics?
Antara organisma-organisma berikut, yang manakah mempunyai ciri-ciri tersebut?

- A Sea cucumber
Gamati laut
- B Earthworm
Cacing tanah
- C Caterpillar
Beluncas
- D Crab
Ketam

- 24 Diagram 19 shows the human respiratory system. *Rajah 19 menunjukkan sistem respirasi manusia.*

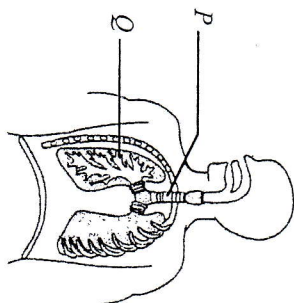


Diagram 19
Rajah 19

What are the parts labelled P and Q?
Apakah bahagian-bahagian yang berlabel P dan Q?

| | P | Q |
|---|-------------------------------|-------------------------------|
| A | Bronchiole <i>Bronkiol</i> | Alveolus <i>Alveolus</i> |
| B | Trachea <i>Trakea</i> | Bronchiole <i>Bronkiol</i> |
| C | Trachea <i>Trakea</i> | Bronchus <i>Bronkus</i> |
| D | Bronchus <i>Bronkus</i> | Trachea <i>Trakea</i> |

- 25 The information given below shows how the transportation of oxygen takes place in our body. *Maklumat yang diberi di bawah menunjukkan bagaimana pengangkutan oksigen berlaku di dalam badan kita.*

| |
|--|
| P : Oxygen diffuses into the capillaries. <i>Oxygen meresap ke dalam kapilari.</i> |
| Q : The heart pumps the blood to the lungs. <i>Jantung mengepam darah ke paru.</i> |
| R : Oxygenated blood is then sent to all cells in the body through aorta. <i>Darah beroksigen kemudian dihantar ke sel-sel badan menerusi aorta.</i> |
| S : Haemoglobin combines with oxygen to form oxyhaemoglobin and returns to the heart. <i>Hemoglobin bergabung dengan oksigen untuk membentuk oksihemoglobin dan kembali ke jantung.</i> |

Which of the following is the correct sequence for transporting oxygen from the heart to the body cells?
Antara berikut, yang manakah menunjukkan urutan yang betul tentang pengangkutan oksigen dari jantung ke sel-sel badan?

- A P, Q, S, R
B P, Q, R, S
C Q, P, S, R
D Q, P, R, S

- 24 Diagram 19 shows the human respiratory system. *Rajah 19 menunjukkan sistem respirasi manusia.*

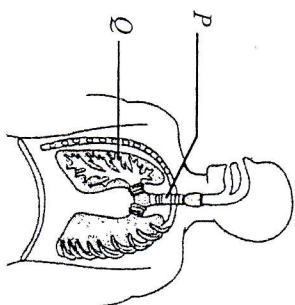


Diagram 19
Rajah 19

What are the parts labelled P and Q?
Apakah bahagian-bahagian yang berlabel P dan Q?

| | P | Q |
|---|-------------------------------|-------------------------------|
| A | Bronchiole <i>Bronkiol</i> | Alveolus <i>Alveolus</i> |
| B | Trachea <i>Trakea</i> | Bronchiole <i>Bronkiol</i> |
| C | Trachea <i>Trakea</i> | Bronchus <i>Bronkus</i> |
| D | Bronchus <i>Bronkus</i> | Trachea <i>Trakea</i> |

- 25 The information given below shows how the transportation of oxygen takes place in our body. *Maklumat yang diberi di bawah menunjukkan bagaimana pengangkutan oksigen berlaku di dalam badan kita.*

| |
|--|
| P : Oxygen diffuses into the capillaries. <i>Oxygen meresap ke dalam kapilari.</i> |
| Q : The heart pumps the blood to the lungs. <i>Jantung mengepam darah ke paru.</i> |
| R : Oxygenated blood is then sent to all cells in the body through aorta. <i>Darah beroksigen kemudian dihantar ke sel-sel badan menerusi aorta.</i> |
| S : Haemoglobin combines with oxygen to form oxyhaemoglobin and returns to the heart. <i>Hemoglobin bergabung dengan oksigen untuk membentuk oksihemoglobin dan kembali ke jantung.</i> |

Which of the following is the correct sequence for transporting oxygen from the heart to the body cells?
Antara berikut, yang manakah menunjukkan urutan yang betul tentang pengangkutan oksigen dari jantung ke sel-sel badan?

- A P, Q, S, R
B P, Q, R, S
C Q, P, S, R
D Q, P, R, S

- 26 Diagram 20 shows the condition of a stem.
Rajah 20 menunjukkan satu keadaan pada batang pokok.

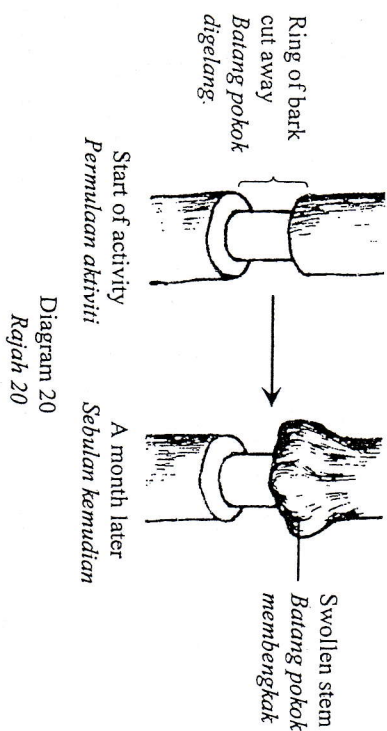


Diagram 20
Rajah 20

Which of the following explains the condition above?
Antara berikut, yang manakah menerangkan keadaan di atas?

- A The plant could not produce food.
Pokok tidak dapat menghasilkan makanan.
- B Food could not be transported to the root.
Makanan tidak dapat dihantar ke akar.
- C Water could not be transported to the roots.
Air tidak dapat diangkut ke akar.
- D Mineral salts could not be transported upwards.
Garam mineral tidak boleh dihantar ke atas.

- 27 During an accident, a few students were badly injured and need blood transfusion immediately. Which blood group can be received by all the students?
Dalam satu kemalangan, beberapa orang pelajar cedera teruk dan memerlukan penindahan darah dengan segera. Kumpulan darah yang manakah boleh diterima oleh semua pelajar tersebut?

- A A
- B B
- C O
- D AB

- 28 Which of the following processes remove carbon dioxide from the plants?
Antara proses berikut, yang manakah menyingkirkan karbon dioksida daripada tumbuhan?

- A Respiration
Respirasi
- B Germination
Percambahan
- C Transpiration
Transpirasi
- D Photosynthesis
Fotosintesis

- 29 The information below shows four stages of a menstrual cycle.
Pernyataan di bawah menunjukkan empat peringkat dalam kitaran haid.

- I. The ovulation process occurs.
Proses ovulasi berlaku.
- II. The uterus wall starts to thicken.
Dinding uterus mula menebal.
- III. The process of menstruation takes place.
Proses menstruasi berlaku.
- IV. The uterus wall continues to thicken to prepare for implantation.
Dinding uterus terus menebal sebagai persediaan untuk penempelan.

Which of the following shows the correct sequence of the menstrual cycle?
Antara berikut, yang manakah menunjukkan urutan yang betul dalam kitaran haid tersebut?

- A II → IV → I → III
- B III → II → I → IV
- C I → II → III → IV
- D II → IV → III → I

- 30 Diagram 21 shows two mature flowers on two different trees.
Rajah 21 menunjukkan dua kuntum bunga yang telah matang pada pokok-pokok yang berlainan.

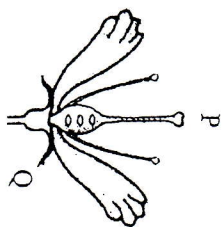
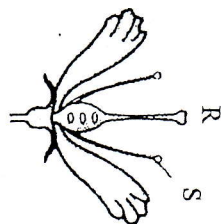


Diagram 21
Rajah 21



Which of the following shows the transfer of pollen grains brought by bees during cross-pollination?

Antara berikut yang manakah menunjukkan pemindahan butir debunga yang dibawa oleh lebah semasa pendebungaan kacuk?

- A S → R
- B R → S
- C S → P
- D R → P

- 31 Diagram 22 shows the human growth curve.
Rajah 22 menunjukkan graf lengkok pertumbuhan manusia.

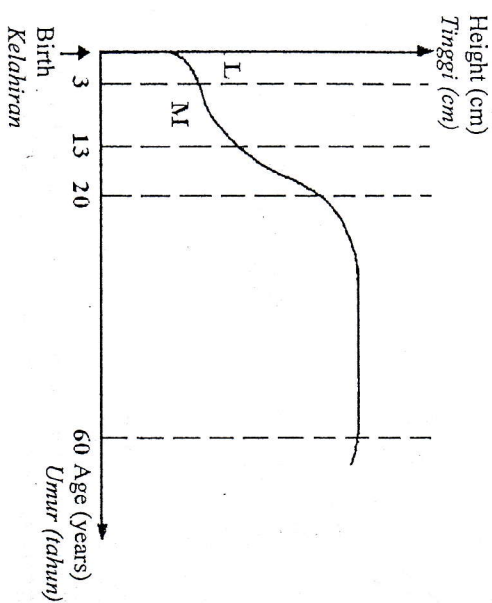


Diagram 22
Rajah 22

Choose the correct growth rate at parts L and M.
Pilih kadar pertumbuhan yang betul pada bahagian L dan M.

| | L | M |
|---|---|---|
| A | Minimal growth <i>Pertumbuhan minima</i> | Negative growth <i>Pertumbuhan negatif</i> |
| B | Slow growth <i>Pertumbuhan perlahan</i> | Minimal growth <i>Pertumbuhan minima</i> |
| C | Rapid growth <i>Pertumbuhan pesat</i> | Slow growth <i>Pertumbuhan perlahan</i> |
| D | Negative growth <i>Pertumbuhan negatif</i> | Rapid growth <i>Pertumbuhan pesat</i> |

- 32 Diagram 23 shows an experiment to study the effect of heat on lead sulphide. *Rajah 23 menunjukkan satu eksperimen untuk mengkaji kesan haba ke atas plumbum sulfida.*

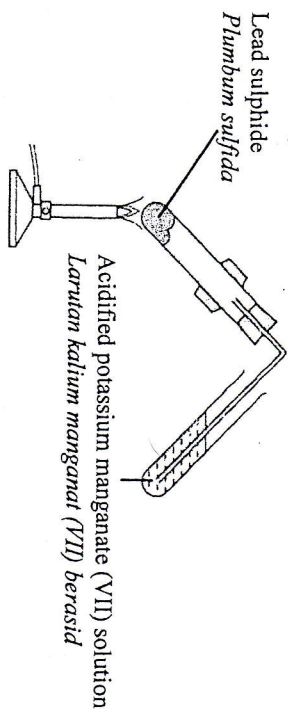


Diagram 23
Rajah 23

Which of the following word equations represents the reaction that takes place?
Antara berikut, persamaan perkataan yang manakah mewakili tindakbalas tersebut?

- A Lead sulphide $\xrightarrow{\text{heated}}$ Lead + sulphur
Plumbum sulfida $\xrightarrow{\text{dipanaskan}}$ Plumbum + sulfur
- B Lead sulphide $\xrightarrow{\text{heated}}$ Lead oxide + sulphur
Plumbum sulfida $\xrightarrow{\text{dipanaskan}}$ Plumbum oksida + sulfur
- C Lead sulphide $\xrightarrow{\text{heated}}$ Lead + sulphur dioxide
Plumbum sulfida $\xrightarrow{\text{dipanaskan}}$ Plumbum + sulfur dioksida
- D Lead sulphide $\xrightarrow{\text{heated}}$ Lead oxide + sulphur dioxide
Plumbum sulfida $\xrightarrow{\text{dipanaskan}}$ Plumbum oksida + sulfur dioksida

- 33 Diagram 24 shows a petroleum distillation tower. *Rajah 24 menunjukkan menara penyulingan petroleum.*

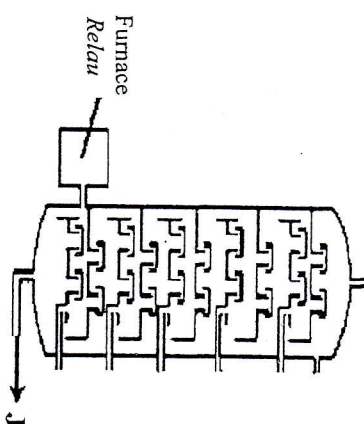


Diagram 24
Rajah 24

Which of the following is a characteristic of J?
Antara berikut, yang manakah merupakan ciri J?

- A Produces a lot of soot when burnt.
Menghasilkan banyak jelaga apabila dibakar.
- B Burns with blue flame.
Terbakar dengan nyalaan biru.
- C Light yellow in colour.
Berwarna kuning muda.
- D Very viscous.
Sangat likat.

- 34 Diagram 25 shows an experiment to study the reaction between calcium carbonate and dilute nitric acid.
Rajah 25 menunjukkan satu eksperimen untuk mengkaji tindakbalas antara kalsium karbonat dengan asid nitrik cair.

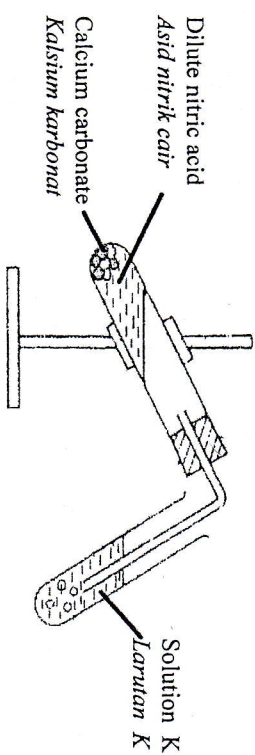


Diagram 25
Rajah 25

After a few minutes, solution K turns chalky.
 Name solution K.
Selepas beberapa minit, larutan K menjadi keruh.
 Namakan larutan K.

- A Potassium manganate(VII) solution.
Larutan kalium manganat(VII).
- B Sodium hydroxide solution.
Larutan sodium hidroksida.
- C Calcium sulphate solution.
Larutan kalsium sulfat.
- D Lime water.
Air kapur.

- 35 Diagram 26 shows an electric circuit.
Rajah 26 menunjukkan satu litar elektrik.

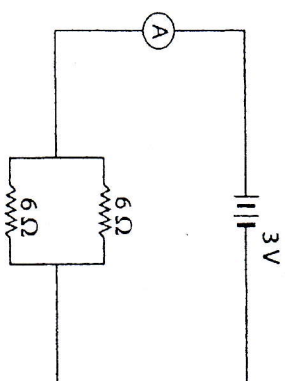


Diagram 26
Rajah 26

What is the reading of the ammeter?
Apakah bacaan pada ammeter tersebut?

- A 0.25A
- B 1.0A
- C 4.0A
- D 9.0A

- 36 Diagram 27 shows an electric circuit.
Rajah 27 menunjukkan satu litar elektrik.

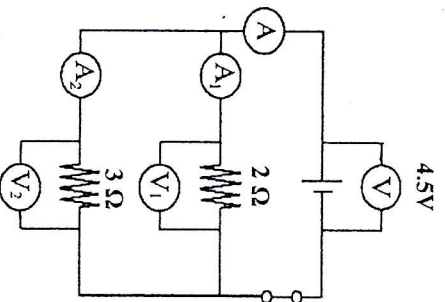


Diagram 27
Rajah 27

If the voltage supplied is 4.5V, calculate the current at A.
Jika voltan yang dibekalkan ialah 4.5V, kira arus di A.

- A 0.27A
- B 0.90A
- C 3.75A
- D 5.42A

- 37 Diagram 28 shows a simple transformer.
Rajah 28 menunjukkan transformer ringkas.

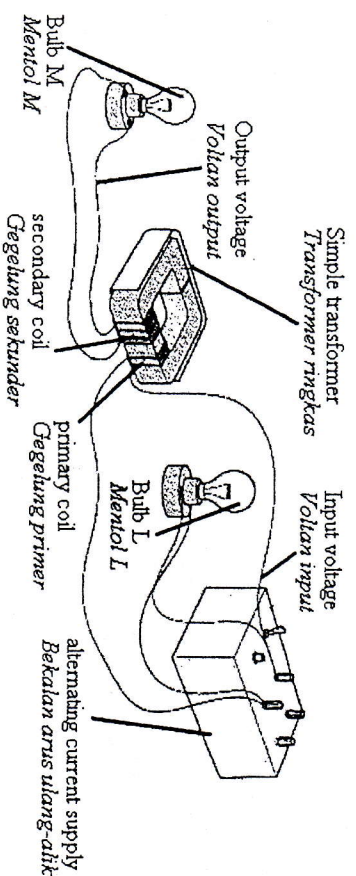


Diagram 28
Rajah 28

Based on the diagram, predict the brightness of bulb L and M.
Berdasarkan rajah, ramalkan kecerahan mentol L dan M.

- A L is brighter than M.
L lebih terang daripada M.
- B M is brighter than L.
M lebih terang daripada L.
- C L and M at the same brightness.
L dan M sama terang.
- D L and M do not light up.
L dan M tidak menyala.

- 38 Calculate the value of current and the most suitable fuse for a washing machine marked 2800W, 240V.
Kirakan nilai arus dan fuis yang paling sesuai digunakan oleh mesin basuh yang dilabel 2800W, 240V.

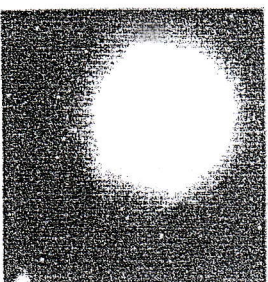
| | Current (A) <i>Arus (A)</i> | Fuse (A) <i>Fius (A)</i> |
|---|--------------------------------|-----------------------------|
| A | 11.7 | 13 |
| B | 11.7 | 10 |
| C | 0.09 | 3 |
| D | 0.09 | 1 |

- 39 Which of the following is a spiral galaxy?
Antara berikut yang manakah galaksi pilin?

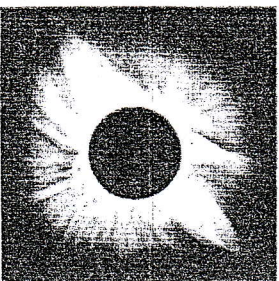
A



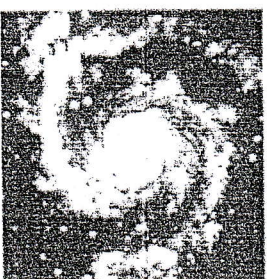
C



B



D



- 40 The following information shows the benefit of a space technology.
Maklumat berikut menunjukkan manfaat daripada satu teknologi angkasa lepas.

- Collects information about objects in space.
Mengumpulkan maklumat tentang objek di angkasa lepas.
- Collects photographs.
Mengumpul gambar foto.
- Studies the structure and texture on the Moon's surface.
Mengkaji struktur dan tekstur permukaan Bulan.

Which is the space technology mentioned above ?
 Apakah teknologi angkasa lepas yang dinyatakan di atas ?

- A Rocket
Roket
 B Satellite
Satelit
 C Telescope
Teleskop
 D Space probe
Prob angkasa

END OF QUESTION PAPER
 KERTAS SOALAN TAMAT

INFORMATION FOR CANDIDATES
MAKLUMAT UNTUK CALON

This question paper consists of two sections: Section A and Section B.
Kertas sodan ini mengandungi dua bahagian: Bahagian A dan Bahagian B.

Answer all questions in both section.
Jawab semua soalan dalam kedua-dua bahagian

Write your answers in the spaces provided in the question paper.
Tulis jawapan anda pada ruang yang disediakan dalam kertas sodan.

If you wish to change your answer, cross out the answer that you have done. Then write down the new answer.
Jika anda hendak menukar jawapan, batalkan jawapan yang telah dibuat. Kemudian tulis jawapan yang baru.

The diagrams in the questions provided are not drawn to scale unless stated.
Rajah yang mengiringi sodan tidak dilukis mengikut skala kecuali dinyatakan.

Marks allocated for each question or part question are shown in brackets.
Markah yang diperuntukkan bagi setiap soalan atau ceraihan soalan ditunjukkan dalam kurungan.

You may use a non-programmable scientific calculator.
Anda dibenarkan menggunakan kalkulator saintifik yang tidak boleh diprogram.

Hand in this question paper to the invigilator at the end of the examination.
Serahkan kertas sodan ini kepada pengawas peperiksaan pada akhir peperiksaan.

Section A
Bahagian A

[40 marks]
[40 markah]

Answer all questions.
Jawab semua soalan.

The time suggested to answer this section is 60 minutes.
Masa yang dicadangkan untuk menjawab bahagian ini ialah 60 minit.

1 Diagram 1.1 shows the types of apparatus M, N, and O used for measuring.
Rajah 1.1 menunjukkan radas M, N, dan O yang digunakan untuk mengukur.

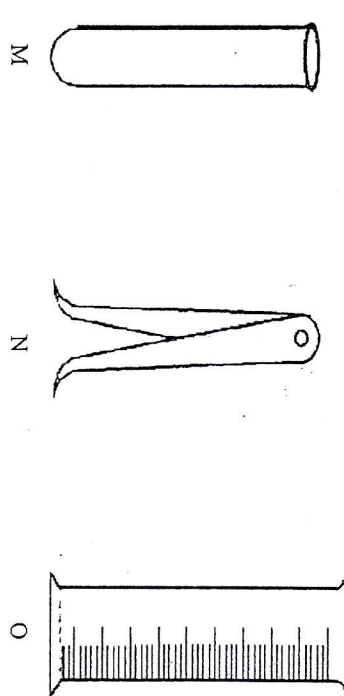


Diagram 1.1
Rajah 1.1

(a) State the names of the apparatus above using the following words in the space provided.
Nyatakan nama radas di atas dengan menggunakan perkataan yang diberi pada ruang yang disediakan.

| | | | |
|--------------------------|---------------------|--------------------|-------------------|
| measuring cylinder | internal calipers | external calipers | test tube |
| <i>silinder penyukat</i> | <i>angkup dalam</i> | <i>angkup luar</i> | <i>tabung uji</i> |

[3 marks]
[3 markah]

1(a)

| |
|---|
| 3 |
|---|

For Examiner's Use
Untuk kegunaan pemeriksa

For
Examiner's
Use

- (b) Diagram 1.2 shows a copper wire.
Rajah 1.2 menunjukkan wayar kuprum.

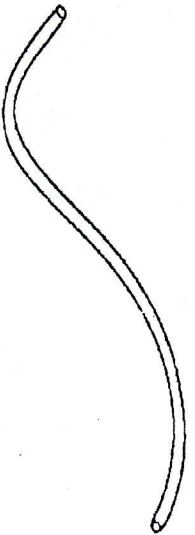


Diagram 1.2
Rajah 1.2

Based on the diagram, arrange the steps taken to measure the length of the copper wire in the boxes given.

Berdasarkan rajah di atas, susunkan langkah-langkah yang diambil untuk mengukur panjang wayar kuprum tersebut dalam kotak yang disediakan.

- (i) Place the thread along the outline of the copper wire and mark its length.
Letakkan benang di sepanjang wayar kuprum dan tandakan panjangnya. ☐
- (ii) Measuring needs to be repeated to get a more accurate average length.
Ukuran perlu diulang agar purata panjangnya lebih tepat. ☐
- (iii) A thread and a ruler is needed.
Seutas benang dan sebatang pembaris diperlukan. ☐
- (iv) Straighten the thread along the side of the ruler to measure its length.
Luruskan benang di sepanjang pembaris untuk mengukur panjang benang. ☐

[3 marks]
[3 markah]

1(b)

| |
|---|
| 3 |
|---|

Total
AI

| |
|---|
| 6 |
|---|

- 2 (a) Diagram 2.1 shows a model of a water molecule which consists of two types of atoms, P and Q.
Rajah 2.1 menunjukkan model bagi molekul air yang mengandungi dua jenis atom, P dan Q.

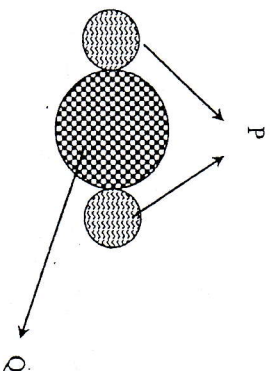


Diagram 2.1
Rajah 2.1

- (i) Name atom P.
Namakan atom P.

.....

[1 mark]
[1 markah]

- (ii) Mark (✓) in the box which state the correct characteristic of water.
Tandakan (✓) di dalam petak yang menyatakan ciri air yang betul.

| | |
|--------------------------|-------------------------------|
| <input type="checkbox"/> | Exist in two states of matter |
| <input type="checkbox"/> | Colourless |

[1 mark]
[1 markah]

2(a)(ii)

| |
|---|
| 1 |
|---|

For
Examiner's
Use

Untuk
kegunaan
pemeriksa

2(a)(i)

| |
|---|
| 1 |
|---|

- (b) Diagram 2.2 shows the apparatus that is used to study the composition of water.
Rajah 2.2 menunjukkan radas yang digunakan untuk mengkaji komposisi air.

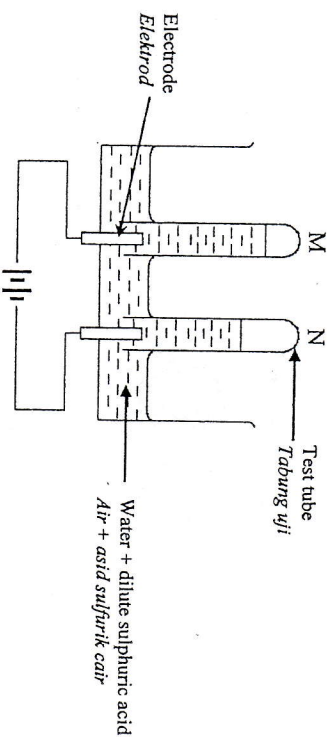
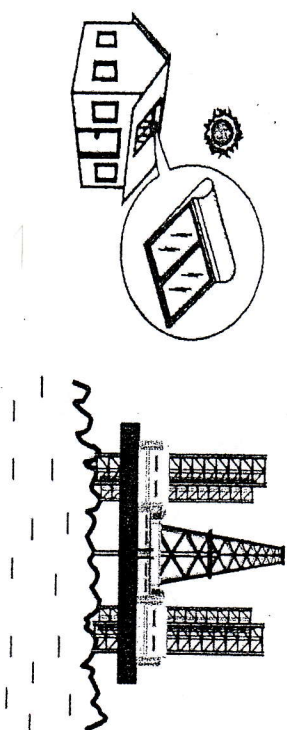


Diagram 2.2
Rajah 2.2

- (i) Name the method used.
Namakan kaedah yang digunakan.
- [1 mark]
- (ii) Name the gas released in test tube N.
Namakan gas yang terbebas di dalam tabung uji N.
- [1 mark]
- (iii) How to test the gas that you have mentioned in (b)(ii)?
Bagaimanakah menguji gas yang anda nyatakan di dalam (b)(ii)?
- [1 mark]
- (iv) State the ratio of gases in test tube M to test tube N.
Nyatakan nisbah gas di dalam tabung uji M kepada tabung uji N.
- [1 mark]
- [1 mark]

- 3 (a) Diagram 3.1 shows sources of energy.
Rajah 3.1 menunjukkan sumber-sumber tenaga.



Source R
Sumber R

Source T
Sumber T

Diagram 3.1
Rajah 3.1

- (a) Name the sources of energy in the spaces provided in Diagram 3.1.
Namakan sumber-sumber tenaga dalam ruangan yang diberi dalam Rajah 3.1.

[2 marks]
[2 markah]

- (b) Draw lines to match source R and T to the types of energy.
Lukis garisan untuk memadankan sumber R dan T kepada jenis tenaganya.

| Source Sumber | Type of energy Jenis tenaga |
|----------------------|--|
| Source R Sumber R | Renewable energy Tenaga yang boleh diperbaharui |
| Source T Sumber T | Non-renewable energy Tenaga yang tidak boleh diperbaharui |

[2 marks]
[2 markah]

3(b)

2

For
Examiner's
Use

3(c) *Untuk
kegunaan
pemeriksa*

1

3(d) *Untuk
kegunaan
pemeriksa*

1

Total
A3
6

- (c) State **one** advantage of source R in Diagram 3.1.
Nyatakan satu kelebihan sumber R dalam Rajah 3.1.

[1 mark]
[1 markah]

- (d) State **one** way to save electrical energy.
Nyatakan satu cara untuk menjimatkan tenaga elektrik

[1 mark]
[1 markah]

4. Diagram 4.1 shows an electrical energy generator.
Rajah 4.1 menunjukkan satu penjana tenaga elektrik

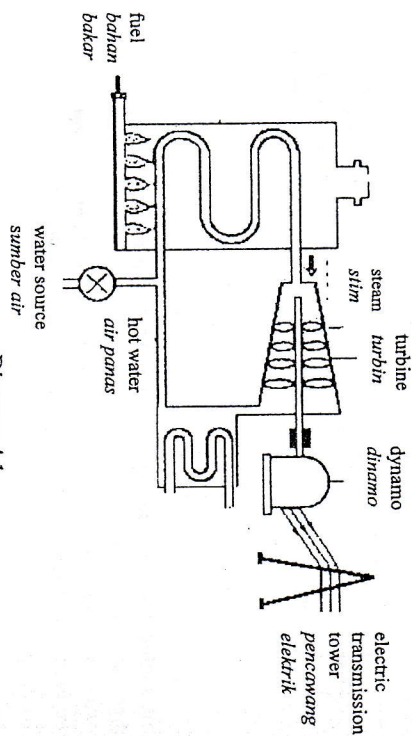


Diagram 4.1
Rajah 4.1

- (a) Name the type of electrical energy generator as shown in Diagram 4.1.
Namaikan jenis penjana tenaga elektrik yang ditunjukkan dalam Rajah 4.1.

[1 mark]
[1 markah]

- (b) Name the fuel used to operate the generator.
Namaikan bahan api yang boleh digunakan untuk menjalankan tersebut beroperasi.

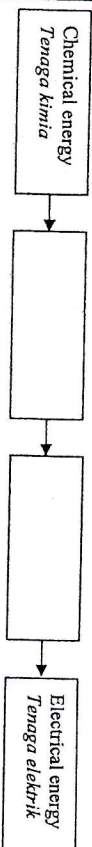
[1 mark]
[1 markah]

- (c) Name the part in the generator that generates electricity.
Namaikan bahagian dalam penjana tersebut yang menjana tenaga elektrik.

[1 mark]
[1 markah]

(d) Write the energy changes involved in the generator.

Tuliskan perubahan bentuk tenaga yang terlibat dalam penjana tersebut.



[2 marks]
[2 markah]

(e) Name another electrical energy generator which has the same energy changes as written in 4 (d).
Berikan nama satu penjana elektrik yang mempunyai perubahan bentuk tenaga seperti yang dituliskan dalam 4(d).

[1 mark]
[1 markah]

5 Diagram 5.1 shows the growth curve for Azman and Anita.
Rajah 5.1 menunjukkan graf pertumbuhan bagi Azman dan Anita.

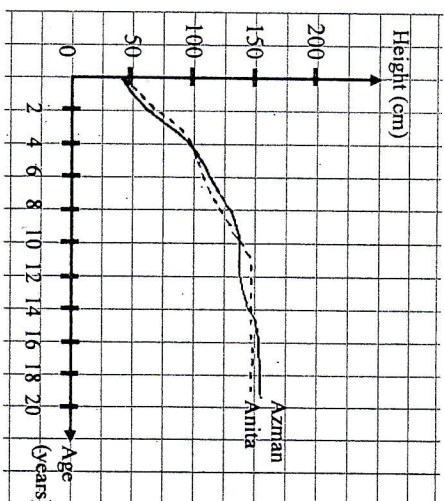


Diagram 5.1
Rajah 5.1

(a) Based on Diagram 5.1, who is taller between the age of 10 to 14 years?
Berdasarkan Rajah 5.1, siapakah yang lebih tinggi pada umur antara 10 hingga 14 tahun?

[1 mark]
[1 markah]

(b) At what age does Azman grow the slowest?
Pada umur berapakah tumbesaran Azman paling perlahan?

[1 mark]
[1 markah]

For
Examiner's
Use
Untuk
kegunaan
pemeriksa

5(a)

| |
|---|
| 1 |
|---|

5(b)

| |
|---|
| 1 |
|---|

For
aminer's
Use

Untuk
gunaan
pemeriksa

5(c)(i)

1

5(c)(ii)

1

- (c) (i) Predict Anita's height when she is 22 years old.
Ramalkan ketinggian Anita apabila dia berumur 22 tahun.

.....

[1 mark]

[1 mark]

- (ii) Give **one** reason for your answer in (c)(i).
Berikan **satu** sebab bagi jawapan anda dalam (c)(i).

.....

[1 mark]

[1 mark]

- (d) Diagram 5.2 shows pictures of Azman's grandmother since she was a baby.
Rajah 5.2 menunjukkan gambar perkembangan tumbesaran nenek Azman semenjak peringkat bayi.

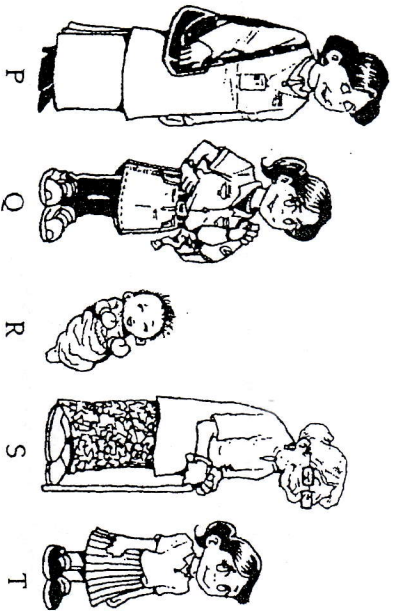


Diagram 5.2

Rajah 5.2

- (i) Arrange the pictures of Azman's grandmother according to her growth stages.
Susunkan gambar nenek Azman mengikut peringkat perkembangan tumbesaran beliau.



[2 marks]

[2 markah]

- (ii) During her adolescence, Azman's grandmother experiences many changes.
Semasa peringkat remaja, nenek Azman mengalami banyak perubahan.

State **two** changes involved.

Nyatakan **dua** perubahan tersebut.

(1)

.....

(2)

.....

[2 marks]

[2 markah]

5(d)(ii)

2

For
Examiner's
Use

Untuk
kegunaan
pemeriksa

Total
AS

8

- 6 (a) Diagram 6.1 shows a food pyramid.
Rajah 6.1 menunjukkan piramid makanan.

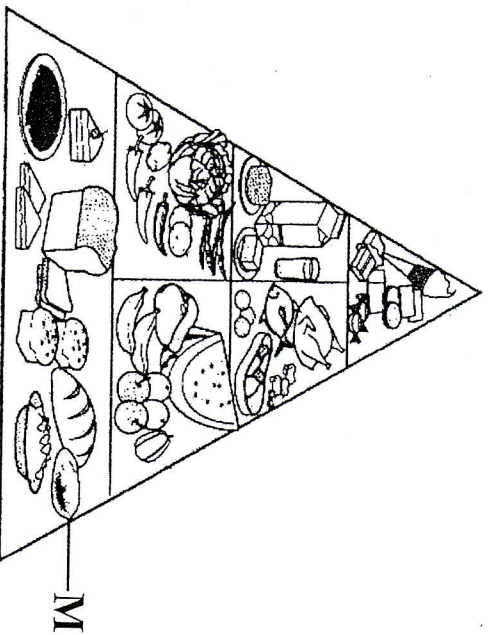


Diagram 6.1
Rajah 6.1

- (i) Name the class of food that is found in level M.
Nyatakan kelas makanan yang boleh didapati pada aras M.

[1 mark]
[1 mark]

- (ii) State the function of the class of food.
Nyatakan fungsi kelas makanan tersebut.

[1 mark]
[1 mark]

- (b) Diagram 6.2 shows apparatus set up to show the absorption of substance through Visking tube. After 30 minutes the distilled water is tested for starch and glucose.

Rajah 6.2 menunjukkan satu susunan radas untuk menunjukkan penyerapan bahan menerusi tiub Visking. Setelah 30 minit air suling diuji untuk kanji dan glukosa.

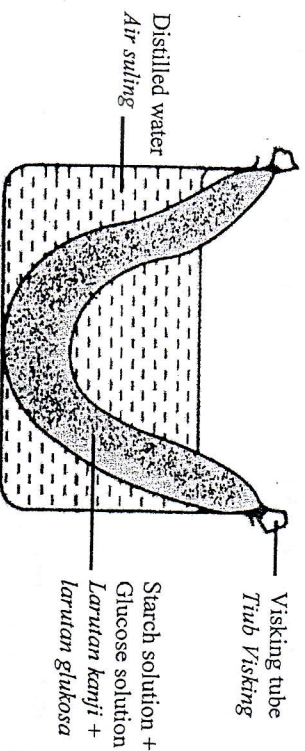


Diagram 6.2
Rajah 6.2

- (i) Which substance will absorb into the distilled water through the Visking tube?
Bahan apakah yang akan menyerap ke dalam air suling menerusi tiub Visking?

[1 mark]
[1 mark]

- (ii) Explain your answer in 6(b)(i).
Terangkan jawapan anda di 6(b)(i).

[1 mark]
[1 mark]

- (iii) If the Visking tube represents your small intestine, what would the distilled water around the Visking tube represent?

Jika tiub Visking mewakili usus kecil anda, apakah yang akan diwakili oleh air suling yang mengelilingi tiub Visking tersebut?

[1 mark]
[1 mark]

For
examiner's
Use

Untuk
kegunaan
pemeriksa

6(c)

| |
|---|
| 1 |
|---|

- (c) State the function of the small intestine.
Nyatakan fungsi usus kecil.

[1 mark]
[1 markah]

- (d) Table 6.3 shows the energy value for three classes of food.
Jadual 6.3 menunjukkan kandungan tenaga bagi tiga kelas makanan.

| Class of food Kelas makanan | Energy value per gram (kJ g ⁻¹) Kandungan tenaga per gram (kJ g ⁻¹) |
|--------------------------------|--|
| Carbohydrate Karbohidrat | 17 |
| Protein Protein | 18 |
| Fats Lemak | 39 |

Table 6.3
Jadual 6.3

Calculate the quantity of energy in a food that contains 10 g of carbohydrate, 5 g of protein and 2 g of fats.
Kira kuantiti tenaga dalam makanan yang mengandungi 10 g karbohidrat, 5 g protein dan 2 g lemak.

[2 marks]
[2 markah]

6(d)

| |
|---|
| 2 |
|---|

Total
A6

8

Section B
Bahagian B

[20 marks]
[20 markah]

Answer all question
Jawab semua soalan

The time suggested to answer this section is 30 minutes.
Masa yang dicadangkan untuk menjawab bahagian ini ialah 30 minit.

- 7 Diagram 7.1 shows four devices, P, Q, R and S that uses fuel to produce flame.
Rajah 7.1 menunjukkan alatan P, Q, R dan S yang menggunakan bahan api untuk menghasilkan nyalaan.

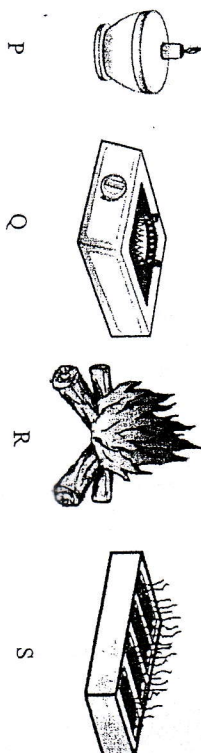


Diagram 7.1
Rajah 7.1

- (a) (i) State whether devices Q and S produces soot or not.
Write "Yes" or "No".
Nyatakan sama ada alatan Q dan S menghasilkan nyalaan yang berjelaga atau tidak.
Tulis "Ya" atau "Tidak".

Q :

S :

[2 marks]
[2 markah]

7(a)(i)

| |
|---|
| 2 |
|---|

- (ii) State the colour of the flame for device R.
Nyatakan warna nyalaan bagi alat R.

.....

[1 mark]
[1 markah]

7(a)(ii)

| |
|---|
| 1 |
|---|

[Lihat sebelah

For
Examiner's
Use
Untuk
kegunaan
pemeriksa

- (iii) Give **one** inference for your answer in (a)(ii).

Berikan **satu inferens** daripada jawapan anda di (a)(ii).

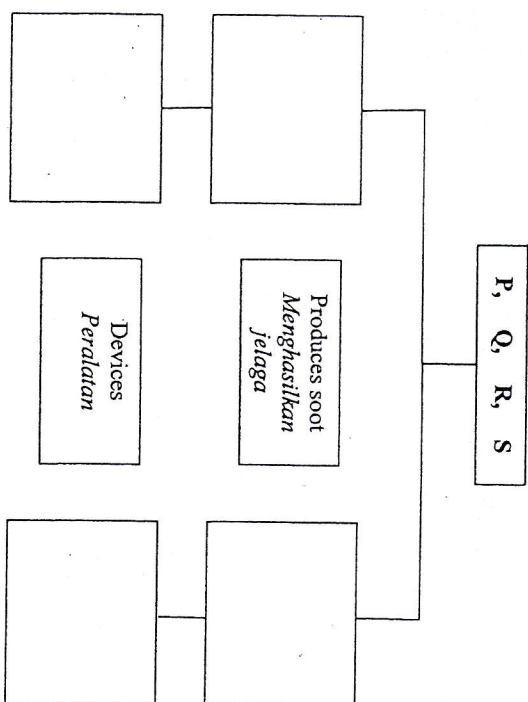
or
inference
se
untuk
tujuan
pemeriksaan

(a)(iii)

[1 mark]
[1 markah]

- (b) Classify P, Q, R and S into **two** groups based on the production of soot.

Kelaskan P, Q, R dan S kepada **dua kumpulan** berdasarkan kepada penghasilan jelaga.



[4 marks]
[4 markah]

(b)

4

total
A7

8

- 8 (a) Diagram 8.1 shows the extension of a spring when blocks P and Q of different masses are hung to it.
Rajah 8.1 menunjukkan pemanjangan suatu spring apabila blok P dan Q yang berlainan jisim digantung padanya.

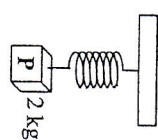
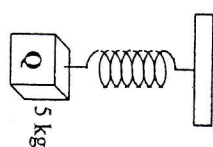


Diagram 8.1
Rajah 8.1



- (i) Based on the observations in Diagram 8.1, state the differences in the extension of the springs.
Berdasarkan pemerhatian pada Rajah 8.1, nyatakan perbezaan dalam pemanjangan spring-spring tersebut.

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

[1 mark]
[1 markah]

[1 mark]
[1 markah]

- (b) A pupil carries out an experiment to investigate the situation in Diagram 8.1. Diagram 8.2 shows the arrangement of apparatus for the experiment.
Seorang murid menjalankan eksperimen untuk menyiasat situasi dalam Rajah 8.1. Rajah 8.2 menunjukkan susunan radas bagi eksperimen itu.

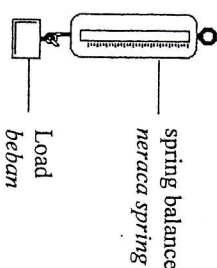


Diagram 8.2
Rajah 8.2

8(a)(ii)

1

8(a)(i)

1

For
Examiner's
Use
Untuk
kegunaan
pemeriksa

The pupil takes the following steps :

Murid itu menjalankan langkah-langkah berikut :

Step 1 : Hang a load of 100 g on the balance and record the reading of the balance

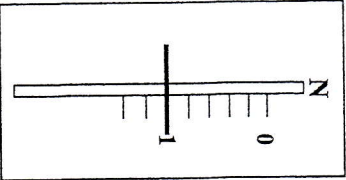
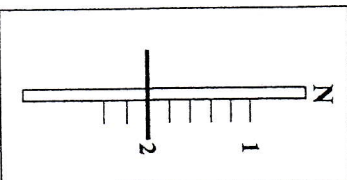
Langkah 1 : Gantungkan beban 100 g pada neraca tersebut dan bacaan neraca direkod.

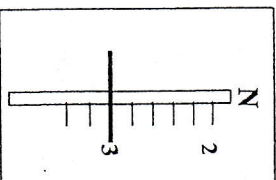
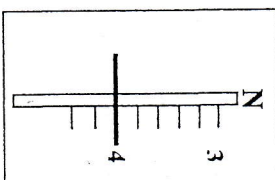
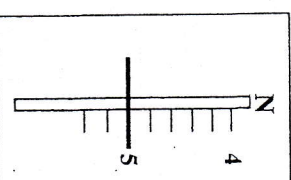
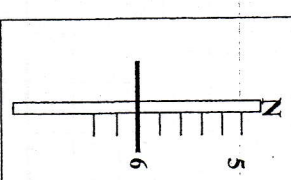
Step 2 : Repeat Step 1 by replacing the load with masses within the range of 200 g - 600 g

Langkah 2 : Ulangi Langkah 1 dengan menggantikan beban yang mempunyai jisim di antara 200 g - 600 g.

(i) Record the spring balance reading in the space provided.

Catitkan bacaan neraca spring pada ruangan yang disediakan.

| | |
|---|--|
|  | <p>Mass of load = 100 g Jisim beban = 100 g</p> <p>Spring balance reading = 1 N Bacaan neraca spring</p> |
|  | <p>Mass of load = 200 g Jisim beban = 200 g</p> <p>Spring balance reading = N Bacaan neraca spring</p> |

| | |
|---|--|
|  | <p>Mass of load = 300 g Jisim beban = 300 g</p> <p>Spring balance reading = N Bacaan neraca spring</p> |
|  | <p>Mass of load = 400 g Jisim beban = 400 g</p> <p>Spring balance reading = N Bacaan neraca spring</p> |
|  | <p>Mass of load = 500 g Jisim beban = 500 g</p> <p>Spring balance reading = N Bacaan neraca spring</p> |
|  | <p>Mass of load = 600 g Jisim beban = 600 g</p> <p>Spring balance reading = 6 N Bacaan neraca spring</p> |

8(b)(i)

[2 marks]
[2 markah]

2

[Lihat sebelah

- (ii) Complete Table 8.3 by recording the spring balance reading respective to mass of load.

Lengkapkan Jadual 8.3 dengan mencatatkan bacaan neraca spring yang sepadan dengan jisim beban.

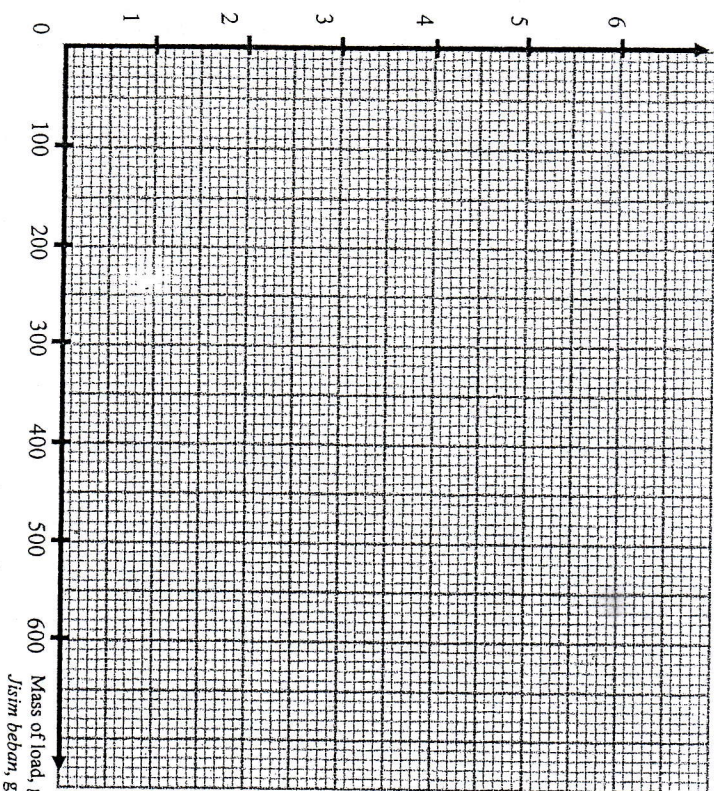
| | | | | | | |
|---|-----|------|------|------|------|-----|
| Mass of load, g Jisim beban, g | 100 | 200 | 300 | 400 | 500 | 600 |
| Reading of spring balance, N Bacaan neraca spring, N | 1 | | | | | 6 |

Table 8.3
Jadual 8.3

- (iii) Using Table 8.3, draw a graph of the spring balance reading against mass of load.

Menggunakan Jadual 8.3, lukiskan graf bacaan neraca spring melawan jisim beban.

Reading of spring balance, N
Bacaan neraca spring, N



[2 marks]
[2 markah]

- (c) State the relationship between the reading of the spring balance and the mass of load.

Nyatakan hubungan di antara bacaan neraca spring dengan jisim beban.

[1 mark]
[1 markah]

- (d) State the variables involved in this experiment.

Nyatakan pembolehubah yang terlibat dalam eksperimen ini.

| | |
|---|-------|
| Manipulated variable Pembolehubah dimanipulasi | |
| Responding variable Pembolehubah bergerakbalas | |
| Controlled variable Pembolehubah dimalarakan | |

[3 marks]
[3 markah]

- (e) Based on the graph in (b)(iii), predict the reading of the spring balance if a load of 800 g is hung to it.

Berdasarkan graf di (b)(iii), ramalkan bacaan neraca spring jika beban berjisim 800 g digantung padanya.

[1 mark]
[1 markah]

- (f) Based on the experiment, state the operational definition for force.

Berdasarkan eksperimen, nyatakan definisi secara operasi bagi daya.

[1 mark]
[1 markah]

END OF THE QUESTION PAPER
KERTAS SOALAN TAMAT

Total
A8
12

For Examiner's Use
Untuk kegunaan pemeriksa
8(c)
1

8(d)
3

8(e)
1

8(f)
1

PAPER 1 (55/1)

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

| Question | Answer Scheme | Marks |
|----------|--|------------------|
| 1(a) | M = test tube N = internal calipers O = measuring cylinder (Reject wrong spelling) | 1 1 1 3 |
| 1(b) | (i) <input type="text" value="2"/> (ii) <input type="text" value="4"/> (iv) <input type="text" value="3"/> | 1 1 1 3 |
| Total | | 6 |

| Question | Answer scheme | Marks | | | | |
|------------|--|-------|------------|---|-----------------------------|---|
| 2 (a) (i) | Hydrogen | 1 | | | | |
| 2 (a) (ii) | <table><tr><td>✓</td><td>Colourless</td></tr><tr><td>X</td><td>Exist in two state of water</td></tr></table> | ✓ | Colourless | X | Exist in two state of water | 2 |
| ✓ | Colourless | | | | | |
| X | Exist in two state of water | | | | | |
| 2 (b) (i) | Electrolysis method / Electrolysis | 1 | | | | |
| 2 (b) (ii) | Hydrogen gas / Hydrogen Use light wooden splinter and produce "pop" sound | 1 | | | | |

| | | | |
|-------------|---------------------------|---|---|
| 2 (b) (iii) | 1 : 2 // one is to two | 1 | |
| 2 (b) (iv) | (2 : 1 is not accepted) | 1 | 4 |
| Total | | 6 | |

| Question | Answer scheme | Marks | |
|----------|---|-------|---|
| 3(a) | Source R : sun/ sunlight / solar Source T : fossil fuel /petroleum /natural gas | 1 | 2 |
| 3(b) | Source R → Renewable energy Source T → Non-renewable energy | 1 | 2 |
| 3(c) | Source R : Save cost //free/no pollution //unlimited (ACCEPT any suitable answer) | 1 | 1 |
| 3(d) | Switch off electrical appliances when not using // iron a lot of cloth at one time // maximise the number of clothes washed in washing machine // (ACCEPT any suitable answer) | 1 | 1 |
| Total | | 6 | |

| Question | Answer Scheme | Marks | |
|----------|--|-------|---|
| 4 (a) | Thermal /Thermal generator | 1 | 1 |
| 4 (b) | Petroleum // natural gas // coal | 1 | 1 |
| 4 (c) | Dynamo | 1 | 1 |
| 4 (d) | chemical energy → heat energy → kinetic energy → electrical energy | 2 | 2 |
| 4 (e) | Diesel generator // gas turbine generator | 1 | 1 |
| Total | | 6 | |

SULIT

55(SJ)

| Question | Answer Scheme | Marks | |
|-----------|---|-------|---|
| 5(a) | Anita | 1 | 1 |
| 5 (b) | 10 – 12 | 1 | 1 |
| 5 (c) (i) | 150 cm | 1 | 1 |
| 5 (c)(ii) | Female stop growing in heights when they reach adulthood | 1 | |
| 5 (d)(i) | R, T, Q, R, S / R → T → Q → R → S | 2 | 3 |
| 5 (d)(ii) | Emotional changes // physiological changes e.g: Breasts grow//menstruation starts // grow hairs at armpit /pubic area// hips become wider and rounder/weight / height increases/ size. | 2 | 2 |
| Total | | 8 | |

SULIT

55(SJ)

| Question | Answer Scheme | Marks | |
|------------|--|-------|---|
| 6 (a)(i) | Carbohydrates | 1 | |
| 6 (a)(ii) | To supply energy | 1 | 2 |
| 6 (b)(i) | Glucose | 1 | |
| 6 (b)(ii) | Because glucose molecules are small enough to pass through the Visking tube. REJECT : explanation on starch | 1 | |
| 6 (b)(iii) | Blood REJECT: any other answers | 1 | 3 |
| 6 (c) | To absorb the digested food | 1 | 1 |
| 6 (d) | Calculation $10 \text{ g} \times 17 = 170$ $5 \text{ g} \times 18 = 90$ $2 \text{ g} \times 39 = 78$ <hr/> 338 kJ g^{-1} | 1 | 2 |
| Total | | 8 | |

NOTE:
Correct Answer without working - 0 mark
Answer with correct working but no unit / wrong unit – 1 mark

| Question | Answer Scheme | Marks |
|------------|--|-------|
| 7 (a)(i) | Q = No S = Yes | 1 |
| 7 (a)(ii) | Yellow // Red // Orange | 1 |
| 7 (a)(iii) | The flame is yellow in colour because R has a low boiling point | 1 |
| 7(b) | <div style="text-align: center;"> <div style="border: 1px solid black; padding: 5px; display: inline-block;">P, Q, R, S</div> <div style="display: flex; justify-content: space-around; width: 100%;"> <div style="text-align: center;"> <div style="border: 1px solid black; padding: 5px;">Yes</div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;">Produces soot</div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;">No</div> </div> <div style="text-align: center;"> <div style="border: 1px solid black; padding: 5px;">P, R, S</div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;">Devices</div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;">Q</div> </div> </div> </div> | 4 |
| Total | | 8 |

55(SJ)

| Question | Answer Scheme | Marks | | | | | | | | | | | | | | |
|------------------------------|--|-----------------------|------------------------|----------------------|---------------------------|----------------------|----------------|------|------------------------------|------|----|------|----|------|----|---|
| 8 (a)(i) | Spring with block Q is longer than P// Spring with block Q, extends more than P. | 1 | | | | | | | | | | | | | | |
| 8(a)(ii) | Spring with block Q is longer because the block is bigger/heavier (vice versa) | 1 | | | | | | | | | | | | | | |
| 8 (b)(i) | <table border="1"> <thead> <tr> <th>Mass of load</th><th>Spring balance reading</th></tr> </thead> <tbody> <tr><td>100g</td><td>1N</td></tr> <tr><td>200g</td><td>2N</td></tr> <tr><td>300g</td><td>3N</td></tr> <tr><td>400g</td><td>4N</td></tr> <tr><td>500g</td><td>5N</td></tr> <tr><td>600g</td><td>6N</td></tr> </tbody> </table> <p>Note : 3 – 4 correct (2 marks) 2 correct (1 mark) 1 correct (0 mark)</p> | Mass of load | Spring balance reading | 100g | 1N | 200g | 2N | 300g | 3N | 400g | 4N | 500g | 5N | 600g | 6N | 2 |
| Mass of load | Spring balance reading | | | | | | | | | | | | | | | |
| 100g | 1N | | | | | | | | | | | | | | | |
| 200g | 2N | | | | | | | | | | | | | | | |
| 300g | 3N | | | | | | | | | | | | | | | |
| 400g | 4N | | | | | | | | | | | | | | | |
| 500g | 5N | | | | | | | | | | | | | | | |
| 600g | 6N | | | | | | | | | | | | | | | |
| 8(b)(ii) | <table border="1"> <thead> <tr> <th>Mass of load, g</th><th>100</th><th>200</th><th>300</th><th>400</th><th>500</th><th>600</th></tr> </thead> <tbody> <tr> <td>Reading of spring balance, N</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td></tr> </tbody> </table> | Mass of load, g | 100 | 200 | 300 | 400 | 500 | 600 | Reading of spring balance, N | 1 | 2 | 3 | 4 | 5 | 6 | |
| Mass of load, g | 100 | 200 | 300 | 400 | 500 | 600 | | | | | | | | | | |
| Reading of spring balance, N | 1 | 2 | 3 | 4 | 5 | 6 | | | | | | | | | | |
| 8 (b)(iii) | All points plotted correctly – 1 mark Straight line – 1 mark | 2 | | | | | | | | | | | | | | |
| 8 (c) | Mass of load increases, reading of the spring balance increases. | 1 | | | | | | | | | | | | | | |
| 8 (d) | <table border="1"> <thead> <tr> <th>Manipulated variables</th><th>Mass of load</th></tr> </thead> <tbody> <tr> <td>Responding variables</td><td>Reading of spring balance</td></tr> <tr> <td>Controlled variables</td><td>Type of spring</td></tr> </tbody> </table> | Manipulated variables | Mass of load | Responding variables | Reading of spring balance | Controlled variables | Type of spring | 3 | | | | | | | | |
| Manipulated variables | Mass of load | | | | | | | | | | | | | | | |
| Responding variables | Reading of spring balance | | | | | | | | | | | | | | | |
| Controlled variables | Type of spring | | | | | | | | | | | | | | | |
| 8(e) | 8 N // 7N – 9 N REJECT: 1. Correct answer without unit. 2. More than 6N | 1 | | | | | | | | | | | | | | |



JABATAN PELAJARAN NEGERI JOHOR
PEPERIKSAAN PERCUBAAN
PENILAIAN MENENGAH RENDAH 2010

SAINS

Kertas 1 dan Kertas 2

SKEMA JAWAPAN

UNTUK KEGUNAAN PEMERIKSA SAHAJA

AMARAN

Skema Jawapan ini adalah SULIT dan Hak Cipta Jabatan Pelajaran Negeri Johor. Kegunaan khusus untuk pemeriksa yang berkenaan sahaja. Sebarang maklumat dalam skema jawapan ini tidak boleh dimaklumkan kepada sesiapa. Skema Jawapan ini juga tidak boleh dikeluarkan dalam apa jua bentuk penulisan dan percetakan

Skema Jawapan ini mengandungi 10 halaman bercetak

55(SJ)

SULIT

55(SJ)

| 8(f) | Force is the reading of the spring balance. | 1 | 1 |
|------|---|----|---|
| | | | |
| | Total | 12 | |

SKEMA JAWAPAN TAMAT