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SULIT



LEMBAGA PEPERIKSAAN  
KEMENTERIAN PENDIDIKAN MALAYSIA

SIJIL PELAJARAN MALAYSIA 2014

1511/1

SCIENCE

Kertas 1

Nov./Dis.

1  $\frac{1}{4}$  jam

Satu jam lima belas minit

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JANGAN BUKA KERTAS SOALAN INI SEHINGGA DIBERITAHU

1. *Kertas soalan ini adalah dalam dwibahasa.*
2. *Soalan dalam bahasa Inggeris mendahului soalan yang sepadan dalam bahasa Melayu.*
3. *Calon dikehendaki membaca maklumat di halaman belakang kertas soalan ini.*

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Kertas soalan ini mengandungi 36 halaman bercetak.

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- 1 Diagram 1 shows the impulse pathway.  
*Rajah 1 menunjukkan laluan impuls.*

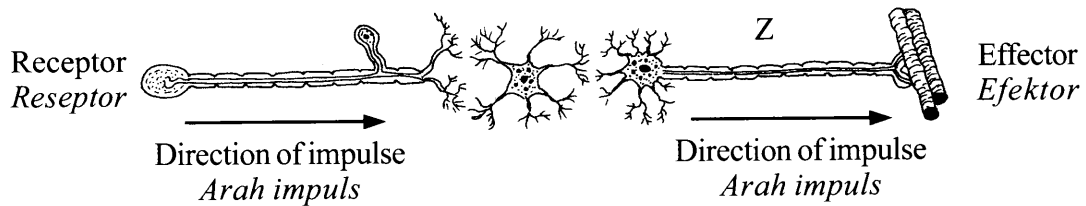


Diagram 1  
*Rajah 1*

What will happen if neurone Z is malfunctioning?

*Apakah yang akan berlaku jika neuron Z tidak berfungsi?*

- A Impulse cannot be interpreted  
*Impuls tidak dapat ditafsir*
- B Impulse is sent back to receptor  
*Impuls dihantar balik ke reseptor*
- C Effector is unable to carry out response  
*Efektor tidak dapat melaksanakan gerak balas*
- D Receptor and effector function as normal  
*Reseptor dan efektor berfungsi secara normal*

- 2 Diagram 2 shows the human nervous system which control body coordination.  
*Rajah 2 menunjukkan sistem saraf manusia yang mengawal koordinasi badan.*

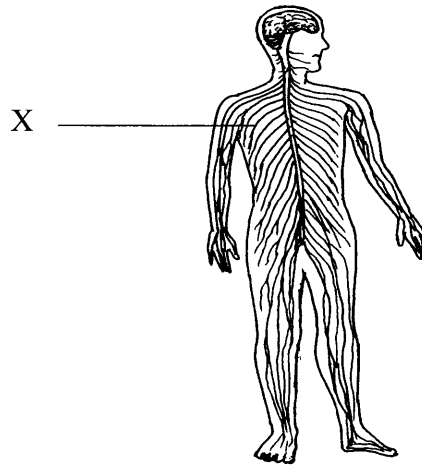


Diagram 2  
*Rajah 2*

What is X?

*Apakah X?*

- A Brain  
*Otak*
- B Spinal cord  
*Saraf tunjang*
- C Spinal nerves  
*Saraf spina*
- D Cranial nerves  
*Saraf kranium*
- 3 Which statement is correct about hormones?  
*Penyataan manakah yang betul tentang hormon?*
- A Cause short term effects  
*Menyebabkan kesan jangka pendek*
- B Target organ is specific  
*Organ sasaran adalah khusus*
- C Secreted by ductless glands  
*Dirembeskan oleh kelenjar tanpa duktus*
- D Information is transmitted in the form of electrical signal  
*Maklumat dihantar dalam bentuk isyarat elektrik*

- 4 What is the effect of depressant drugs on body coordination?  
*Apakah kesan dadah penenang ke atas koordinasi badan?*
- A Damages the brain  
*Merosakkan otak*
- B Increases metabolic rate  
*Meningkatkan kadar metabolisme*
- C Activates nervous system  
*Mengaktifkan sistem saraf*
- D Slows down responses toward stimuli  
*Melambatkan gerak balas terhadap rangsangan*
- 5 Diagram 3 shows the production of gamete  
*Rajah 3 menunjukkan penghasilan gamet.*

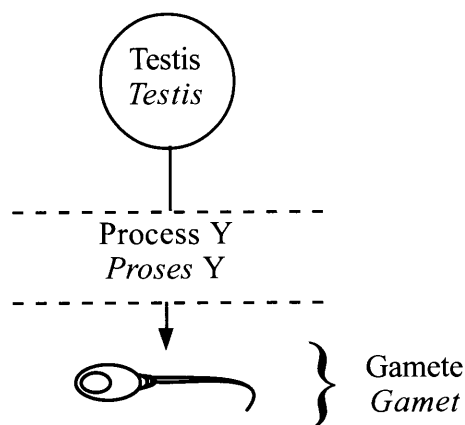


Diagram 3  
*Rajah 3*

What is Y?

*Apakah Y?*

- A Mitosis  
*Mitosis*
- B Meiosis  
*Meiosis*
- C Mutation  
*Mutasi*
- D Fertilisation  
*Persenyawaan*

6 Diagram 4 shows the sex determination in human.

Rajah 4 menunjukkan penentuan seks pada manusia.

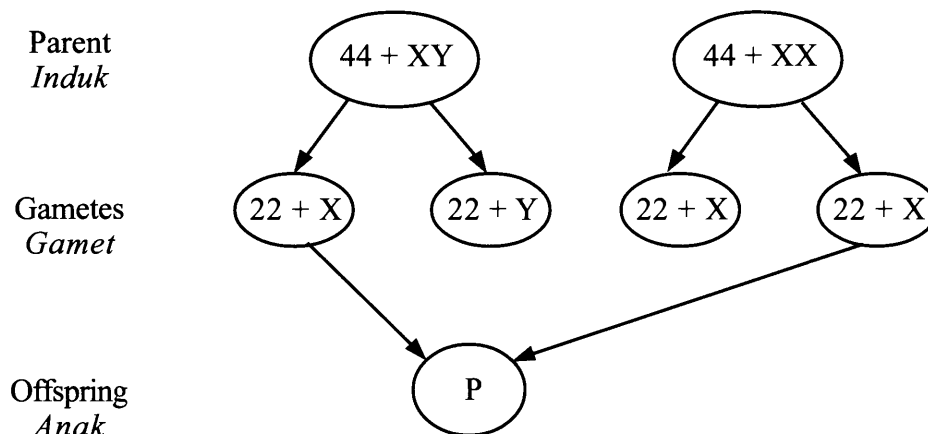


Diagram 4  
Rajah 4

What is the genotype and phenotype for P?

Apakah genotip dan fenotip bagi P?

	<b>Genotype</b> <i>Genotip</i>	<b>Phenotype</b> <i>Fenotip</i>
<b>A</b>	44 + XX	Female <i>Perempuan</i>
<b>B</b>	44 + XY	Male <i>Lelaki</i>
<b>C</b>	44 + XX	Male <i>Lelaki</i>
<b>D</b>	44 + XY	Female <i>Perempuan</i>

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7 What are the characteristics of a child with Down's syndrome?

*Apakah ciri-ciri seorang kanak-kanak sindrom Down?*

- A Tall and thin  
*Tinggi dan kurus*
- B White hair and round face  
*Rambut putih dan muka bulat*
- C Colour blind and white skin  
*Buta warna dan kulit putih*
- D Slanting eyes and mentally retarded  
*Mata sepet dan terencat akal*

8 Diagram 5 shows changes in the state of matter.

*Rajah 5 menunjukkan perubahan keadaan jirim.*

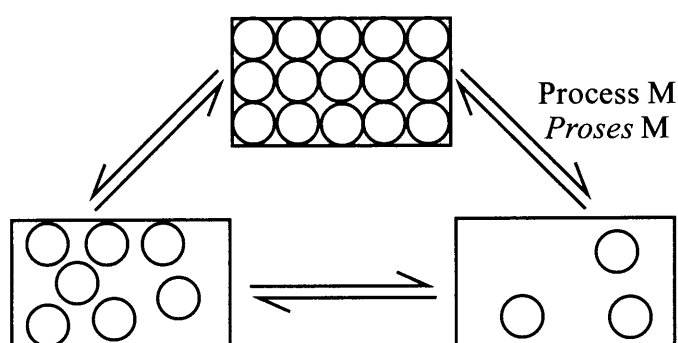


Diagram 5  
*Rajah 5*

What is process M?

*Apakah proses M?*

- A Boiling  
*Pendidihan*
- B Melting  
*Peleburan*
- C Sublimation  
*Pemejalwapan*
- D Condensation  
*Kondensasi*

- 9 Table 1 shows properties of a subatomic particles.

*Jadual 1 menunjukkan ciri-ciri bagi zarah-zarah subatom.*

Subatomic particles <i>Zarah-zarah subatom</i>	X	Y	Z
Charge <i>Cas</i>	+1	0	-1

Table 1  
*Jadual 1*

What is X, Y and Z?

*Apakah X, Y dan Z?*

	X	Y	Z
<b>A</b>	Proton <i>Proton</i>	Electron <i>Elektron</i>	Neutron <i>Neutron</i>
<b>B</b>	Proton <i>Proton</i>	Neutron <i>Neutron</i>	Electron <i>Elektron</i>
<b>C</b>	Neutron <i>Neutron</i>	Proton <i>Proton</i>	Electron <i>Elektron</i>
<b>D</b>	Electron <i>Elektron</i>	Neutron <i>Neutron</i>	Proton <i>Proton</i>

- 10 The number of neutron of an atom is 10 and the nucleon number is 19.

What is the number of proton of the atom?

*Bilangan neutron suatu atom ialah 10 dan nombor nukleonnya ialah 19.*

*Berapakah bilangan proton bagi atom itu?*

- A 9
- B 10
- C 19
- D 29

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11 The following information shows the uses of metal S.

*Maklumat berikut menunjukkan kegunaan logam S.*

- Storage container for radioactive substances  
*Bekas penyimpanan bahan radioaktif*
- Used in car batteries  
*Digunakan dalam bateri kereta*

What is metal S?

*Apakah logam S?*

A Tin

*Timah*

B Lead

*Plumbum*

C Zinc

*Zink*

D Copper

*Kuprum*

12 Which statement is correct about endothermic reaction?

*Penyataan manakah yang betul tentang tindak balas endotermik?*

A Heat is absorbed

*Haba diserap*

B Occurs in the production of ammonia

*Berlaku dalam penghasilan ammonia*

C Dissolving sodium hydroxide in water

*Melarutkan natrium hidroksida dalam air*

D Temperature of surroundings increases

*Suhu persekitaran meningkat*



- 13 Diagram 6 shows the result of an experiment to study the reactivity of metal P, Q and R towards oxygen.

Rajah 6 menunjukkan keputusan suatu eksperimen untuk mengkaji kereaktifan logam P, Q dan R terhadap oksigen.

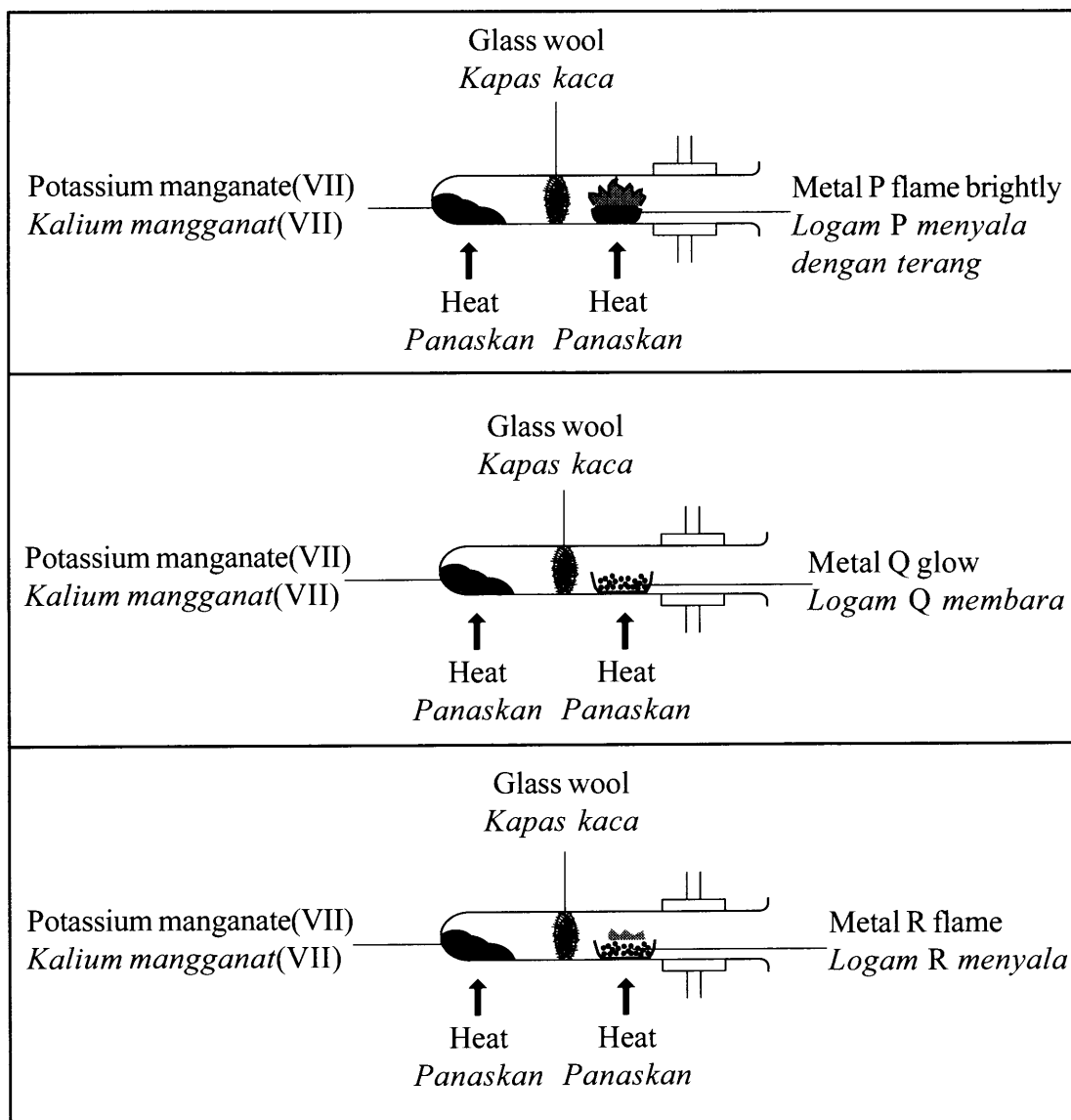


Diagram 6  
Rajah 6

Which is the correct descending order of reactivity of metals towards oxygen?

Urutan manakah yang betul tentang kereaktifan logam terhadap oksigen mengikut tertib menurun?

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

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14 Diagram 7 shows the purification process of metal.

*Rajah 7 menunjukkan proses penulenan logam.*

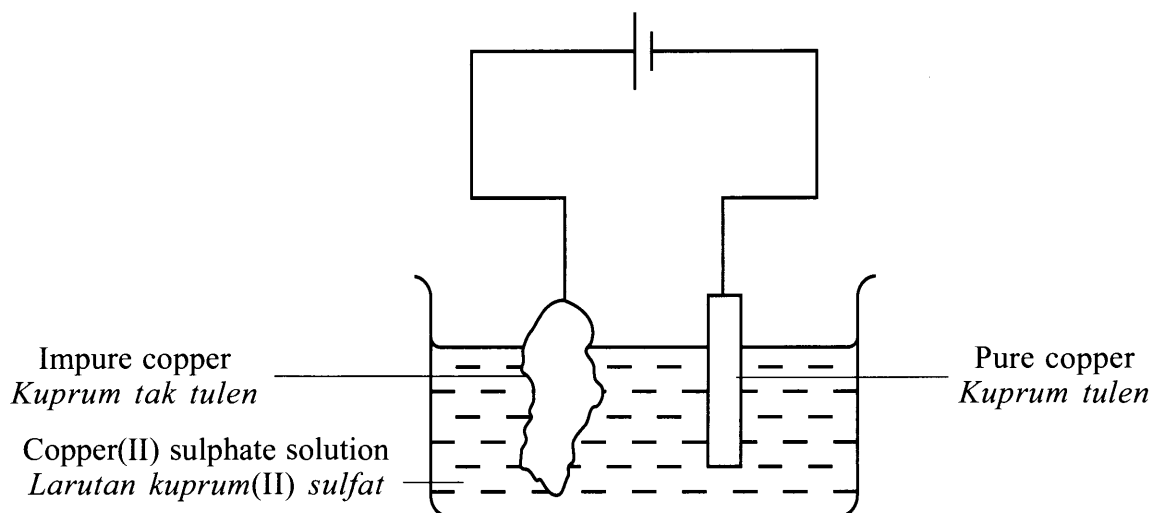


Diagram 7  
*Rajah 7*

What will happen to the anode?

*Apakah yang akan berlaku kepada anod?*

- A No change  
*Tiada perubahan*
- B Becomes thinner  
*Menjadi lebih nipis*
- C Oxygen gas is released  
*Gas oksigen dibebaskan*
- D Pure copper is deposited  
*Kuprum tulen ditanapkan*

- 15 Table 2 shows the result of an experiment to study the production of electrical energy by a simple cell.

*Jadual 2 menunjukkan keputusan eksperimen bagi mengkaji penghasilan tenaga elektrik oleh sel ringkas.*

<b>Pair of electrode</b> <i>Pasangan elektrod</i>	<b>Condition of bulb</b> <i>Keadaan mentol</i>
Magnesium and copper <i>Magnesium dan kuprum</i>	Very bright <i>Sangat terang</i>
Zinc and copper <i>Zink dan kuprum</i>	Bright <i>Terang</i>
Copper and copper <i>Kuprum dan kuprum</i>	Does not light up <i>Tidak menyala</i>

Table 2  
*Jadual 2*

What will happen to the condition of the bulb if both electrodes are magnesium?

*Apakah yang akan berlaku kepada keadaan mentol jika kedua-dua elektrod adalah magnesium?*

- A Dim  
*Malap*
- B Bright  
*Terang*
- C Very bright  
*Sangat terang*
- D Does not light up  
*Tidak menyala*

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- 16 Diagram 8 shows radioactive radiation passing through an electric field.  
*Rajah 8 menunjukkan sinaran radioaktif melalui satu medan elektrik.*

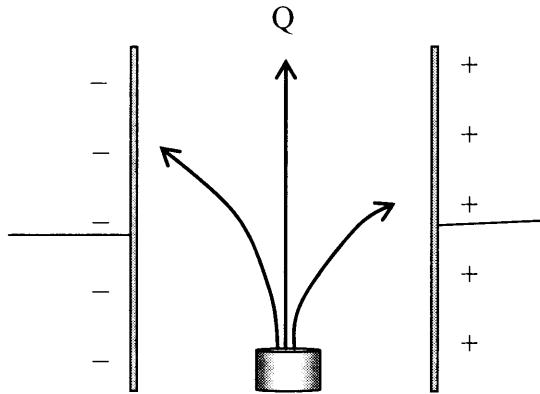


Diagram 8  
*Rajah 8*

What is the characteristic of Q?

*Apakah ciri Q?*

- A Low speed  
*Kelajuan rendah*
- B Negatively charged  
*Bercas negatif*
- C High penetrating power  
*Kuasa penembusan tinggi*
- D Can be stopped by aluminium sheet  
*Boleh dihentikan oleh kepingan aluminium*

- 17 What is the process that occurs in the nuclear reactor for generating electrical energy?  
*Apakah proses yang berlaku di dalam reaktor nuklear untuk penjanaan tenaga elektrik?*
- A Nuclear fusion  
*Pelakuran nuklear*
  - B Nuclear fission  
*Pembelahan nuklear*
  - C Radioactive decay  
*Pereputan radioaktif*
  - D Radioactive radiation  
*Sinaran radioaktif*
- 18 What is the purpose of using a film badge while handling radioactive substance?  
*Apakah tujuan menggunakan lencana filem semasa mengendalikan bahan radioaktif?*
- A To maintain good health  
*Mengekalkan kesihatan yang baik*
  - B To protect human skin from radioactive radiation  
*Melindungi kulit manusia daripada sinaran radioaktif*
  - C To avoid direct contact with the radioactive substance  
*Mengelakkan sentuhan secara langsung dengan bahan radioaktif*
  - D To detect the level of exposure to radioactive radiation  
*Mengesan tahap pendedahan kepada sinaran radioaktif*

19 Which characteristic of the image is formed by a plane mirror?

*Ciri imej manakah yang dihasilkan oleh cermin satah?*

A Real

*Nyata*

B Inverted

*Songsang*

C Laterally inverted

*Songsang sisi*

D Smaller than object

*Lebih kecil daripada objek*

20 Diagram 9 shows the structure of a camera.

*Rajah 9 menunjukkan struktur bagi sebuah kamera.*

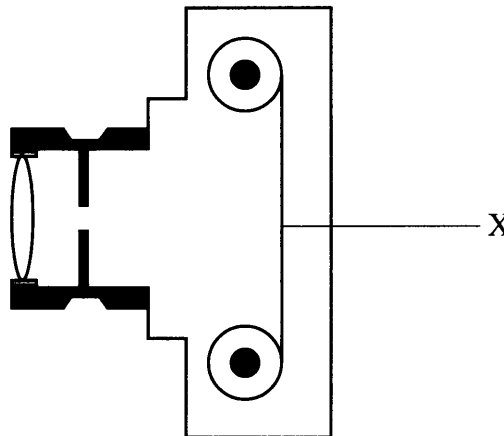


Diagram 9

*Rajah 9*

Which part of human eye has the similar function with X?

*Bahagian manakah pada mata manusia mempunyai fungsi yang sama dengan X?*

A Iris

*Iris*

B Pupil

*Anak mata*

C Retina

*Retina*

D Cornea

*Kornea*

- 21 Which phenomenon shows the effect of the dispersion of light?  
*Fenomena manakah yang menunjukkan kesan penyebaran cahaya?*
- A Rainbow  
*Pelangi*
  - B Blue sky  
*Kebiruan langit*
  - C Red sunset  
*Kemerahan matahari terbenam*
  - D Stage lighting  
*Pencahayaan pentas*

- 22 Diagram 10 shows an alloy.  
*Rajah 10 menunjukkan satu aloi.*

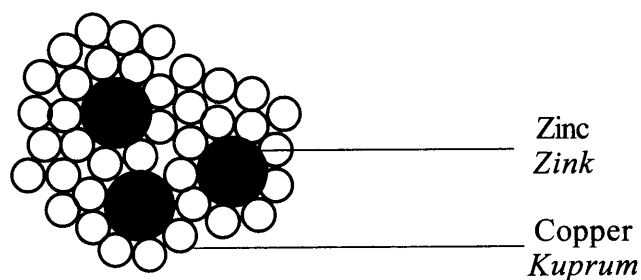


Diagram 10  
*Rajah 10*

What is the alloy?  
*Apakah aloi itu?*

- A Brass  
*Loyang*
- B Steel  
*Keluli*
- C Bronze  
*Gangsa*
- D Pewter  
*Piuter*

23 What is the effect of industrial waste disposal into the river?

*Apakah kesan pembuangan bahan sisa industri ke dalam sungai?*

A Greenhouse effect

*Kesan rumah hijau*

B Change of water pH

*Perubahan dalam pH air*

C Thinning of ozone layer

*Penipisan lapisan ozon*

D Increase the oxygen content in water

*Peningkatan kandungan oksigen dalam air*

24 Which microorganism can only be seen by using electron microscope?

*Mikroorganisma manakah yang hanya boleh diperhatikan dengan menggunakan mikroskop elektron?*

A Algae

*Alga*

B Fungi

*Kulat*

C Virus

*Virus*

D Protozoa

*Protozoa*



25 Which statement is correct about the uses of microorganisms?

*Penyataan manakah yang betul tentang penggunaan mikroorganisma?*

A Virus help in decaying process

*Virus menolong dalam proses pereputan*

B Yeast are able to fix nitrogen to nitrate

*Yis boleh mengikat nitrogen kepada nitrat*

C Protozoa produced antibiotic penicillin

*Protozoa menghasilkan antibiotik penisilin*

D Bacteria help herbivores to digest cellulose

*Bakteria membantu herbivor untuk menghadam selulosa*

26 Which of the following is the most suitable to sterilize wound?

*Antara yang berikut, yang manakah paling sesuai untuk mensteril luka?*

A Antiseptic

*Antiseptik*

B Disinfectant

*Disinfektan*

C Ultraviolet ray

*Sinaran ultraungu*

D Gamma ray

*Sinaran gama*

27 Table 3 shows calorific value for three types of food.

*Jadual 3 menunjukkan nilai kalori bagi tiga jenis makanan.*

Type of food <i>Jenis makanan</i>	Calorific value (kJ/g) <i>Nilai kalori (kJ/g)</i>
Egg <i>Telur</i>	6.12
Bread <i>Roti</i>	10.12
Milk <i>Susu</i>	2.72

Table 3  
*Jadual 3*

Ali takes 150 g egg, 150 g bread and 200 g milk.

What is the total calorific value that he takes?

*Ali mengambil 150 g telur, 150 g roti dan 200 g susu.*

*Apakah jumlah nilai kalori yang diambalnya?*

- A 18.9 kJ
- B 500 kJ
- C 518 kJ
- D 2980 kJ

- 28 The following information shows the diseases of a man caused by unhealthy eating habit.

*Maklumat berikut menunjukkan penyakit-penyakit seorang lelaki disebabkan oleh tabiat pemakanan yang tidak sihat.*

- Hypertension  
*Tekanan darah tinggi*
- Arteriosclerosis  
*Arteriosklerosis*
- Stroke  
*Strok*

Which food is suitable for this man?

*Makanan manakah yang sesuai diambil oleh lelaki ini?*

- A Lamb soup  
*Sup kambing*
  - B Steamed fish  
*Ikan stim*
  - C Beef meat burger  
*Burger daging*
  - D Fried rice with chicken  
*Nasi goreng dan ayam*
- 29 Which element is a macronutrient?
- Unsur manakah adalah makronutrien?*
- A Iron  
*Besi*
  - B Zinc  
*Zink*
  - C Boron  
*Boron*
  - D Calcium  
*Kalsium*

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30 Diagram 11 shows the roots of a leguminous plant.

*Rajah 11 menunjukkan akar tumbuhan kekacang.*

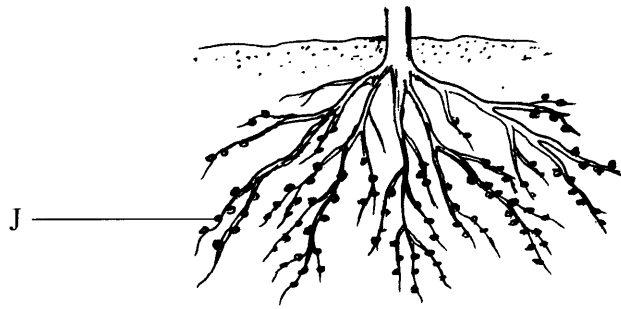


Diagram 11

*Rajah 11*

What is the role of microorganism in J?

*Apakah peranan mikroorganisma dalam J?*

**A** Fix nitrogen to nitrate

*Mengikat nitrogen kepada nitrat*

**B** Convert nitrite to nitrate

*Menukar nitrit kepada nitrat*

**C** Convert nitrate to nitrogen

*Menukar nitrat kepada nitrogen*

**D** Decompose ammonium compound to nitrite

*Mengurai sebatian ammonium kepada nitrit*

31 Diagram 12 shows part of a carbon cycle.

*Rajah 12 menunjukkan sebahagian kitar karbon.*

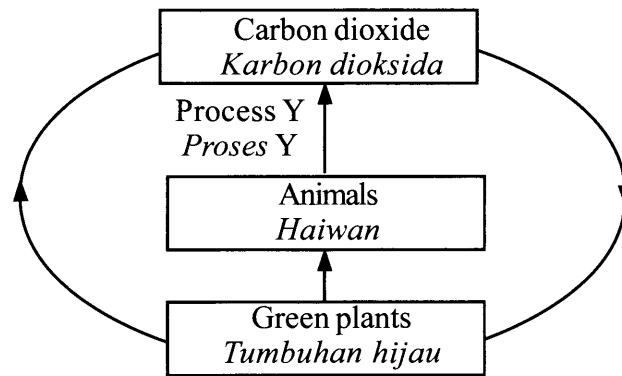


Diagram 12  
*Rajah 12*

What is process Y?

*Apakah proses Y?*

- A** Photosynthesis  
*Fotosintesis*
- B** Respiration  
*Respirasi*
- C** Evaporation  
*Sejatan*
- D** Transpiration  
*Transpirasi*

32 Which phenomenon is directly related to chlorofluorocarbon (CFC)?

*Fenomena manakah yang dikaitkan secara langsung dengan klorofluorokarbon (CFC)?*

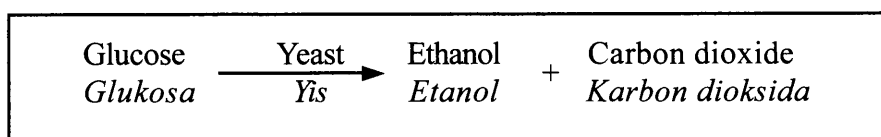
- A** Haze  
*Jerebu*
- B** Ozone depletion  
*Penipisan ozon*
- C** Global warming  
*Pemanasan global*
- D** Greenhouse effect  
*Kesan rumah hijau*

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- 33 Which activity contributes to the preservation and conservation of environment?

*Aktiviti manakah yang menyumbang kepada pemeliharaan dan pemuliharaan alam sekitar?*

- A Reforestation  
*Penghutan semula*
- B Reclaim the river bank  
*Menambak tebing sungai*
- C Build a fish pond  
*Bina kolam ikan*
- D Open new housing area  
*Membuka kawasan perumahan baru*
- 34 The following word equation shows a chemical reaction.  
*Persamaan perkataan berikut menunjukkan suatu tindak balas kimia.*



What is the reaction?

*Apakah tindak balas itu?*

- A Polymerisation  
*Pempolimeran*
- B Dehydration  
*Pendehidratan*
- C Fermentation  
*Penapaian*
- D Esterification  
*Pengesteran*

35 Choose the correct characteristic of saturated fat and unsaturated fat.

*Pilih ciri yang betul tentang lemak tepu dan lemak tak tepu.*

	<b>Saturated fat</b> <i>Lemak tepu</i>	<b>Unsaturated fat</b> <i>Lemak tak tepu</i>
<b>A</b>	Originated from plant <i>Berasal daripada tumbuhan</i>	Originated from animal <i>Berasal daripada haiwan</i>
<b>B</b>	Solid at room temperature <i>Pepejal pada suhu bilik</i>	Liquid at room temperature <i>Cecair pada suhu bilik</i>
<b>C</b>	Low melting points <i>Takat lebur rendah</i>	High cholesterol <i>Kolesterol tinggi</i>
<b>D</b>	Low cholesterol <i>Kolesterol rendah</i>	High melting points <i>Takat lebur tinggi</i>

36 Diagram 13 shows a cross-section of an oil palm fruit.

Which part, **A**, **B**, **C** or **D** can produce kernel oil?

*Rajah 13 menunjukkan keratan rentas buah kelapa sawit.*

*Antara bahagian A, B, C dan D, yang manakah boleh menghasilkan minyak isirung?*

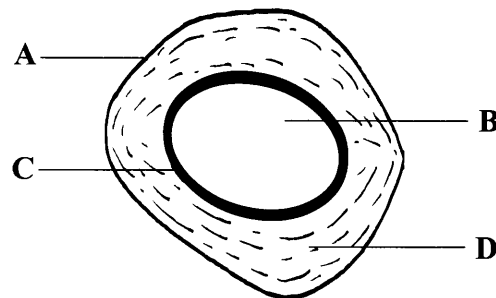


Diagram 13  
*Rajah 13*

37 A mechanic finds that his shirt is stained with grease.

What should he used to clean the shirt?

*Seorang mekanik mendapati bajunya telah dikotori oleh gris.*

*Apakah yang perlu dia gunakan untuk membersihkan baju itu?*

A Soap

*Sabun*

B Acid

*Asid*

C Salt

*Garam*

D Alcohol

*Alkohol*

38 Choose the correct match between polymer and its monomer.

*Pilih padanan yang betul antara polimer dan monomernya.*

	<b>Polimer</b> <i>Polimer</i>	<b>Monomer</b> <i>Monomer</i>
A	Starch <i>Kanji</i>	Isoprene <i>Isoprena</i>
B	Protein <i>Protein</i>	Amino acid <i>Asid amino</i>
C	Natural rubber <i>Getah asli</i>	Methyl methacrylate <i>Metil metakrilat</i>
D	Perspex <i>Perspeks</i>	Glucose <i>Glukosa</i>



39 Diagram 14 shows a cyclist starts cycling from R to S.

Rajah 14 menunjukkan seorang pelumba basikal memulakan kayuhan dari R ke S.

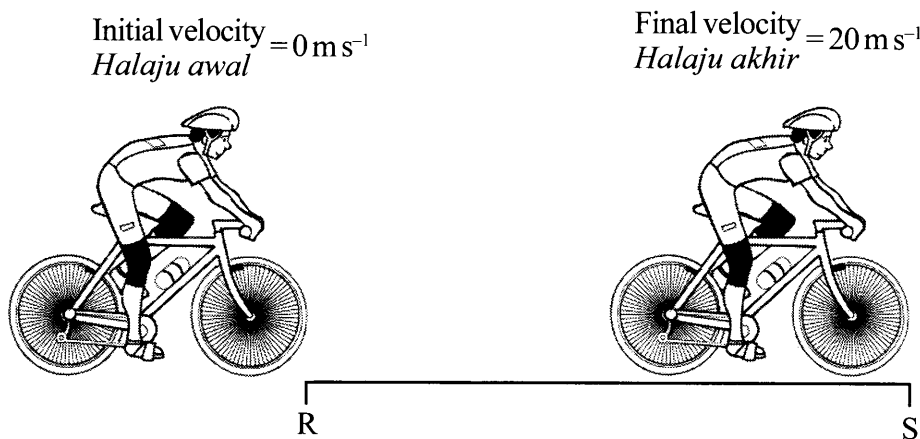


Diagram 14

Rajah 14

The time taken is 4 seconds.

What is the acceleration?

$$\left[ \text{Acceleration} = \frac{\text{Final velocity} - \text{Initial velocity}}{\text{Time}} \right]$$

Masa yang diambil adalah 4 saat.

Berapakah pecutannya?

$$\left[ \text{Pecutan} = \frac{\text{Halaju akhir} - \text{Halaju awal}}{\text{Masa}} \right]$$

- A  $5 \text{ m s}^{-2}$
- B  $16 \text{ m s}^{-2}$
- C  $24 \text{ m s}^{-2}$
- D  $80 \text{ m s}^{-2}$

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40 Diagram 15 shows four iron blocks with the same mass being hung.

Which block, **A**, **B**, **C** or **D** produces the lowest pressure on the sand after the string is cut?

*Rajah 15 menunjukkan empat blok besi yang sama jisim digantung.*

*Antara bongkah **A**, **B**, **C** dan **D**, yang manakah akan menghasilkan tekanan yang paling rendah ke atas pasir selepas tali dipotong?*

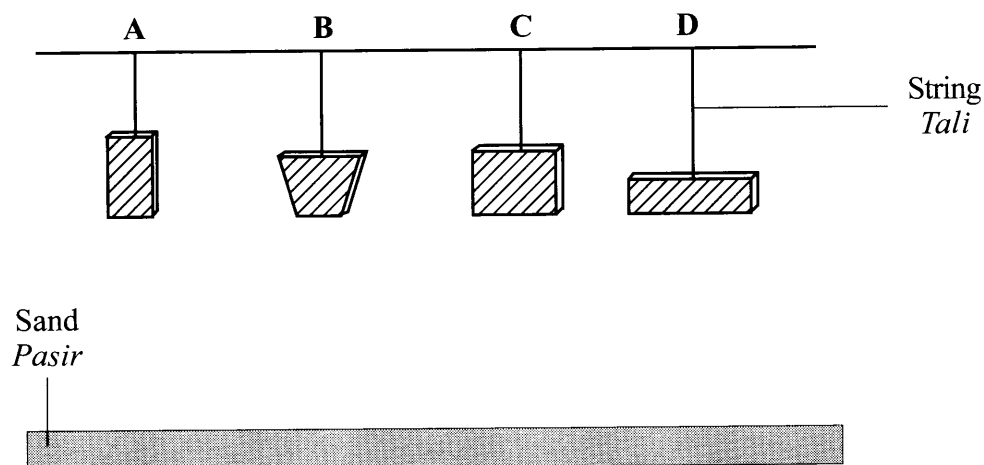


Diagram 15  
*Rajah 15*

41 Diagram 16 shows a box placed on a table.

*Rajah 16 menunjukkan sebuah kotak diletakkan di atas meja.*

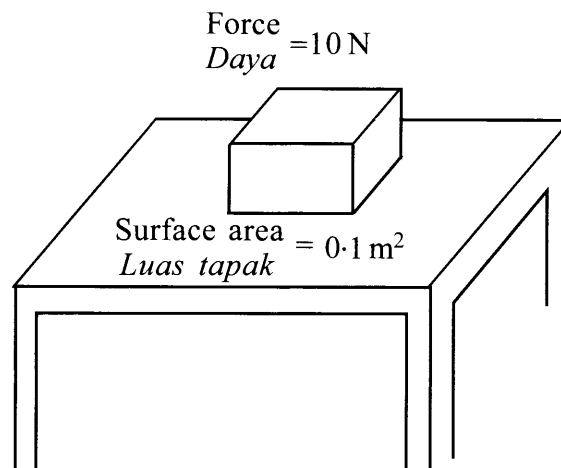


Diagram 16

*Rajah 16*

What is the pressure exerted by the box?

$$\left[ \text{Pressure} = \frac{\text{Force}}{\text{Area}} \right]$$

*Berapakah tekanan yang dikenakan oleh kotak itu?*

$$\left[ \text{Tekanan} = \frac{\text{Daya}}{\text{Luas}} \right]$$

- A 1.0 N m<sup>-2</sup>
- B 9.9 N m<sup>-2</sup>
- C 10.1 N m<sup>-2</sup>
- D 100.0 N m<sup>-2</sup>

42 Diagram 17 shows a hydraulic jack used to lift up a vehicle.

Rajah 17 menunjukkan suatu jek hidraulik digunakan untuk mengangkat sebuah kenderaan.

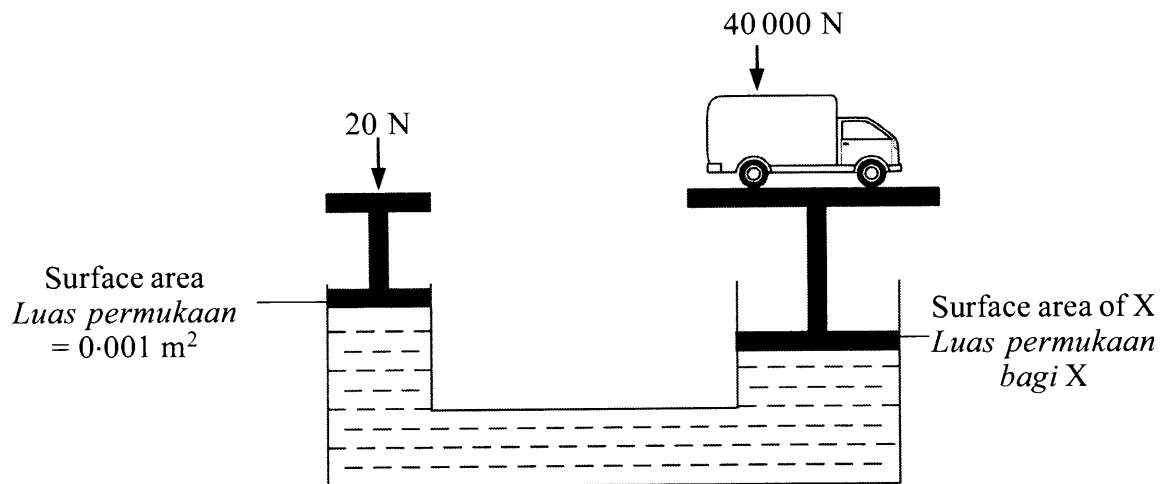


Diagram 17  
Rajah 17

Calculate the surface area of X.

$$\left[ \text{Pressure} = \frac{\text{Force}}{\text{Surface Area}} \right]$$

Hitung luas permukaan bagi X.

$$\left[ \text{Tekanan} = \frac{\text{Daya}}{\text{Luas permukaan}} \right]$$

- A 2 m<sup>2</sup>
- B 40 m<sup>2</sup>
- C 2 000 m<sup>2</sup>
- D 20 000 m<sup>2</sup>

43 Diagram 18 shows a type of drink.

*Rajah 18 menunjukkan sejenis minuman.*

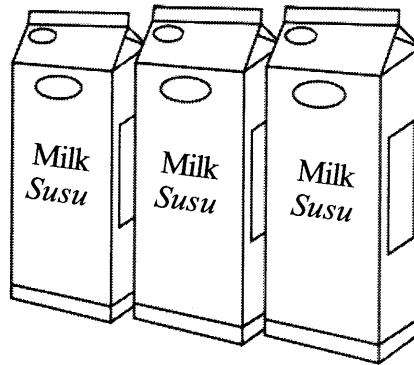


Diagram 18  
*Rajah 18*

Which method should be used in order to preserve the flavour and nutrient of the drink?  
*Kaedah manakah yang patut digunakan untuk mengekalkan rasa dan nutrien bagi minuman itu?*

- A Canning  
*Pengetinan*
- B Freezing  
*Penyejukbekuan*
- C Irradiation  
*Penyinaran*
- D Pasteurisation  
*Pempasteuran*

44 Diagram 19 shows selective breeding of paddy.

*Rajah 19 menunjukkan pembiakbakaan bagi padi.*

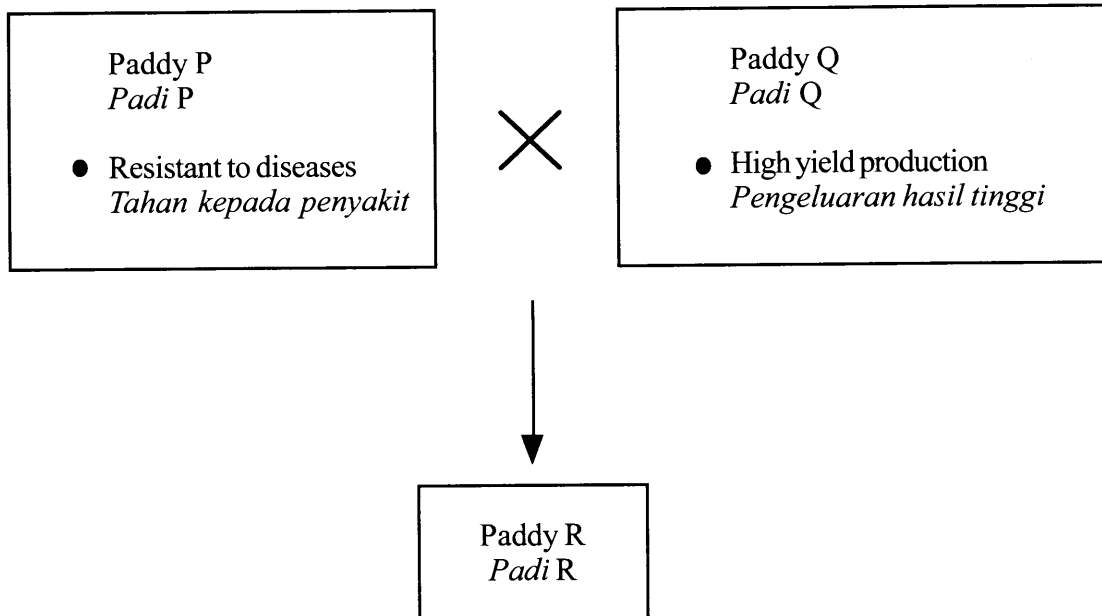


Diagram 19  
*Rajah 19*

What are the characteristics of paddy R?

*Apakah ciri-ciri yang terdapat pada padi R?*

- A** High yield production and resistant to diseases  
*Pengeluaran hasil tinggi dan tahan kepada penyakit*
- B** High yield production but not resistant to diseases  
*Pengeluaran hasil tinggi tetapi tidak tahan kepada penyakit*
- C** Low yield production but resistant to diseases  
*Pengeluaran hasil rendah tetapi tahan kepada penyakit*
- D** Low yield production and not resistant to diseases  
*Pengeluaran hasil rendah dan tidak tahan kepada penyakit*

- 45 A house wife went to a supermarket to buy fresh milk on the 3 March 2014.  
Which fresh milk should she buy?

*Seorang suri rumah telah pergi ke pasar raya untuk membeli susu segar pada 3 Mac 2014.*

*Susu segar manakah yang patut dibelinya?*

A

FRESH MILK  
SUSU SEGAR  
Expiry date :05.02.2014  
*Tarikh luput*

B

FRESH MILK  
SUSU SEGAR  
Expiry date :10.02.2014  
*Tarikh luput*

C

FRESH MILK  
SUSU SEGAR  
Expiry date :02.04.2014  
*Tarikh luput*

D

FRESH MILK  
SUSU SEGAR  
Expiry date :02.03.2014  
*Tarikh luput*

- 46 Diagram 20 shows a change in molecular structure of perspex.  
*Rajah 20 menunjukkan suatu perubahan pada struktur molekul perspeks.*

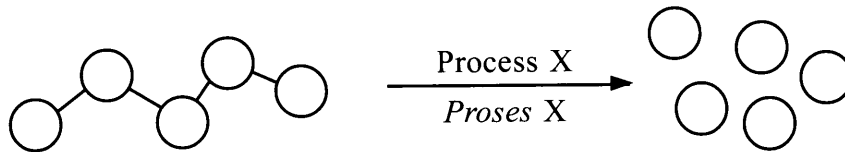


Diagram 20  
*Rajah 20*

What is process X?

*Apakah proses X?*

- A** Fermentation  
*Penapaian*
- B** Vulcanisation  
*Pemvulkanan*
- C** Esterification  
*Pengesteran*
- D** Depolymerisation  
*Penyahpolimeran*
- 47 What is the characteristic of thermoplastic?  
*Apakah ciri termoplastik?*
- A** Can be repeatedly melted and solidified  
*Boleh dileburkan dan dikeraskan berulang kali*
- B** Remain solid at high temperature  
*Kekal pepejal pada suhu tinggi*
- C** Withstand towards organic solvents  
*Tahan terhadap pelarut organik*
- D** Can be moulded once  
*Boleh diacu sekali sahaja*



48 Diagram 21 shows the method of disposing the synthetic polymers.

*Rajah 21 menunjukkan kaedah melupus polimer sintetik.*

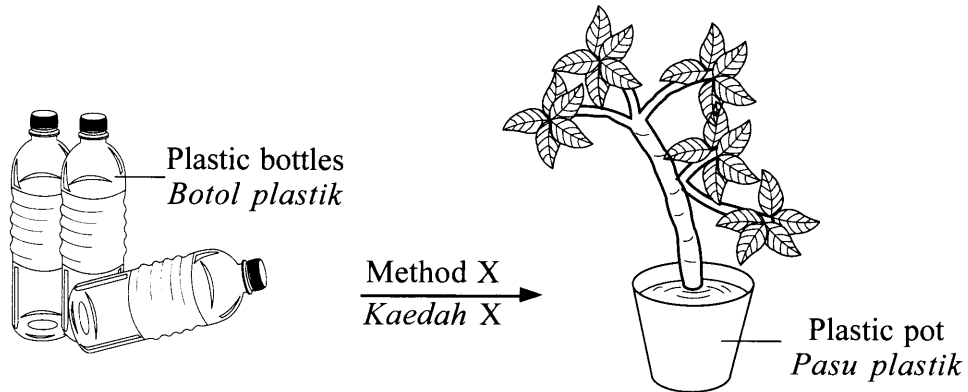


Diagram 21  
*Rajah 21*

What is X?

*Apakah X?*

A Reuse

*Guna semula*

B Reduce

*Pengurangan*

C Recycle

*Kitar semula*

D Replacement

*Penggantian*

49 Diagram 22 shows a wave with a frequency 50 Hz.

*Rajah 22 menunjukkan satu gelombang yang mempunyai frekuensi 50 Hz.*

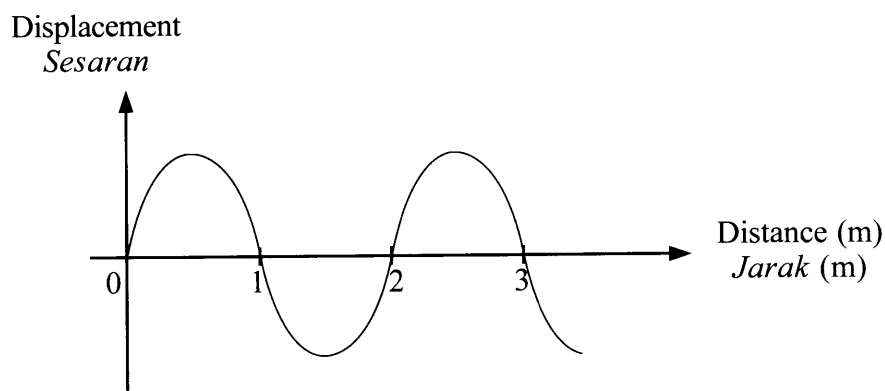


Diagram 22  
*Rajah 22*

What is the velocity of the wave?

[  $v = f\lambda$ ,  $v = \text{velocity}$   $f = \text{frequency}$   $\lambda = \text{wavelength}$  ]

*Berapakah halaju gelombang itu?*

[  $v = f\lambda$ ,  $v = \text{halaju}$   $f = \text{frekuensi}$   $\lambda = \text{panjang gelombang}$  ]

- A  $25 \text{ m s}^{-1}$
- B  $48 \text{ m s}^{-1}$
- C  $52 \text{ m s}^{-1}$
- D  $100 \text{ m s}^{-1}$

50 Diagram 23 shows the symbol of an electronic component.

*Rajah 23 menunjukkan simbol bagi satu komponen elektronik.*



Diagram 23  
*Rajah 23*

What is its function?

*Apakah fungsinya?*

A Restore charges

*Menyimpan cas*

B Receive radio waves

*Menerima gelombang radio*

C Changes the voltage of an alternating current

*Mengubah voltan arus ulang alik*

D Allow current to flow in one direction only

*Membenarkan arus mengalir dalam satu arah sahaja*

**END OF QUESTION PAPER**  
***KERTAS SOALAN TAMAT***

**INFORMATION FOR CANDIDATES**  
**MAKLUMAT UNTUK CALON**

1. This question paper consists of **50** questions.  
*Kertas soalan ini mengandungi 50 soalan.*
2. Answer **all** questions.  
*Jawab semua soalan.*
3. Each question is followed by four alternative answers, **A, B, C** or **D**. For each question, choose **one** answer only. Blacken your answer on the objective answer sheet provided.  
*Tiap-tiap soalan diikuti oleh empat pilihan jawapan, iaitu **A, B, C** dan **D**. Bagi setiap soalan, pilih **satu** jawapan sahaja. Hitamkan jawapan anda pada kertas jawapan objektif yang disediakan.*
4. If you wish to change your answer, erase the blackened mark that you have made. Then blacken the new answer.  
*Jika anda hendak menukar jawapan, padamkan tanda yang telah dibuat. Kemudian hitamkan jawapan yang baharu.*
5. The diagrams in the questions provided are not drawn to scale unless stated.  
*Rajah yang mengiringi soalan tidak dilukis mengikut skala kecuali dinyatakan.*
6. You may use a scientific calculator.  
*Anda dibenarkan menggunakan kalkulator saintifik.*