

**1** Diagram 1 shows a hazardous symbol on a chemical bottle.

*Rajah 1 menunjukkan satu simbol keselamatan pada botol bahan kimia*

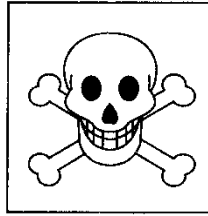


Diagram 1 / *Rajah 1*

Which of the following represent the symbol shows in Diagram 1?

*Antara berikut, yang manakah mewakili simbol dalam Rajah 1?*

**A** Poisonous

*Beracun*

**B** Irritating

*Merengsa*

**C** Corrosive

*Mengkakis*

**D** Flammable

*Mudah terbakar*

2 Diagram 2 shows a plant cell.

*Rajah 2 menunjukkan sel tumbuhan.*

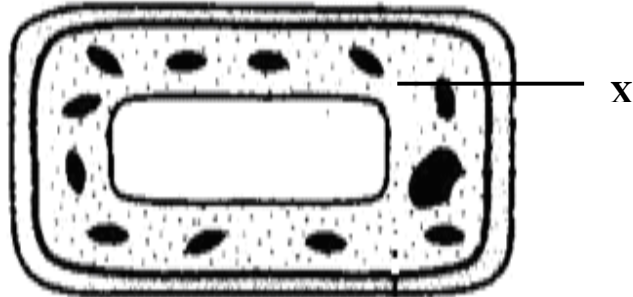


Diagram 2 / *Rajah 2*

What is the function of **X**?

*Apakah fungsi **X**?*

- A** Control the movement of materials in and out of cells  
*Mengawal pergerakan bahan keluar dan masuk daripada sel*
- B** Support and gives shape to the cells  
*Menyokong dan memberi bentuk kepada sel*
- C** Stores dissolve materials  
*Menyimpan bahan terlarut*
- D** Control all cellular activities  
*Mengawal semua aktiviti sel*

**3** The following are informations about a system in human.

*Maklumat berikut adalah mengenai satu sistem dalam manusia.*

- It made up of brain and spinal cord  
*Terbina daripada otak dan saraf tunjang*
- Controls and coordinate bodies activities  
*Mengawal dan mengkoordinasi aktiviti badan*

Which of the following systems described the above statements?

*Antara sistem berikut, yang manakah menerangkan pernyataan di atas?*

- A** Nervous system  
*Sistem saraf*
- B** Muscular system  
*Sistem otot*
- C** Respiratory system  
*Sistem respirasi*
- D** Digestive system  
*Sistem pencernaan*

4 Diagram 3 shows examples of organisms.

*Rajah 3 menunjukkan contoh-contoh organisma.*

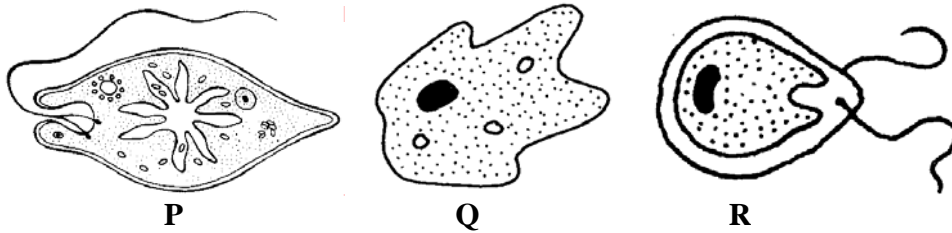


Diagram 3 / *Rajah 3*

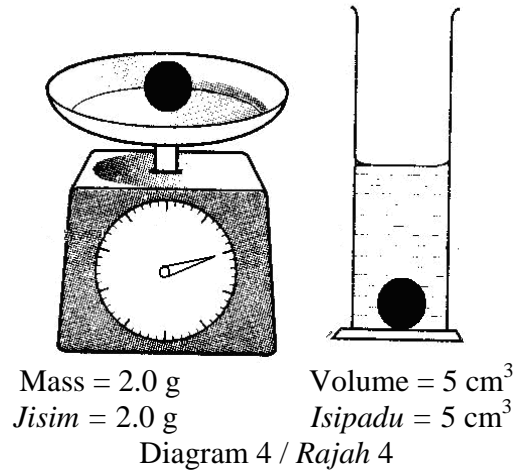
Which of the following organism carry out photosynthesis?

*Antara berikut, yang manakah menjalankan fotosintesis?*

- A** P and Q only  
*P dan Q sahaja*
- B** P and R only  
*P dan R sahaja*
- C** Q and R only  
*Q dan R sahaja*
- D** P, Q and R  
*P, Q dan R*

5 Diagram 4 shows the measuring of mass and volume of a marble.

*Rajah 4 menunjukkan pengukuran jisim dan isipadu sebiji guli.*



What is the density of the marble?

*Apakah ketumpatan guli itu?*

- A 0.3 g cm<sup>-3</sup>
- B 0.4 g cm<sup>-3</sup>
- C 2.5 g cm<sup>-3</sup>
- D 10.0 g cm<sup>-3</sup>

6 Diagram 5 shows a method of separation of a mixture.

*Rajah 5 menunjukkan satu kaedah pengasingan sejenis campuran.*

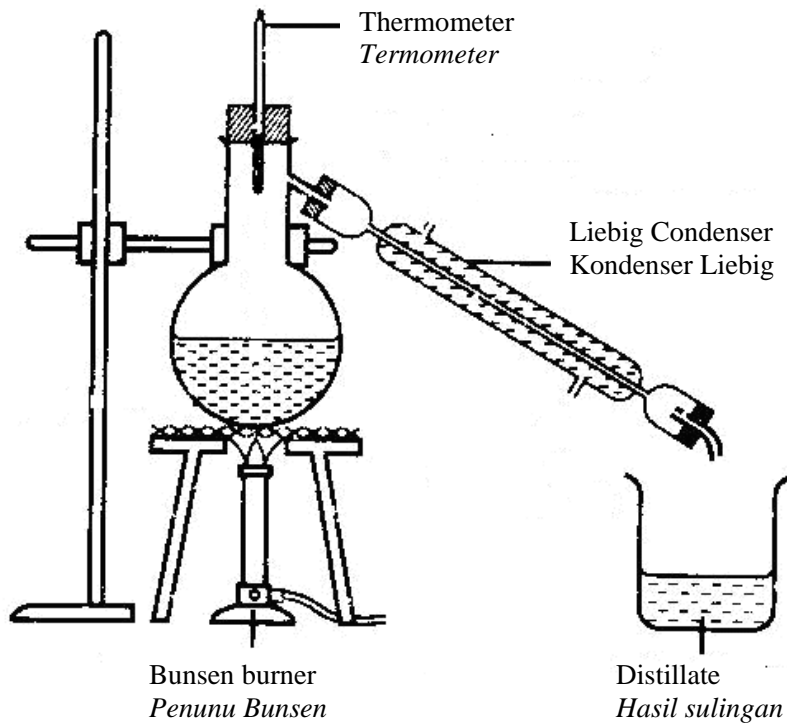


Diagram 5 / *Rajah 5*

What is the function of this method?

*Apakah fungsi kaedah ini?*

- A** To separate a mixture of solid and liquid  
*Untuk mengasingkan campuran pepejal dan cecair*
- B** To separate a mixture of liquid that does not mix.  
*Untuk mengasingkan satu campuran cecair yang tidak bercampur*
- C** To obtain dissolve substance from water  
*Untuk mendapatkan bahan terlarut daripada air*
- D** To obtain pure water from a mixture  
*Untuk mendapatkan air tulen daripada satu campuran*

7 What is the importance of fossil fuels?

*Apakah kepentingan bahan api fosil?*

**A** As a medium for chemical reaction and metabolism to take place

*Sebagai medium untuk tindakbalas kimia dan metabolisma berlaku*

**B** To provide energy for domestic use, factories, vehicles and power stations to generate electricity.

*Untuk membekalkan tenaga bagi kegunaan domestik, kilang, kenderaan dan stesen janakuasa elektrik*

**C** As a habitat for many types of living organism

*Sebagai habitat pelbagai jenis organisma hidup*

**D** Needed for the healthy growth of man, animals and plants

*Diperlukan untuk pertumbuhan yang sihat bagi manusia, haiwan dan tumbuhan*

8 Table 1 shows the observation of an experiment to study the effect of a gas on a glowing and burning splinter.

*Jadual 1 menunjukkan pemerhatian bagi satu eksperimen untuk mengkaji kesan sejenis gas ke atas kayu uji berbara dan kayu uji menyala.*

<b>Glowing splinter</b> <i>Kayu uji berbara</i>	Relights glowing splinter <i>Kayu uji berbara akan menyala</i>
<b>Burning splinter</b> <i>Kayu uji menyala</i>	Burning splinter burns brightly <i>Kayu uji menyala terbakar dengan terang</i>

Table 1 / *Jadual 1*

Which of the following gas causes this observation?

*Antara berikut, gas manakah yang menyebabkan pemerhatian tersebut?*

**A** Oxygen

*Oksigen*

**B** Nitrogen

*Nitrogen*

**C** Carbon dioxide

*Karbon dioksida*

**D** Hydrogen

*Hidrogen*

**9** Which of the following action causes air pollution?

*Antara berikut, tindakan manakah menyebabkan pencemaran udara?*

**A** Education

*Pendidikan*

**B** Control deforestation

*Mengawal penebangan hutan*

**C** Legislation

*Perundangan*

**D** Industrialization

*Perindustrian*



10 Diagram 6 shows a simple pendulum is swinging.

Rajah 6 menunjukkan bandul ringkas yang sedang berayun.

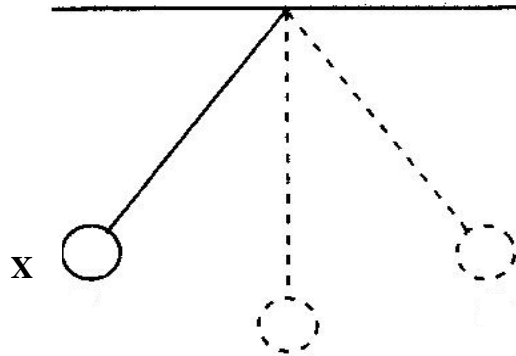


Diagram 6 / Rajah 6

Which of the following is **correct** about potential energy and kinetic energy at position **X**?

Antara berikut, yang manakah **betul** mengenai tenaga keupayaan dan tenaga kinetik pada kedudukan **X**?

	Potential Energy <i>Tenaga keupayaan</i>	Kinetic Energy <i>Tenaga kinetik</i>
<b>A</b>	Minimum <i>Minima</i>	Minimum <i>Minima</i>
<b>B</b>	Minimum <i>Minima</i>	Maximum <i>Maksima</i>
<b>C</b>	Maximum <i>Maksima</i>	Minimum <i>Minima</i>
<b>D</b>	Maximum <i>Maksima</i>	Maximum <i>Maksima</i>

11 Diagram 7 shows an experiment to study heat transfer in a solid.

*Rajah 7 menunjukkan satu eksperimen untuk mengkaji pemindahan haba di dalam pepejal.*

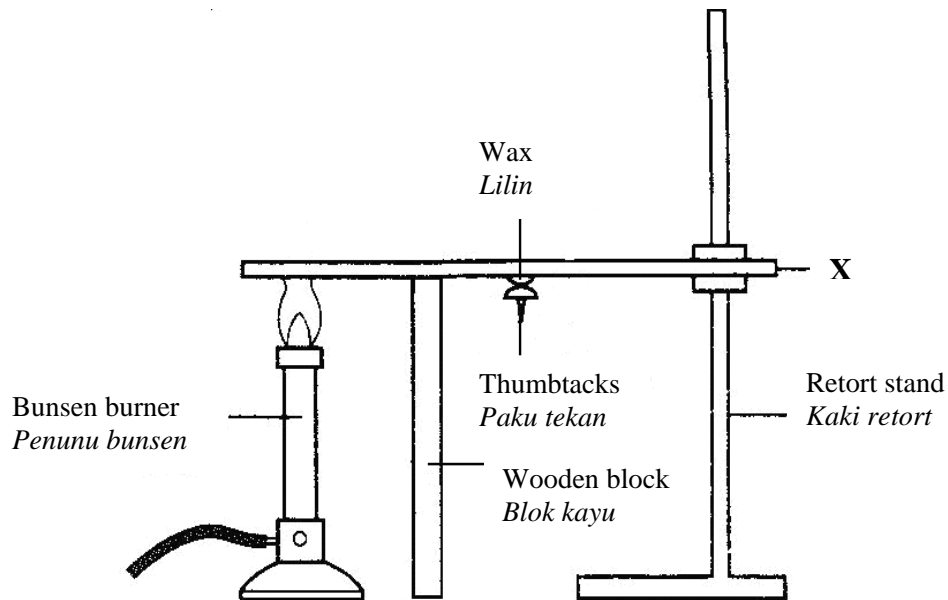


Diagram 7 / Rajah 7

Which of the following represent **X** that causes the thumbtack to drop faster?

*Antara yang berikut, manakah mewakili **X** yang menyebabkan paku tekan jatuh lebih cepat?*

- A Copper  
*Kuprum*
- B Plastic  
*Plastik*
- C Glass  
*Kaca*
- D Wood  
*Kayu*

12 Which of the following explain why the reading of a thermometer increases?

*Antara berikut yang manakah menerangkan mengapa bacaan termometer meningkat?*

**A** The mercury expands

*Merkuri mengembang*

**B** The bulb absorbs heat

*Bebuli menyerap haba*

**C** The thermometer tube expands

*Tiub termometer mengembang*

**D** The bulb contracts

*Bebuli mengecut*

13 Which of the following explained why an oil tanker is painted silver?

*Antara berikut, yang manakah menerangkan mengapa lori tangki minyak dicat warna perak?*

**A** A poor filter of cosmic rays

*Penapis sinaran kosmik yang lemah*

**B** A poor absorption of heat

*Penyerap haba yang lemah*

**C** A good conductor of heat

*Pengalir haba yang baik*

**D** A good reflector of heat

*Pemantul haba yang baik*

14 Diagram 8 shows parts of a nasal cavity.

Which of the parts labelled **A**, **B**, **C** and **D** has the smell receptors?

*Rajah 8 menunjukkan bahagian rongga nasal.*

*Antara bahagian yang berlabel **A**, **B**, **C** dan **D** yang manakah mempunyai reseptor bau?*

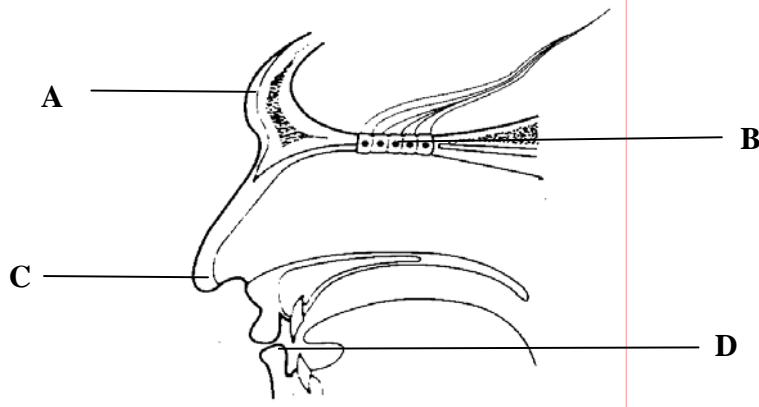


Diagram 8 / Rajah 8

15 Which of the following pair is correct?

*Antara pasangan berikut yang manakah betul?*

	<b>Stereoscopic</b> <i>Stereoskopik</i>	<b>Monocular</b> <i>Monokular</i>
<b>A</b>	Wolves <i>Serigala</i>	Cat <i>Kucing</i>
<b>B</b>	Deer <i>Rusa</i>	Tiger <i>Harimau</i>
<b>C</b>	Owl <i>Burung Hantu</i>	Rabbit <i>Arnab</i>
<b>D</b>	Rat <i>Tikus</i>	Fish <i>Ikan</i>

16 **X** and **Y** are the characteristics of animals.

**X** dan **Y** adalah ciri-ciri haiwan.

<b>X</b>	<b>Y</b>
<ul style="list-style-type: none"> <li>- live both on land and water <i>hidup di darat dan air</i></li> <li>- lay eggs <i>bertelur</i></li> <li>- moist skin <i>berkulit lembab</i></li> <li>- cold-blood <i>berdarah panas</i></li> </ul>	<ul style="list-style-type: none"> <li>- have beaks and wings <i>paruh dan kepak</i></li> <li>- lay eggs <i>bertelur</i></li> <li>- have feathers <i>berbulu pelepah</i></li> <li>- warm-blood <i>berdarah panas</i></li> </ul>

Which of the following represent **X** and **Y**?

Antara berikut yang manakah mewakili **X** dan **Y**?

	<b>X</b>	<b>Y</b>
<b>A</b>	Birds <i>Burung</i>	Fish <i>Ikan</i>
<b>B</b>	Fish <i>Ikan</i>	Mammal <i>Mamalia</i>
<b>C</b>	Mammals <i>Mamalia</i>	Amphibian <i>Amfibia</i>
<b>D</b>	Amphibian <i>Amfibia</i>	Birds <i>Burung</i>

17 Diagram 9 shows an eagle catching a rat for food.

*Rajah 9 menunjukkan seekor helang sedang menangkap tikus sebagai makanan*



Diagram 9 / Rajah 9

Which of the following interaction is correct?

*Antara berikut, interaksi yang manakah benar?*

**A** Both animals get benefit

*Kedua-dua haiwan mendapat faedah*

**B** One organism gets benefit while the other loss

*Satu organisma mendapat faedah manakala yang satu lagi mengalami kerugian*

**C** One organism get benefit while the other is not affected

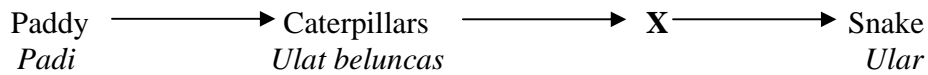
*Satu organisma mendapat faedah dan satu lagi tidak terjejas*

**D** One organism captured for food

*Satu organisma ditangkap untuk dijadikan makanan*

- 18 The flow chart shows a food chain.

*Carta alir menunjukkan satu rantai makanan.*



Which is the following organism represents X?

*Antara organisma berikut yang manakah mewakili X?*

- A Eagle  
*Helang*
- B Earthworm  
*Cacing tanah*
- C Toad  
*Kodok*
- D Grass  
*Rumput*

- 19 Which of the following is **true** about alkali?

*Antara berikut, yang manakah benar mengenai alkali?*

	<b>Alkali</b> <i>Alkali</i>	<b>Uses</b> <i>Kegunaan</i>
<b>A</b>	Ammonia <i>Ammonia</i>	For healthy growth of plants <i>Untuk pertumbuhan pokok yang sihat</i>
<b>B</b>	Sodium hydroxide <i>Natrium hidroksida</i>	For making soap <i>Untuk membuat sabun</i>
<b>C</b>	Magnesium hydroxide <i>Magnesium hidroksida</i>	Coagulation of latex <i>Pembekuanbekukan susu getah</i>
<b>D</b>	Calcium hydroxide <i>Kalsium hidroksida</i>	For making fertiliser <i>Untuk membuat baja</i>

- 20** Which of the following is the safety precaution when using gas from a tank under high pressure?

*Antara berikut, yang manakah langkah keselamatan apabila menggunakan gas dari tangki di bawah tekanan tinggi?*

- A** Keep the gas cylinder upright  
*Letakkan silinder gas menegak*
- B** Keep the gas cylinder in an enclosed area  
*Letakkan silinder gas di tempat yang tertutup*
- C** Place hot object on top of the gas cylinder  
*Letakkan objek panas di atas silinder gas*
- D** Keep the gas cylinder under the sun  
*Letakkan silinder gas di bawah matahari*



21 Diagram 10 shows the process of water filtration

*Rajah 10 menunjukkan proses penurasan air*

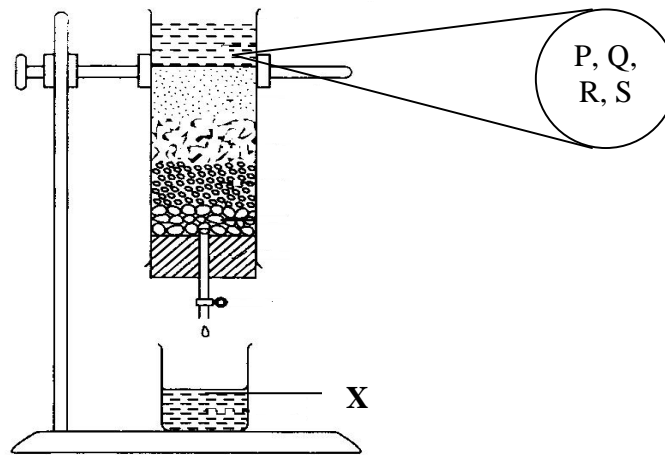


Diagram 10 / *Rajah 10*

P = Microorganism

*Mikroorganisma*

Q = Sand

*Pasir*

R = Salt

*Garam*

S = Clay

*Tanah liat*

Which of the above, P, Q, R and S can be found in beaker **X**?

*Antara di atas, P, Q, R dan S yang manakah boleh didapati di dalam bikar **X**?*

**A** P and Q

*P dan Q*

**B** P and R

*P dan R*

**C** P and S

*P dan S*

**D** Q and S

*Q dan S*

22 Which of the following explanation is **true**?

*Antara pernyataan berikut yang manakah benar?*

	<b>Type of force</b> <i>Jenis daya</i>	<b>Explanation</b> <i>Penerangan</i>
<b>A</b>	Gravitational force <i>Daya graviti</i>	Pulls all the objects towards the centre of the earth <i>Menarik semua objek ke arah pusat Bumi</i>
<b>B</b>	Frictional force <i>Daya geseran</i>	Produced when two magnets are brought together <i>Terhasil apabila dua magnet dibawa berdekatan</i>
<b>C</b>	Electostatic force <i>Daya elektrostatik</i>	Produced when two surfaces rubbed each other <i>Terhasil apabila dua permukaan digosokkan antara satu sama lain</i>
<b>D</b>	Magnetic force <i>Daya magnet</i>	Produced by electrostatic charge <i>Terhasil oleh cas elektrostatik</i>

- 23 Diagram 11 shows a set up of apparatus for titration. Dilute hydrochloric acid is drop from the burette into the solution **X** in the conical flask.

*Rajah 11 menunjukkan susunan radas untuk pentitratan. Asid hidroklorik cair dititiskan dari buret ke larutan **X** dalam kelalalang kon.*

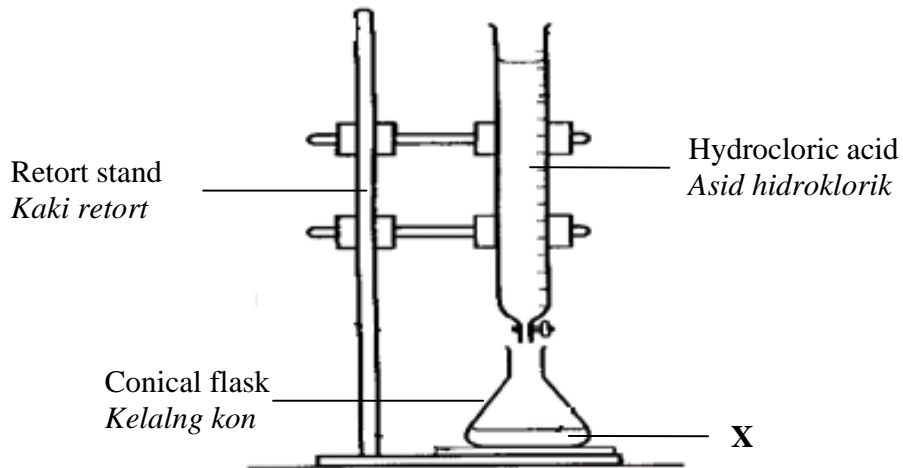


Diagram 11 / Rajah 11

Which of the following represents solution **X**?

*Antara berikut yang manakah mewakili larutan **X**?*

- A Distilled water  
*Air suling*
- B Vinegar solution  
*Larutan cuka*
- C Salt solution  
*Larutan garam*
- D Toothpaste solution  
*Larutan ubat gigi*

- 24 Diagram 12 shows that the endoskeleton of a whale is smaller than an elephant compared to their body mass.

*Rajah 12 menunjukkan rangka dalam bagi ikan paus lebih kecil dari gajah berbanding dengan jisim badan mereka.*

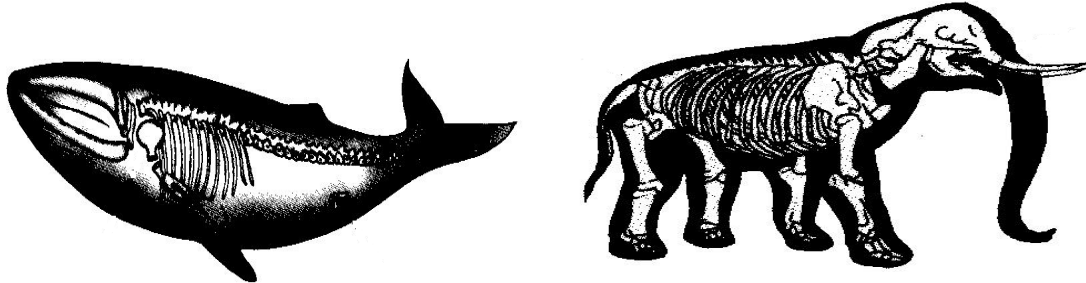


Diagram 12 / Rajah 12

Which of the following explained the phenomena?

*Antara berikut yang manakah menerangkan fenomena tersebut?*

- A The skeleton is too weak  
*Tulang rangka terlalu lemah*
- B Water buoyancy supported the whale  
*Daya keapungan air menyokong ikan paus*
- C It limits the growth of animals  
*Ia menghadkan tumbesaran haiwan*
- D A whale is able to move back to sea when it is washed ashore  
*Ikan paus boleh bergerak semula ke laut apabila terdampar di pantai*

- 25 Diagram 13 shows a man carry a heavy load.  
Which of the labeled **A**, **B**, **C** and **D** is the centre of gravity?

*Rajah 13 menunjukkan seorang lelaki mengangkat beban berat.  
Antara label **A**, **B**, **C** dan **D** yang manakah merupakan pusat graviti ?*

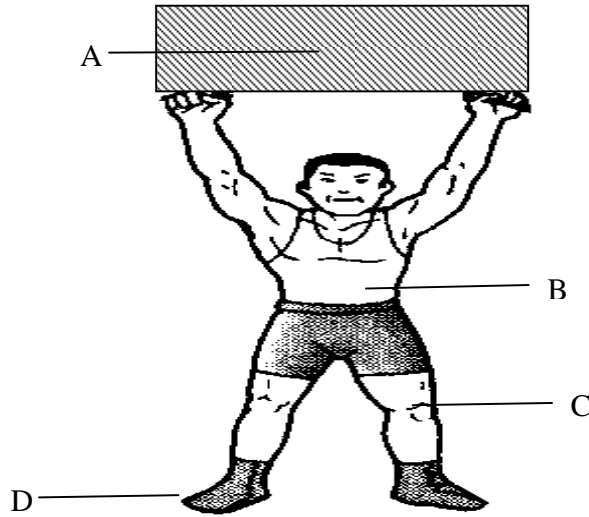


Diagram 13 / Rajah 13

26 Diagram 14 shows three simple machine tools.

*Rajah 14 menunjukkan tiga alat mesin ringkas*

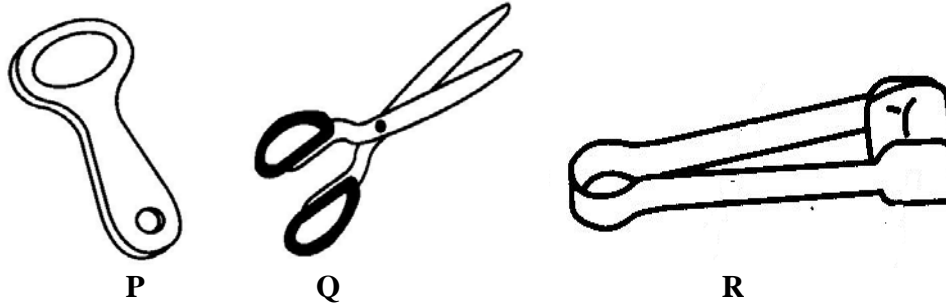


Diagram 14 / *Rajah 14*

Which of the tools classified as third class lever?

*Antara alat-alat berikut, yang manakah diklasifikasikan sebagai tuas kelas ketiga?*

**A** P only

*P sahaja*

**B** Q only

*Q sahaja*

**C** R only

*R sahaja*

**D** P and R

*P dan R*

27 Which of the following is **true** during the process of respiration?

*Antara berikut, yang manakah benar semasa proses respirasi?*

	<b>Inhalation</b> <i>Tarik nafas</i>	<b>Exhalation</b> <i>Hembus nafas</i>
<b>A</b>	Diaphragm curve upward <i>Difragma melengkung ke atas</i>	Diaphragm flattened <i>Difragma menjadi rata</i>
<b>B</b>	Air pressure in the lung increases <i>Tekanan dalam paru-paru meningkat</i>	Air pressure in the lung decreases <i>Tekanan dalam paru-paru menurun</i>
<b>C</b>	Volume of thoracic cavity increases <i>Isipadu rongga toraks meningkat</i>	Volume of thoracic cavity decreases <i>Isipadu rongga toraks menurun</i>
<b>D</b>	Rib bone move downward <i>Tulang rusuk bergerak ke bawah</i>	Rib bone move upward <i>Tulang rusuk bergerak ke atas</i>

28 The substance in cigarette smoke that causes addiction is

*Bahan yang terdapat di dalam asap rokok yang menyebabkan ketagihan adalah*

- A** Carbon monoxide  
*Karbon monoksida*
- B** Carcinogen  
*Karsinogen*
- C** Nicotine  
*Nikotina*
- D** Tar  
*Tar*

29 Diagram 15 shows a pathway of urination process

Rajah 15 menunjukkan laluan bagi proses penghasilan air kencing.



Diagram 15 / Rajah 15

Which of the following represent X and Y?

Antara berikut, yang manakah mewakili X dan Y?

	X	Y
A	Pelvis <i>Pelvis</i>	Penis <i>Zakar</i>
B	Medulla <i>Medula</i>	Cortex <i>Korteks</i>
C	Urinary bladder <i>Pundi kencing</i>	Cortex <i>Korteks</i>
D	Pelvis <i>Pelvis</i>	Urinary bladder <i>Pundi kencing</i>



30 Diagram 16 shows the structure of human heart.

*Rajah 16 menunjukkan struktur jantung manusia*

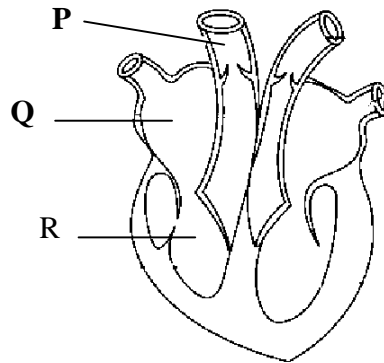


Diagram 16 / *Rajah 16*

Which of the labelled parts P, Q, R receive deoxygenated blood?

*Antara bahagian berlabel P, Q, R manakah menerima darah terdeoksigen?*

- A** P and Q only  
*P dan Q sahaja*
- B** P and R only  
*P dan R sahaja*
- C** Q and R only  
*Q dan R sahaja*
- D** P, Q and R  
*P, Q dan R*

31 Diagram 17 shows a type of blood cell.

*Rajah 17 menunjukkan satu jenis sel darah.*

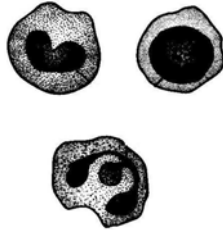


Diagram 17 / Rajah 17

Which of the following is the function of the cell?

*Antara berikut, yang manakah fungsi sel tersebut?*

- A** Carry oxygen to all cell in the body  
*Membawa oksigen ke semua sel dalam badan*
- B** Help blood to clot to cover a cut on the skin  
*Membantu darah membeku untuk menutup luka pada kulit*
- C** Kills microorganism to avoid illness  
*Membunuh mikroorganisma untuk mengelak penyakit*
- D** Carry dissolved material to all parts of the body  
*Membawa bahan larut ke semua bahagian badan*

32 Diagram 18 shows a process to produce gamete.

*Rajah 18 menunjukkan satu proses penghasilan gamet.*

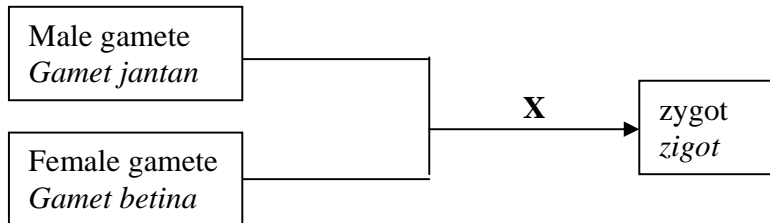


Diagram 18 / Rajah 18

Which of the following represent **X**?

*Antara berikut yang manakah mewakili **X**?*

- A Growth  
*Pertumbuhan*
- B Implantation  
*Penempelan*
- C Fertilisation  
*Persenyawaan*
- D Ovulation  
*Pengovulan*

33 Diagram 19 shows an organism that carry out asexual reproduction.

*Rajah 19 menunjukkan satu organisma yang menjalankan pembiakan aseks.*

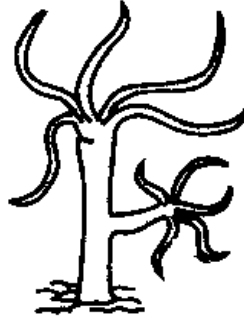


Diagram 19 / Rajah 19

Name the type of reproduction carry out by the organism?

*Namakan jenis pembiakan yang dijalankan oleh organisma tersebut?*

A Budding

*Pertunasan*

B Regeneration

*Penjanaan semula*

C Binary fission

*Belahan dedua*

D Vegetative reproduction

*Pembiakan vegetatif*

34 Diagram 20 shows the process of pollination carry out by flowering plant.

Rajah 20 menunjukkan proses pendebungaan yang dijalankan oleh tumbuhan berbunga.

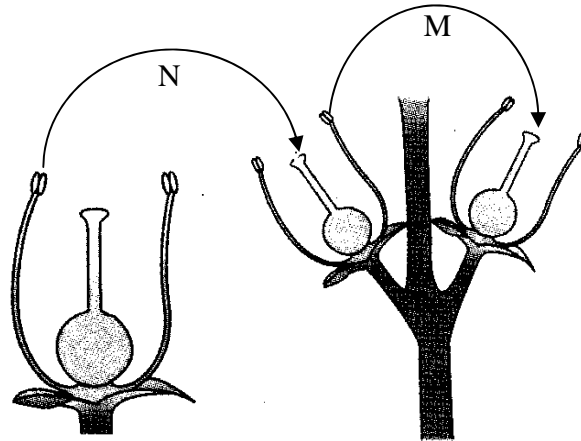


Diagram 20 / Rajah 20

Which of the following represent M and N?

Antara berikut, yang manakah mewakili M dan N?

	M	N
A	Self pollination <i>Pendebungaan sendiri</i>	Same pollination <i>Pendebungaan sama</i>
B	Cross pollination <i>Pendebungaan kacuk</i>	External pollination <i>Pendebungaan luar</i>
C	Internal pollination <i>Pendebungaan dalam</i>	External pollination <i>Pendebungaan luar</i>
D	Self pollination <i>Pendebungaan sendiri</i>	Cross pollination <i>Pendebungaan kacuk</i>

- 35 Diagram 21 shows a growth curve of a student. Which of the following label A, B, C and D shows the most rapid growth occur for the student?

*Rajah 21 menunjukkan lengkung pertumbuhan seorang pelajar. Antara label A, B, C dan D berikut, yang manakah menunjukkan pertumbuhan paling pesat bagi pelajar tersebut?*

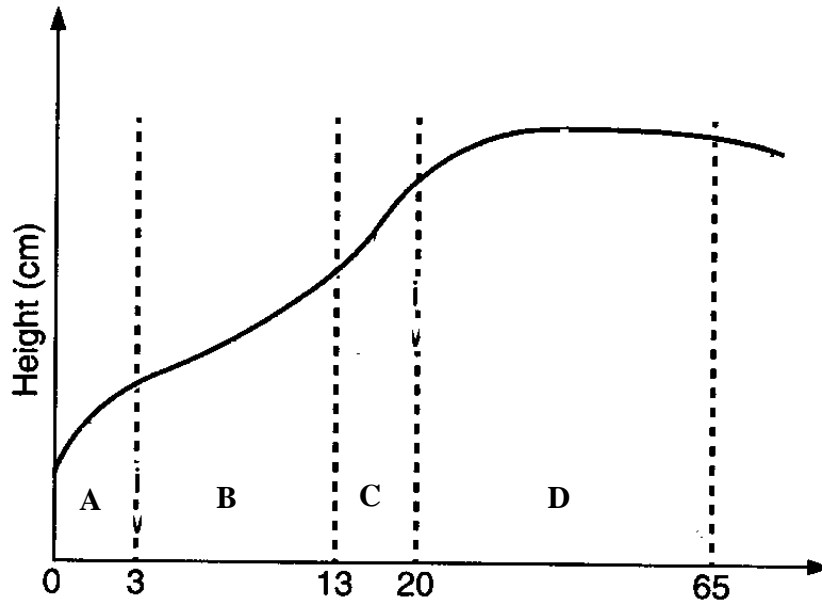


Diagram 21 / Rajah 21

- 36 Diagram 22 shows the apparatus set-up to investigate the properties of calcium carbonate.  
*Rajah 22 menunjukkan susunan radas untuk mengkaji sifat-sifat kalsium karbonat.*

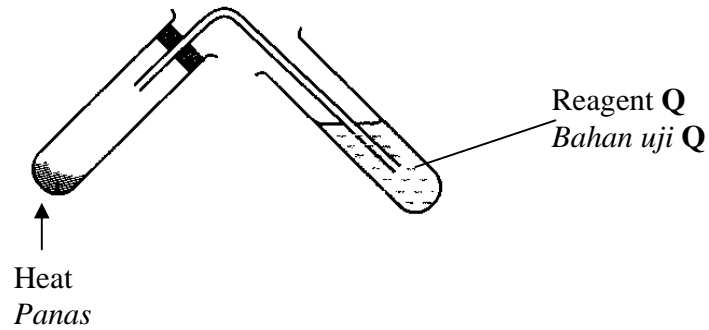


Diagram 22 / Rajah 22

What is reagent Q?

*Apakah reagen Q?*

**A** Lime water

*Air kapur*

**B** Potassium manganate (VII)

*Kalium manganat (VII)*

**C** Phenolphthalene

*Fenolptalin*

**D** Bromin water

*Air bromin*

37 Which of the following is **not** the properties of minerals?

*Antara berikut, yang manakah **bukan** sifat-sifat mineral?*

A Soluble in water

*Larut di dalam air*

B High resistance to weather

*Ketahanan yang tinggi terhadap cuaca*

C Does not decompose when heated

*Tidak terurai apabila dipanaskan*

D Not reactive chemically

*Tidak reaktif secara kimia*

38 Diagram 23 shows the formation of lightning.

*Rajah 23 menunjukkan penghasilan petir.*

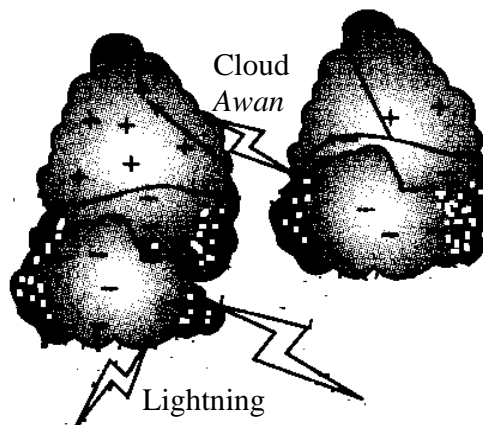


Diagram 23 / Rajah 23

What is the force that causes the phenomena?

*Apakah daya yang menyebabkan fenomena tersebut?*

A Electromagnet

*Elektromagnet*

B Electrostatic

*Elektrostatik*

C Gravity

*Graviti*

D Kinetic

*Kinetik*



39 Diagram 24 shows a complete electrical circuit.

Rajah 24 menunjukkan satu litar elektrik yang lengkap.

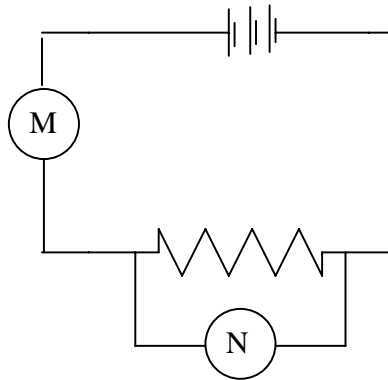


Diagram 24 / Rajah 24

	M	N
A	Ammeter	Voltmeter
B	Ohmmeter	Voltmeter
C	Ammeter	Ohmmeter
D	Voltmeter	Ammeter

40 Diagram 25 show layers of the sun. Which of the parts labeled A, B, C and D is the hottest part in the sun?

Rajah 25 menunjukkan lapisan matahari. Antara bahagian yang berlabel A, B, C dan D, yang manakah bahagian paling panas?

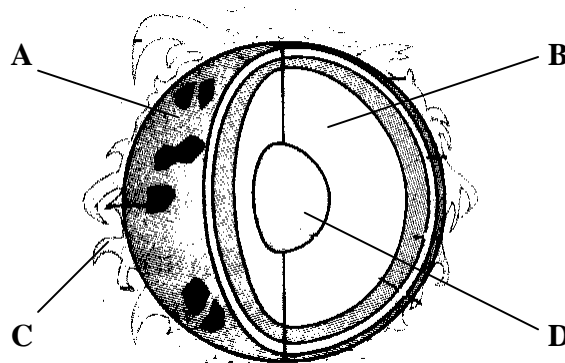


Diagram 25 / Rajah 25

**KERTAS SOALAN TAMAT**

## SULIT

### 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*