

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.*

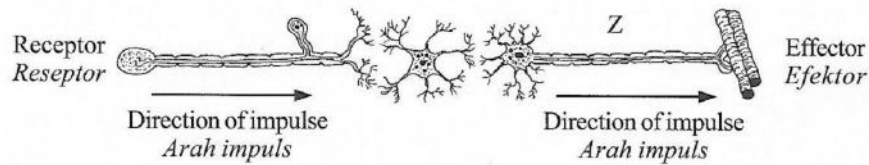


Diagram 1  
*Rajah 1*

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.*

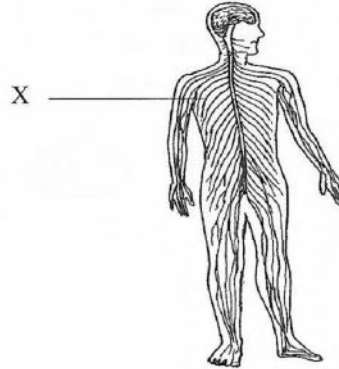


Diagram 2  
*Rajah 2*

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.*

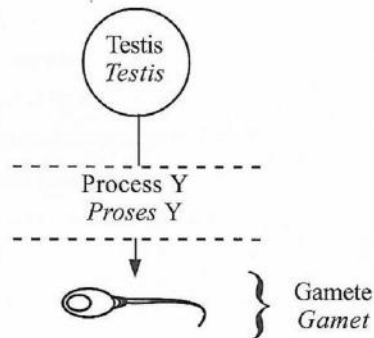
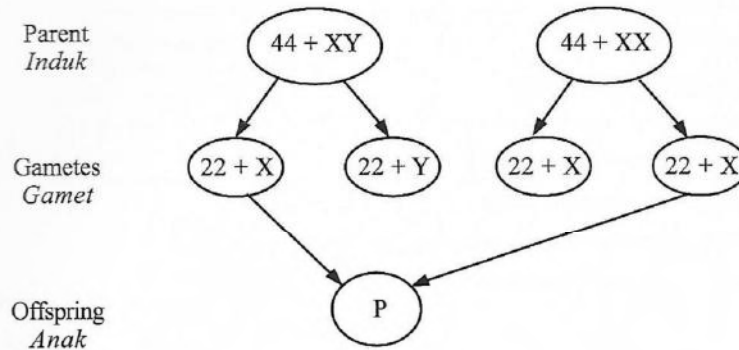


Diagram 3  
*Rajah 3*

- 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.



What is the genotype and phenotype for P?

Apakah genotip dan fenotip bagi P?

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

- 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.*

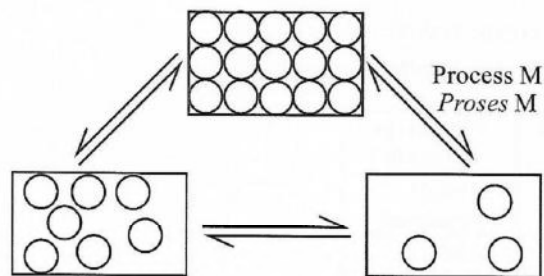


Diagram 5  
*Rajah 5*

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

Table 1  
*Jadual 1*

What is X, Y and Z?

*Apakah X, Y dan Z?*

|   | X                           | Y                           | Z                           |
|---|-----------------------------|-----------------------------|-----------------------------|
| A | Proton<br><i>Proton</i>     | Electron<br><i>Elektron</i> | Neutron<br><i>Neutron</i>   |
| B | Proton<br><i>Proton</i>     | Neutron<br><i>Neutron</i>   | Electron<br><i>Elektron</i> |
| C | Neutron<br><i>Neutron</i>   | Proton<br><i>Proton</i>     | Electron<br><i>Elektron</i> |
| D | Electron<br><i>Elektron</i> | Neutron<br><i>Neutron</i>   | Proton<br><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

- 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.

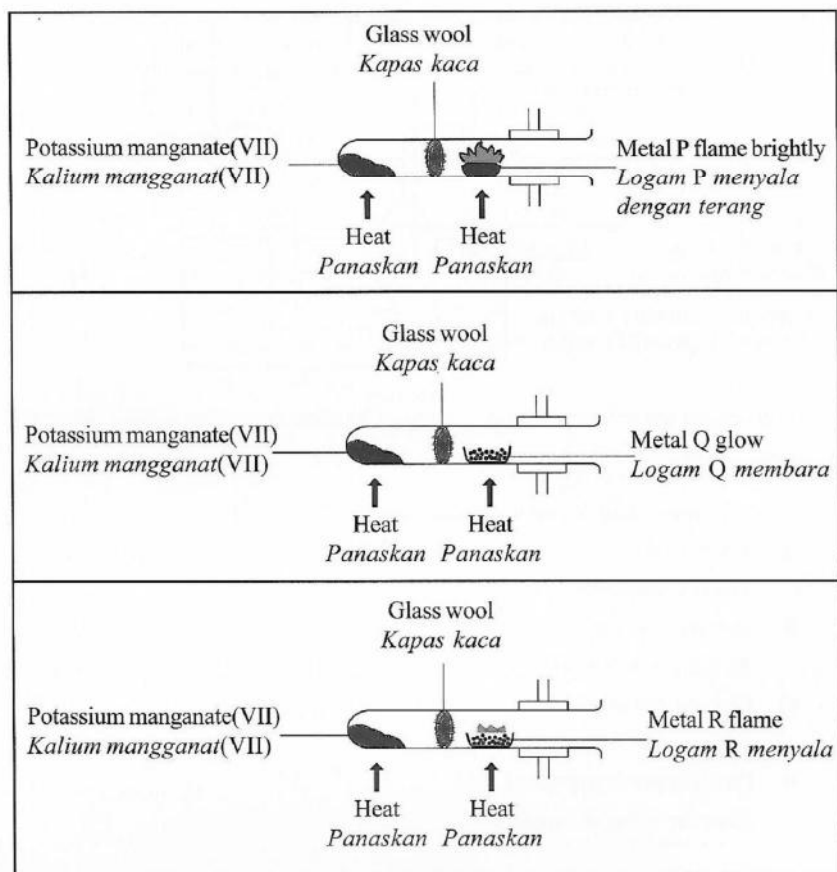


Diagram 6  
Rajah 6

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.*

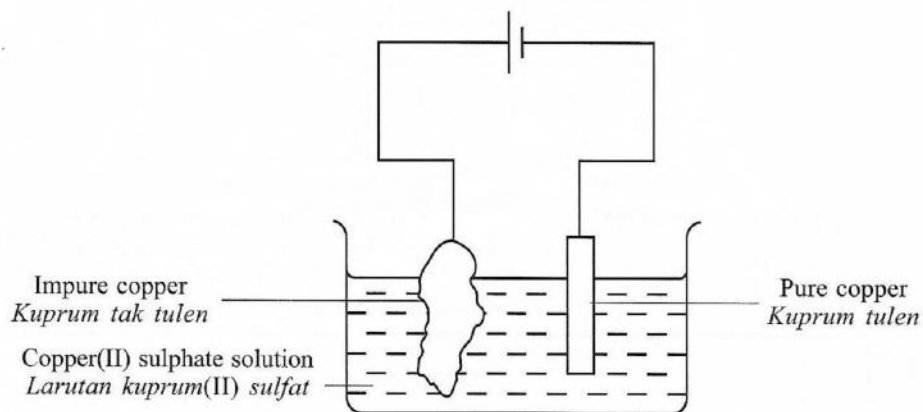


Diagram 7  
Rajah 7

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 ditanamkan*

- 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.*

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

16 Diagram 8 shows radioactive radiation passing through an electric field.

*Rajah 8 menunjukkan sinaran radioaktif melalui satu medan elektrik.*

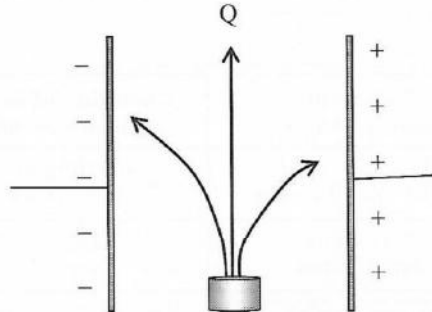


Diagram 8  
*Rajah 8*

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.*

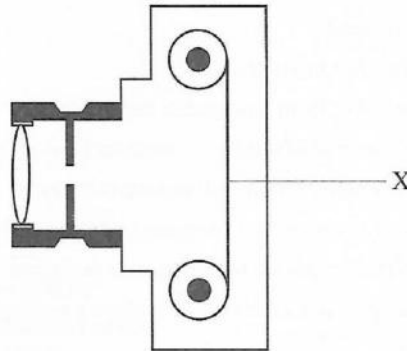


Diagram 9  
*Rajah 9*

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.*

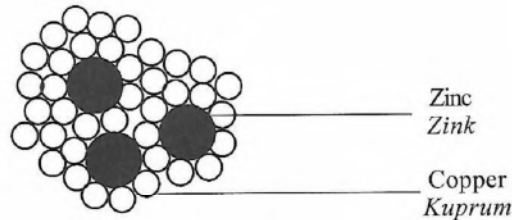


Diagram 10  
*Rajah 10*

What is the alloy?

*Apakah aloi itu?*

A Brass

*Loyang*

B Steel

*Keluli*

C Bronze

*Gangsa*

D Pewter

*Piuter*

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- 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*

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

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

| Type of food<br><i>Jenis makanan</i> | Calorific value (kJ/g)<br><i>Nilai kalori (kJ/g)</i> |
|--------------------------------------|------------------------------------------------------|
| Egg<br><i>Telur</i>                  | 6.12                                                 |
| Bread<br><i>Roti</i>                 | 10.12                                                |
| Milk<br><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.*

- |                                                                                                                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>• Hypertension<br/><i>Tekanan darah tinggi</i></li><li>• Arteriosclerosis<br/><i>Arteriosklerosis</i></li><li>• Stroke<br/><i>Strok</i></li></ul> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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*

- 30 Diagram 11 shows the roots of a leguminous plant.  
*Rajah 11 menunjukkan akar tumbuhan kekacang.*

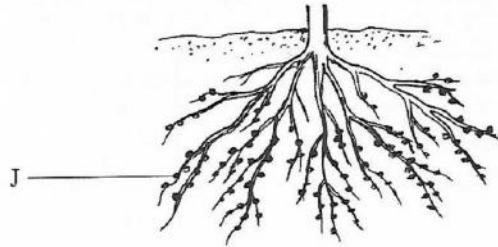


Diagram 11  
*Rajah 11*

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.*

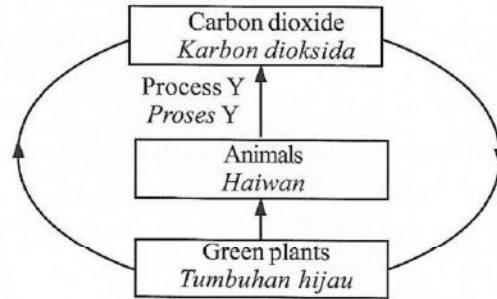


Diagram 12  
*Rajah 12*

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*

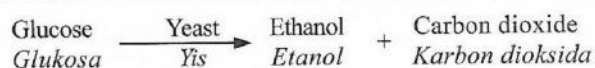
- 33 Which activity contributes to the preservation and conservation of environment?

*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.

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

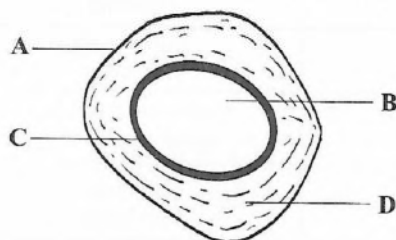


Diagram 13  
Rajah 13

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

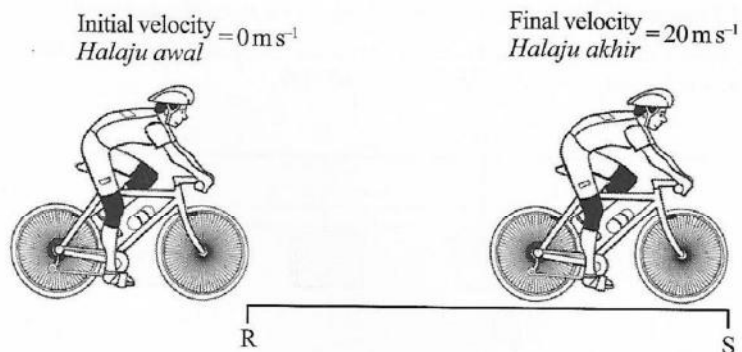


Diagram 14  
Rajah 14

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  $80 \text{ m s}^{-2}$

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?

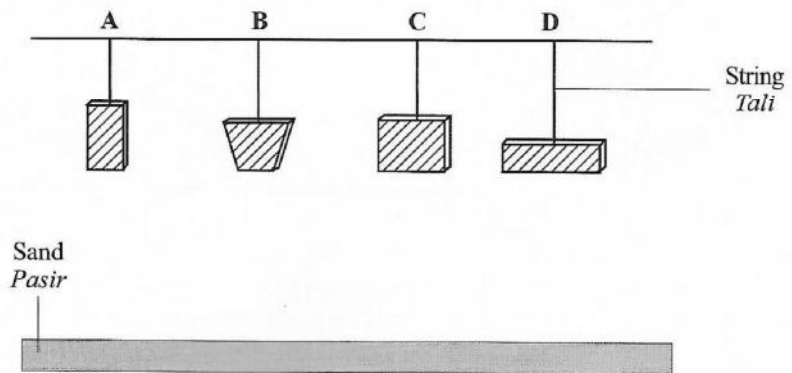


Diagram 15  
Rajah 15

41 Diagram 16 shows a box placed on a table.

Rajah 16 menunjukkan sebuah kotak diletakkan di atas meja.

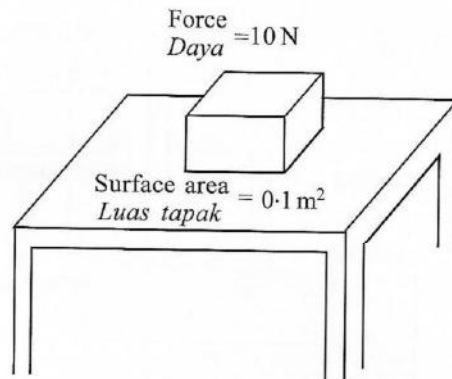


Diagram 16  
Rajah 16

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.

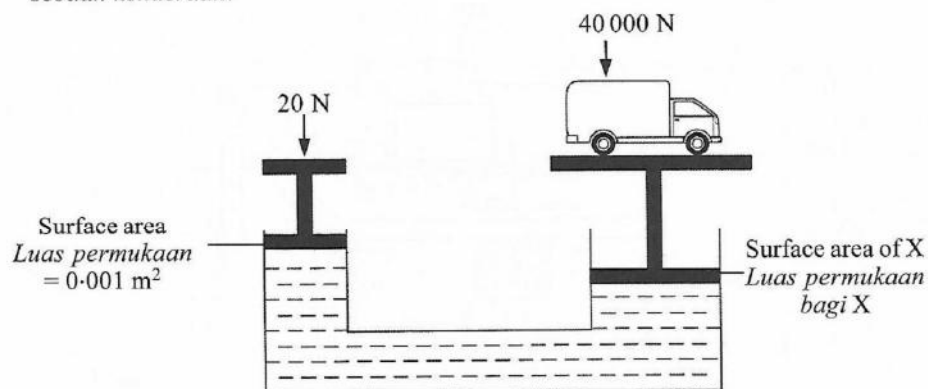


Diagram 17  
Rajah 17

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  $2 \text{ m}^2$
- B  $40 \text{ m}^2$
- C  $2000 \text{ m}^2$
- D  $20000 \text{ m}^2$

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.*

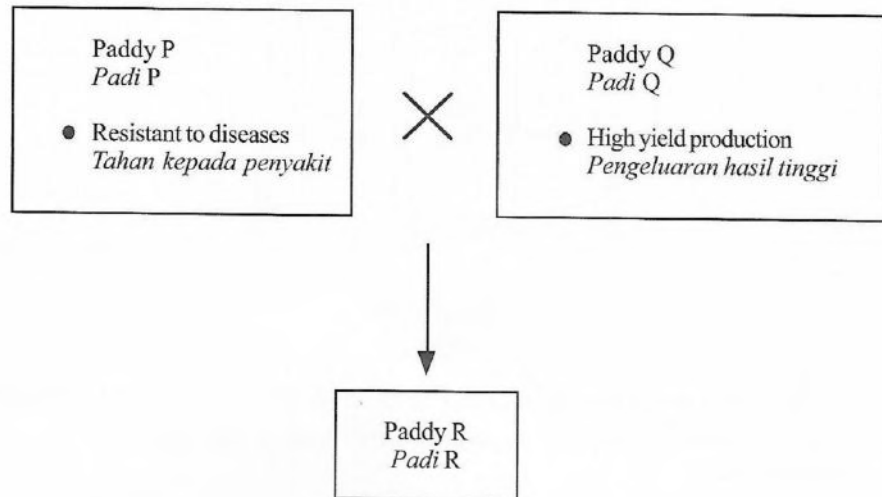


Diagram 19  
*Rajah 19*

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 perspex.

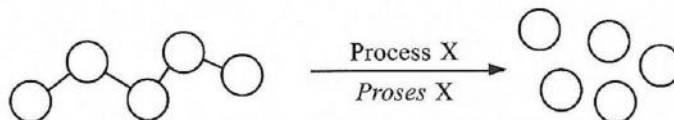


Diagram 20  
Rajah 20

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.*

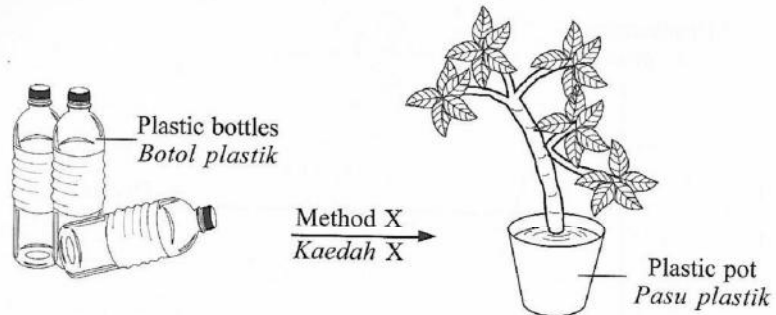


Diagram 21  
*Rajah 21*

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.

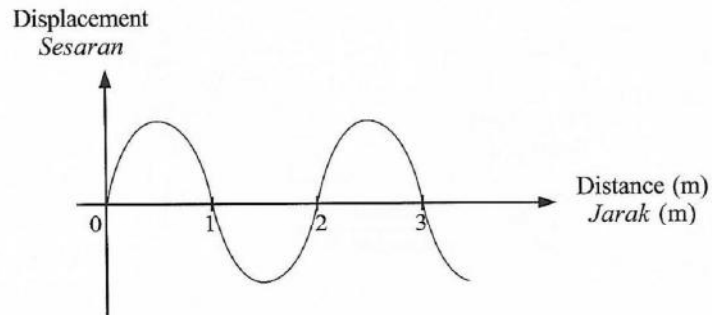


Diagram 22  
Rajah 22

What is the velocity of the wave?

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

Berapakah halaju gelombang itu?

[  $v = f\lambda$ ,  $v$  = halaju  $f$  = frekuensi  $\lambda$  = 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.*