

**PROGRAM GEMPUR KECEMERLANGAN  
SIJIL PELAJARAN MALAYSIA 2019**

**SIJIL PELAJARAN MALAYSIA 2019**

**1511/1**

**SAINS**

**Kertas 1**

**Ogos**

**1 ¼ jam**

**Satu jam lima belas minit**

---

**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 2 kertas soalan ini.

---

Kertas soalan ini mengandungi 28 halaman bercetak.

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 Answer is followed by four alternative answers, **A, B, C** and **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 space for the new answer.  
*Jika anda hendak menukarkan jawapan, padamkan tanda yang telah dibuat. Kemudian hitamkan jawapan yang baru.*
5. The diagrams in the questions provided are not drawn to scale unless stated.  
*Rajah yang mengiringi soalan tidak dilukiskan mengikut skala kecuali dinyatakan.*
6. You may use a non-programmable scientific calculator.  
*Anda dibenarkan menggunakan kalkulator saintifik yang tidak boleh diprogram.*

- 1 Diagram 1 shows the human nervous system.  
*Rajah 1 menunjukkan sistem saraf manusia.*



Diagram 1  
*Rajah 1*

Central nervous system consists of  
*Sistem saraf pusat terdiri daripada*

- A The brain and spinal cord  
*Otak dan saraf tunjang*
  - B The cranial and spinal nerves  
*Saraf kranium dan saraf spina*
  - C The spinal cord and spinal nerves  
*Saraf tunjang dan saraf spina*
  - D The brain and the spinal nerves  
*Otak dan saraf cranium*
- 2 Diagram 2 shows the structure of human brain. Which part **A**, **B**, **C** or **D** controls reflex action.  
*Rajah 2 menunjukkan struktur otak manusia. Antara bahagian A, B, C dan D yang manakah mengawal tindakan refleks.*

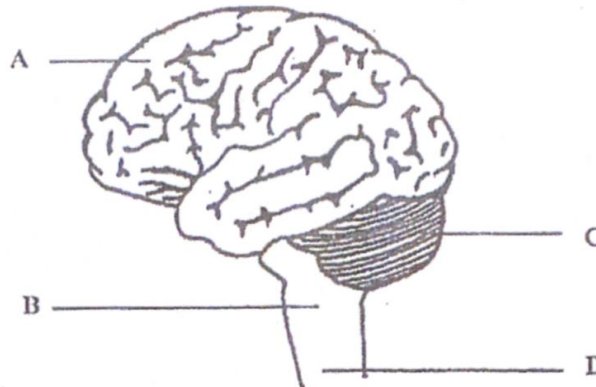


Diagram 2  
*Rajah 2*

- 3 Diagram 3 shows one of the endocrine systems in human body.  
*Rajah 3 menunjukkan satu kelenjar endokrin dalam badan manusia.*

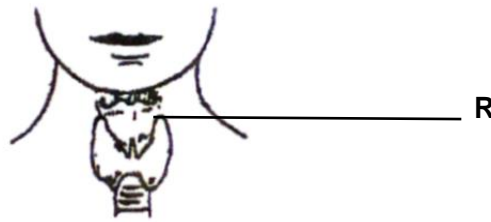


Diagram 3  
*Rajah 3*

What is the effect if **R** is removed?  
*Apakah kesannya jika **R** dikeluarkan?*

- A The metabolic rate decreases  
*Kadar metabolisme menurun*
  - B The blood pressure increases  
*Tekanan darah meningkat*
  - C The blood sugar level increases  
*Aras gula dalam darah meningkat*
  - D The secondary sexual characteristics become under developed  
*Ciri-ciri seks sekunder kurang berkembang*
- 4 Diagram 4 shows the stage in the meiosis process.  
*Rajah 4 menunjukkan peringkat dalam proses meiosis.*

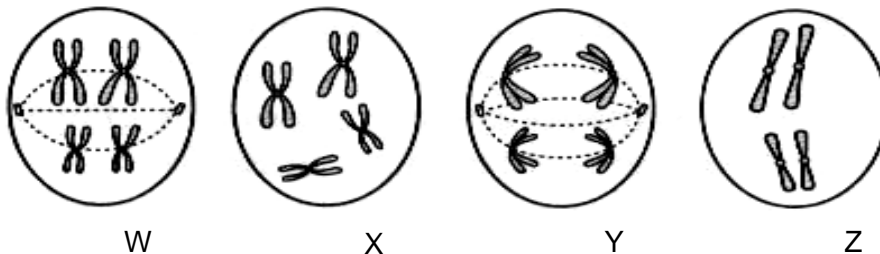


Diagram 4  
*Rajah 4*

Which sequence is **correct**?  
*Susunan manakah yang betul?*

- A W, X, Y, Z
- B Z, Y, X, W
- C Z, X, W, Y
- D W, Y, Z, X

- 5 Diagram 5 shows fertilization of ovum by a sperm carrying the **X** chromosome.  
*Rajah 5 menunjukkan persenyawaan ovum oleh sperma yang membawa kromosom X.*

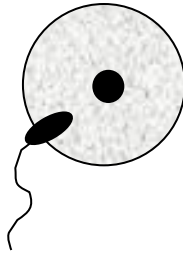


Diagram 5  
*Rajah 5*

The foetus formed contains  
*Fetus yang terbentuk mengandungi*

	Autosome <i>Autosom</i>	Sex chromosomes <i>Kromosom seks</i>
A	44	XX
B	44	XY
C	22	X
D	22	Y

- 6 Diagram 6 shows the chromosomes found in the cells of human body suffering from a genetic disease.  
*Rajah 6 menunjukkan kromosom yang terdapat dalam sel badan seorang penghidap sejenis penyakit baka.*

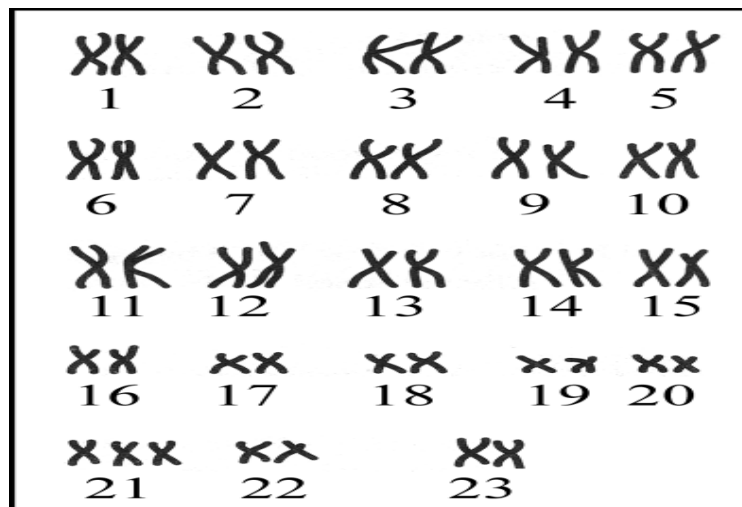


Diagram 6  
*Rajah 6*

What is the genetic disease?  
*Apakah penyakit genetik itu?*

- A Down's syndrome  
*Sindrom Down*
- B Klinefelter's syndrome  
*Sindrom Klinefelter*
- C Albinisme  
*Albino*
- D Haemophilia  
*Hemofilia*

- 7 Diagram 7 shows four changes in the state of matter. Which of the following **A**, **B**, **C** or **D** represents the condensation process?  
*Rajah 7 menunjukkan empat perubahan keadaan jirim. Antara A, B, C, dan D, yang manakah mewakili proses kondensasi?*

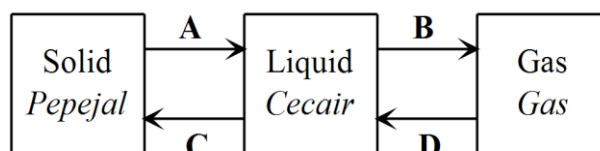


Diagram 7  
*Rajah 7*

- 8 Diagram 8 shows the part of Periodic Table.  
*Rajah 8 menunjukkan sebahagian daripada Jadual Berkala.*

		<b>W</b>																	

Diagram 8  
*Rajah 8*

Which of the following is the characteristic of **W**?  
*Antara yang berikut, yang manakah ciri W?*

- A Has a dull surface  
*Mempunyai permukaan yang pudar*
- B Weak heat conductor  
*Konduktor haba yang lemah*
- C Reacts with metal  
*Bertindakbalas dengan logam*
- D Conducts electric current  
*Mengkonduksi arus elektrik*

- 9 A fisherman found his catch was not sold. He wanted to make salted fish but there was no salt supply. What is the process to obtain salt from sea water?  
*Seorang nelayan mendapati hasil tangkapannya tidak habis dijual. Beliau ingin menghasilkan ikan masin tetapi bekalan garamnya habis. Apakah proses untuk mendapatkan garam daripada air laut?*

- A Filtration  
*Penurasan*  
 B Crystallisation  
*Penghabluran*  
 C Distillation  
*Penyulingan*  
 D Extraction  
*Pengekstrakan*

- 10 Table 1 shows physical characteristics of substances **K**, **L**, and **M**.  
*Jadual 1 menunjukkan sifat fizikal bagi bahan K, L dan M*

Substances <i>Bahan</i>	Melting point <i>Takat lebur (°C)</i>	Electrical conductivity <i>Kekonduksian elektrik</i>	
		Solid state <i>Keadaan pepejal</i>	Molten state <i>Keadaan leburan</i>
<b>K</b>	115	No <i>Tidak</i>	No <i>Tidak</i>
<b>L</b>	800	No <i>Tidak</i>	Yes <i>Ya</i>
<b>M</b>	2100	Yes <i>Ya</i>	Yes <i>Ya</i>

Table 1  
*Jadual 1*

What is substance **K**, **L** and **M**?  
*Apakah bahan K, L dan M?*

	<b>K</b>	<b>L</b>	<b>M</b>
A	Molecule <i>Molekul</i>	Atom <i>Atom</i>	Ion <i>Ion</i>
B	Molecule <i>Molekul</i>	Ion <i>Ion</i>	Atom <i>Atom</i>
C	Atom <i>Atom</i>	Molecule <i>Molekul</i>	Ion <i>Ion</i>
D	Ion <i>Ion</i>	Atom <i>Atom</i>	Molecule <i>Molekul</i>

- 11 Which of the following is a chemical change?  
*Antara yang berikut, yang manakah merupakan perubahan kimia?*
- A Dissolving sugar in water  
*Melarutkan gula di dalam air*
- B Burning of magnesium ribbon  
*Pembakaran pita magnesium*
- C Evaporating water from sea water  
*Menyejatkan air daripada air laut*
- D Dissolving copper (II) sulphate powder in water  
*Melarutkan serbuk kuprum (II) sulfat dalam air*
- 12 Tin can be extracted from ore by heating it with carbon.  
Why is carbon used in this process?  
*Timah boleh diekstrak daripada bijih secara pemanasan dengan karbon.*  
*Mengapakah karbon digunakan dalam proses ini?*
- A Carbon is less reactive than tin  
*Karbon kurang reaktif berbanding timah*
- B Carbon reacts with tin  
*Karbon bertindakbalas dengan timah*
- C Carbon is more reactive than tin  
*Karbon lebih reaktif berbanding timah*
- D Carbon oxidized tin  
*Karbon mengoksidakan timah*
- 13 Table 2 shows the advantages and disadvantages of cell P.  
*Jadual 2 menunjukkan kelebihan dan kekurangan bagi sel P.*

<b>Advantages</b> <b><i>Kelebihan</i></b>	<b>Disadvantages</b> <b><i>Kekurangan</i></b>
High voltage <i>Voltan tinggi</i>	Heavy <i>Berat</i>
Rechargeable <i>Boleh dicas semula</i>	Expensive <i>Mahal</i>
Long lasting <i>Tahan lama</i>	Electrolyte spills over easily <i>Elektrolit mudah tumpah</i>

Table 2  
*Jadual 2*

What is cell P?  
*Apakah sel P?*

- A Dry cell  
*Sel kering*
- B Nickel cadmium battery  
*Bateri nikel kadmium*
- C Lead acid accumulator  
*Akumulator asid plumbum*
- D Silver oxide zinc cell  
*Bateri argentum oksida-zink*



- 14 Diagram 9 shows the purification of an impure copper plate.  
*Rajah 9 menunjukkan proses penulenan kepingan kuprum tidak tulen.*

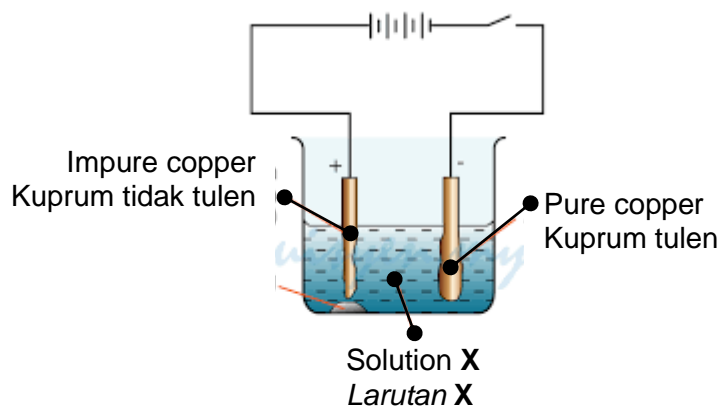


Diagram 9  
*Rajah 9*

Which of the following is solution X?  
*Antara yang berikut, yang manakah larutan X?*

- A Sodium chloride solution  
*Larutan natrium klorida*
- B Hydrochloric acid  
*Asid hidroklorik*
- C Copper (II) sulphate solution  
*Larutan kuprum (II) sulfat*
- D Sulphuric acid  
*Asid sulfuric*
- 15 A student found a white photographic paper turned dark grey when exposed to sunlight. Why did this happen?  
*Seorang pelajar mendapati kertas fotografi yang berwarna putih telah bertukar menjadi kelabu kehitaman apabila terdedah kepada cahaya matahari. Mengapakah keadaan ini berlaku?*
- A Sunlight formed a black pigment  
*Cahaya matahari membentuk pigmen hitam*
- B Sunlight emitted black light  
*Cahaya matahari mengeluarkan cahaya hitam*
- C Silver coating on the photographic paper was oxidized  
*Lapisan argentum pada kertas fotografi telah dioksidakan*
- D Silver bromide coating on photographic paper was decomposed to silver and bromine  
*Lapisan argentum bromida pada kertas fotografi diuraikan kepada argentum dan bromin*

- 16 Which radioactive radiation has positive charge?  
Sinaran radioaktif manakah yang mempunyai cas positif?

- A X-ray  
Sinar-X
- B Alpha ray  
Sinar alfa
- C Beta ray  
Sinar beta
- D Gamma ray  
Sinar gama

- 17 Diagram 10 shows ray **M** that can be stopped by metal **N**.  
Rajah 10 menunjukkan sinar **M** yang dapat dihalang oleh logam **N**.

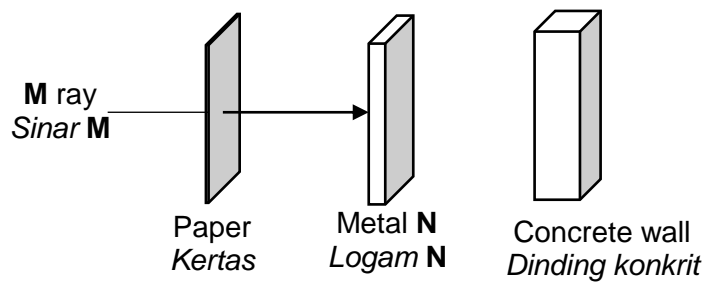


Diagram 10  
Rajah10

What are **M** ray and metal **N**?  
Apakah sinar **M** dan logam **N**?

	<b>M ray</b> <b>Sinar M</b>	<b>Metal N</b> <b>Logam N</b>
A	Beta <i>Beta</i>	Aluminium <i>Aluminium</i>
B	Beta <i>Beta</i>	Plumbum <i>Lead</i>
C	Gama <i>Gamma</i>	Aluminium <i>Aluminium</i>
D	Gama <i>Gamma</i>	Plumbum <i>Lead</i>

- 18** Which of the following is a secondary colour of light?  
*Antara yang berikut, yang manakah warna sekunder bagi cahaya?*
- A Blue  
*Biru*
- B Green  
*Hijau*
- C Red  
*Merah*
- D Yellow  
*Kuning*
- 19** What is the change to our eye lens when we see distant objects?  
*Apakah perubahan yang berlaku pada kanta mata kita apabila melihat objek jauh?*
- A Lens becomes thicker  
*Kanta menjadi tebal*
- B Lens becomes thinner  
*Kanta menjadi nipis*
- C Lens becomes shorter  
*Kanta menjadi pendek*
- D Lens becomes longer  
*Kanta menjadi panjang*
- 20** The following information shows the characteristics of an image formed by an object.  
*Maklumat berikut menunjukkan ciri-ciri imej yang dibentuk oleh suatu objek.*

- |   |
|---|
| <ul style="list-style-type: none"> <li>• Virtual<br/><i>Maya</i></li> <li>• Upright<br/><i>Tegak</i></li> <li>• Same size as the object<br/><i>Sama saiz seperti objek</i></li> </ul> |
|---|

What is the object?  
*Apakah objek itu?*

- A Prism  
*Prisma*
- B Eye lens  
*Kanta mata*
- C Concave lens  
*Kanta cekung*
- D Plane mirror  
*Cermin satah*

- 21 Diagram 11 shows the position of a man, a flower pot and a plane mirror.  
*Rajah 11 menunjukkan kedudukan seorang lelaki, sebuah pasu bunga dan sebuah cermin satah*

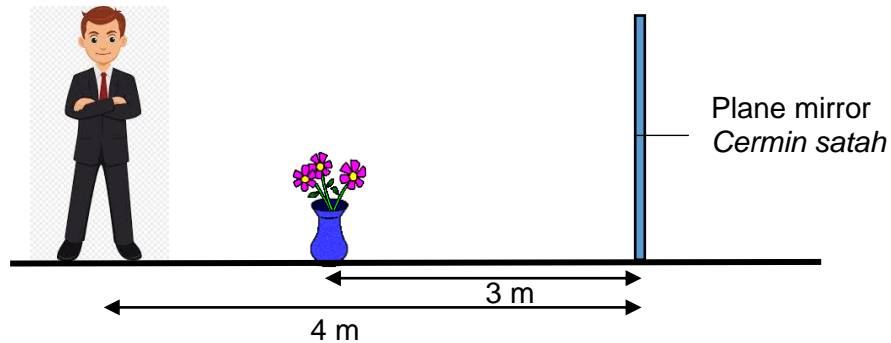
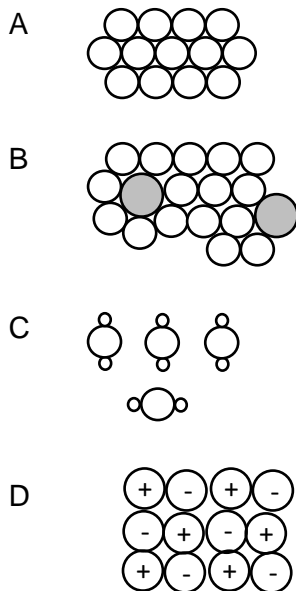


Diagram 11  
*Rajah 11*

What is the distance between the flower pot and the image of the man?  
*Berapakah jarak antara pasu bunga dengan imej lelaki itu?*

- A 1  
 B 4  
 C 6  
 D 7
- 22 Which of the following shows the structure of an alloy?  
*Antara yang berikut, yang manakah menunjukkan struktur aloi?*



- 23** Diagram 12 shows information about contaminants from combustion of fossil fuels materials  
*Rajah 12 menunjukkan maklumat tentang bahan pencemar yang terhasil dari bahan api fosil.*

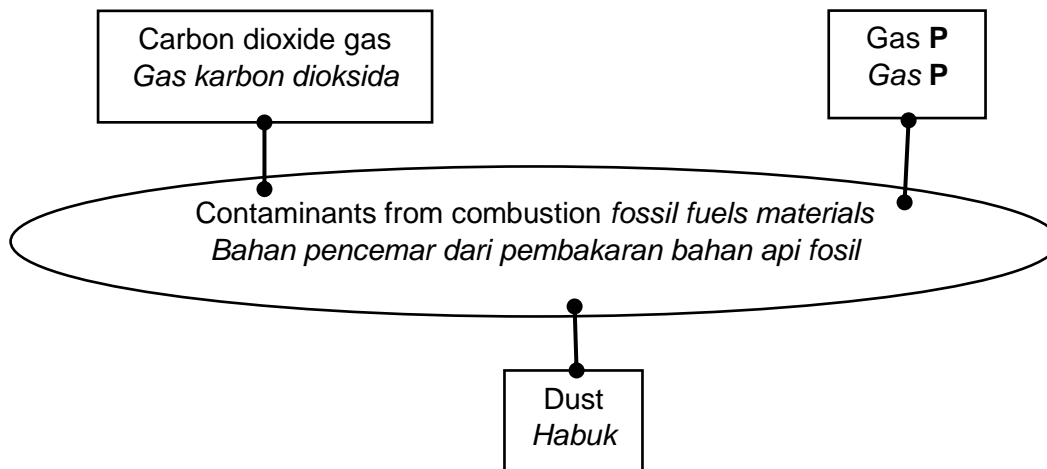


Diagram 12  
*Rajah 12*

What is the effect of gas **P** to the environment?  
*Apakah kesan gas **P** terhadap alam sekitar?*

- A Acid rain  
*Hujan asid*
  - B Earth quake  
*Gempa bumi*
  - C Greenhouse effect  
*Kesan rumah hijau*
  - D Depletion of the ozone layer  
*Penipisan lapisan ozon*
- 24** A factory that produces colour and paint has faced problem with the shortage of substance **X**. What is **X**?  
*Sebuah kilang yang membuat pewarna dan cat telah menghadapi masalah kekurangan bahan **X**. Apakah bahan **X**?*
- A Ammonia  
*Ammonia*
  - B Ethanol  
*Etanol*
  - C Ester  
*Ester*
  - D Sulphuric acid  
*Asid sulfuric*

- 25 Diagram 13 shows a type of vector  
Rajah 13 menunjukkan sejenis vektor.



Diagram 13  
Rajah 13

Which method is used to control the reproduction of the vector.  
Kaedah manakah yang digunakan untuk mengawal pembiakan vektor tersebut.

- A Dispose garbage properly in covered garbage bins.  
*Lupuskan sampah dengan betul di dalam tong sampah bertutup*
  - B Spray oil to the water surface in drains and stagnant water.  
*Sembur minyak di atas permukaan air di dalam longkang dan air bertakung*
  - C Use gamma rays to sterile the vektor  
*Gunakan sinar gama untuk mensterilkan vektor*
  - D Cover exposed food  
*Tutup makanan yang terdedah*
- 26 Diagram 14 shows the graph of a type of immunity.  
Rajah 14 menunjukkan graf sejenis keimunan.

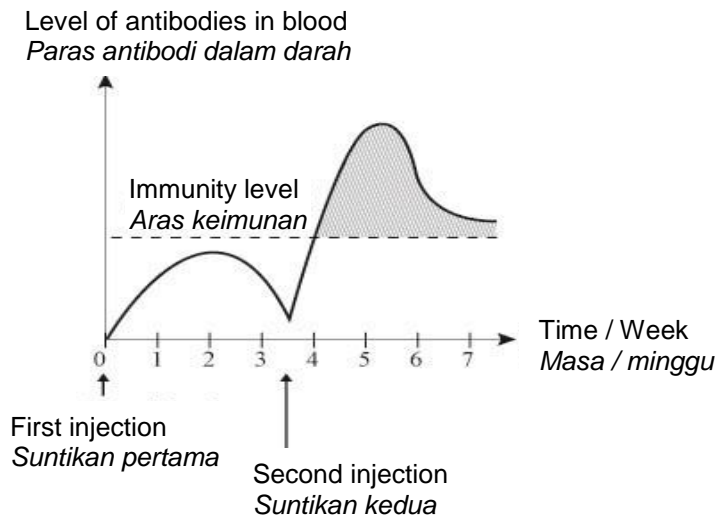


Diagram 14  
Rajah 14

An individual can acquire the immunity after  
*Seseorang individu akan memperoleh keimunan tersebut selepas*

- A Breast feeding  
*Penyusuan susu ibu*
- B Being injected with vaccine  
*Disuntik dengan vaksin*
- C Recovering from an illness  
*Sembuh daripada sakit*
- D Being injected with antiserum  
*Disuntik dengan antiserum*

- 27** Diagram 15 shows the result of an experiment to study the effect of penicillin on the growth of bacteria.  
*Rajah 15 menunjukkan keputusan eksperimen untuk mengkaji kesan penisilin ke atas pertumbuhan bakteria.*

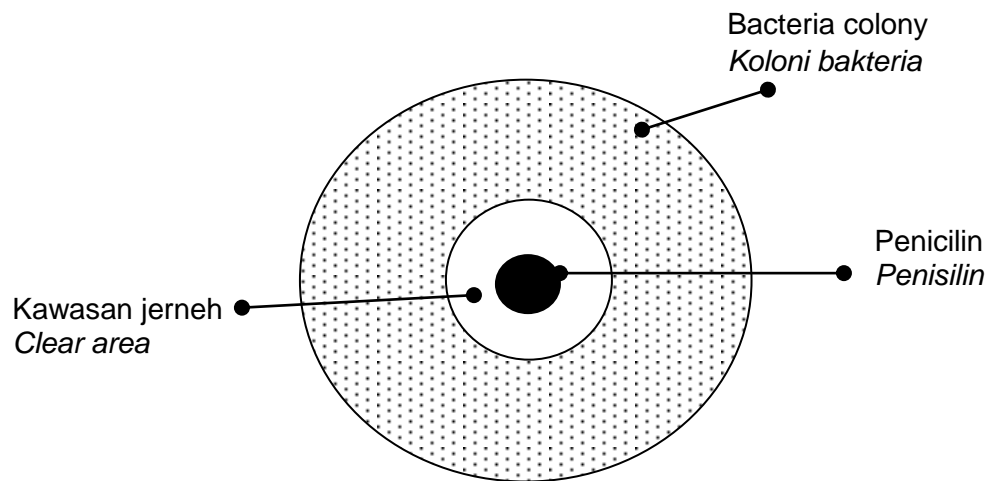


Diagram 15  
*Rajah 15*

What is penicillin ?  
*Apakah penisilin ?*

- A Antigen  
*Antigen*
- B Antiseptic  
*Antiseptik*
- C Antitoxin  
*Antitoksin*
- D Antibiotic  
*Antibiotik*

- 28 Table 3 shows the calorific values of three types of food.  
*Jadual 3 menunjukkan nilai kalori bagi tiga jenis makanan.*

Food <i>Makanan</i>	Calorific value <i>Nilai kalori (kJ g<sup>-1</sup>)</i>
Noodles <i>Mee</i>	30.0
Fried egg <i>Telur goreng</i>	16.0
Milk <i>Susu</i>	2.5

Table 3  
*Jadual 3*

A teenager takes 40 g of noodles, 50 g of fried egg, and 150 g of milk for his breakfast.  
*Seorang remaja mengambil sarapan yang terdiri daripada 40 g mee, 50 g telur goreng dan 150 g susu.*  
 What is the total energy consumed?  
*Berapakah jumlah tenaga yang diperolehinya?*

- A 95 kJ  
 B 120 kJ  
 C 2375 kJ  
 D 225000 kJ
- 29 Diagram 16 shows the change of the lumen size in an artery.  
*Rajah 16 menunjukkan perubahan saiz dalam lumen pada arteri.*

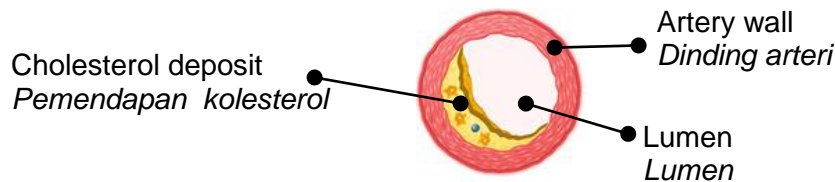


Diagram 16  
*Rajah 16*

Which food is most probably the cause of the change of the lumen size in the artery?  
*Makanan yang manakah merupakan penyebab utama perubahan saiz lumen pada arteri?*

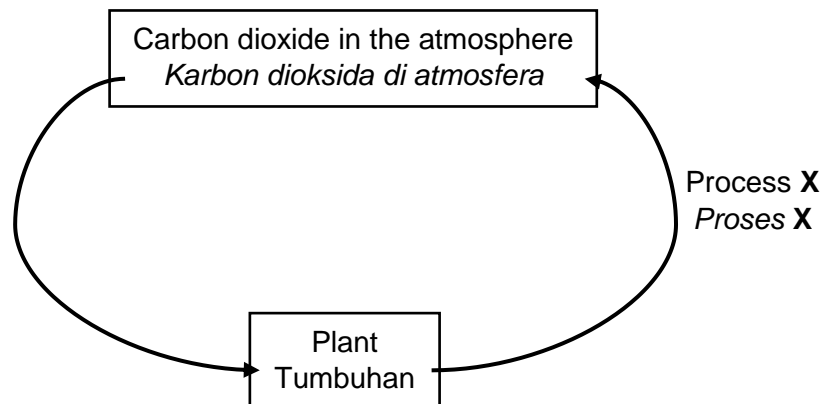
- A Bread  
*Roti*  
 B Vegetable soup  
*Sup sayur*  
 C Fried chicken  
*Ayam goreng*  
 D Cereal  
*Bijirin*



**30** What is the importance of nitrogen-fixing bacteria in the nitrogen cycle?  
*Apakah kepentingan bakteria pengikat nitrogen dalam kitaran nitrogen?*

- A To convert nitrogen gas to nitrates  
*Untuk menukarkan gas nitrogen kepada nitrat*
- B To convert nitrites to nitrates  
*Untuk menukarkan nitrit kepada nitrat*
- C To convert ammonium ions to nitrites  
*Untuk menukarkan ion ammonium kepada nitrit*
- D To convert nitrates to nitrogen gas  
*Untuk menukarkan nitrat kepada gas nitrogen*

**31** Diagram 17 shows part of carbon cycle.  
*Rajah 17 menunjukkan sebahagian daripada kitaran karbon.*



*Diagram 17*  
*Rajah 17*

What is X?  
*Apakah X?*

- A Photosynthesis  
*Fotosintesis*
- B Respiration  
*Respirasi*
- C Transpiration  
*Transpirasi*
- D Nitrification  
*Penitritan*

**32** Which of the following organisms is a producer in a food chain?  
*Antara organisma berikut, yang manakah adalah pengeluar dalam satu rantai makanan?*

- A Amoeba  
*Ameba*
- B Larva  
*Larva*
- C Caterpillar  
*Beluncas*
- D Phytoplankton  
*Fitoplankton*

**33** Diagram 18 shows a human activity.  
*Rajah 18 menunjukkan suatu aktiviti manusia.*



Diagram 18  
*Rajah 18*

What is the effect of this activity?  
*Apakah kesan aktiviti ini?*

- A Prevents the greenhouse effect  
*Mengelak kesan rumah hijau*
- B Increases the water catchment area  
*Menambah kawasan tadahan air*
- C Preserves the flora and fauna in the forest  
*Memelihara flora dan fauna di dalam hutan*
- D Increases the carbon dioxide in the atmosphere  
*Menambah kandungan karbon dioksida dalam atmosfera*

**34** Which of the following is a characteristic of organic compounds?  
*Antara yang berikut, yang manakah ciri sebatian organik?*

- A** High melting point  
*Takat lebur tinggi*
- B** Non-flammable  
*Tidak mudah terbakar*
- C** Highly soluble in water  
*Sangat larut dalam air*
- D** Originated from plants and animals  
*Berasal daripada tumbuhan dan haiwan*

**35** Diagram 19 shows the cross section of an oil palm fruit.  
*Rajah 19 menunjukkan keratan rentasan buah kelapa sawit.*

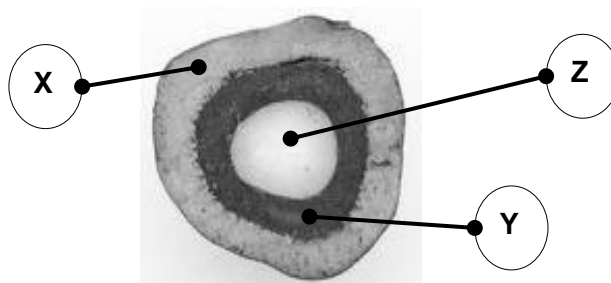


Diagram 19  
*Rajah 19*

Which part produces oil that can be extracted?  
*Bahagian manakah yang menghasilkan minyak yang boleh diekstrak?*

- A** X only  
*X sahaja*
- B** X and Y  
*X dan Y*
- C** X and Z  
*X dan Z*
- D** Y and Z  
*Y dan Z*

- 36 Diagram 20 shows the process involving monomers and polymer.  
Rajah 20 menunjukkan proses yang melibatkan monomer dan polimer.

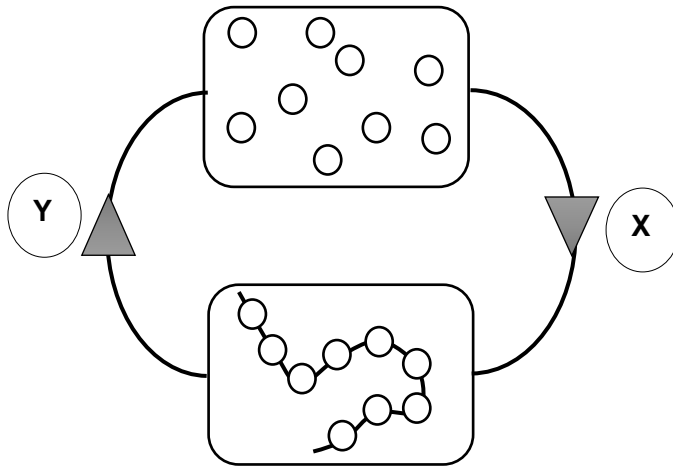


Diagram 20  
Rajah 20

Which of the following is true about **X** and **Y**?  
Antara yang berikut yang manakah benar tentang **X** dan **Y**?

	<b>X</b>	<b>Y</b>
<b>A</b>	Depolymerisation <i>Penyahpolimeran</i>	Polymerisation <i>Pempolimeran</i>
<b>B</b>	Polymerisation <i>Pempolimeran</i>	Depolymerisation <i>Penyahpolimeran</i>
<b>C</b>	Natural polymerisation <i>Pempolimeran semula jadi</i>	Synthetic depolymerisation <i>Penyahpolimeran sintetik</i>
<b>D</b>	Synthetic depolymerisation <i>Penyahpolimeran sintetik</i>	Natural polymerisation <i>Pempolimeran semula jadi</i>

- 37 What are the factors which influence the momentum of a moving object?  
Apakah factor-faktor yang mempengaruhi momentum objek yang sedang bergerak?

- A Mass and size  
*Jisim dan saiz*
- B Velocity and size  
*Halaju dan saiz*
- C Mass and velocity  
*Jisim dan halaju*
- D Distance and time  
*Jarak dan masa*

- 38** Diagram 21 shows two blocks **X** and **Y** with the same size, placed on sandy ground. The block exerted with the same force.  
*Rajah 21 menunjukkan dua bongkah X dan Y yang sama saiz diletakkan dalam dua keadaan berbeza di atas tanah berpasir. Kedua-dua bongkah dikenakan daya yang sama.*

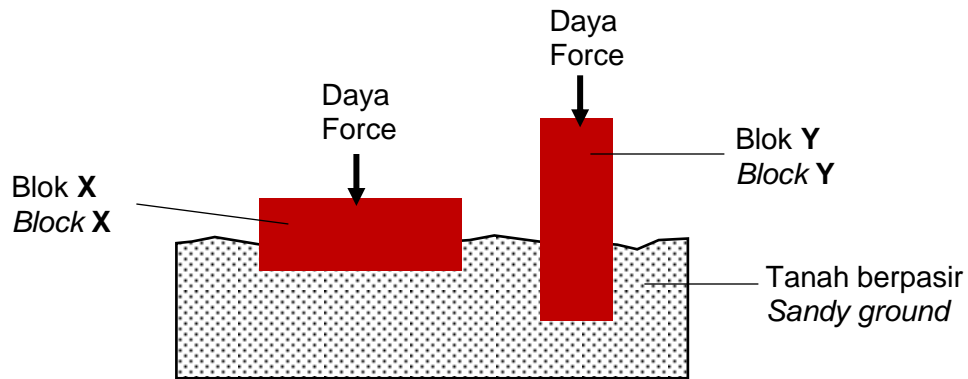


Diagram 21  
*Rajah 21*

What is the factor that causes block **Y** to formed deeper dent?  
*Apakah faktor yang menyebabkan blok Y membentuk lekukan yang lebih dalam?*

- A Daya  
*Force*
  - B Tekanan  
*Pressure*
  - C Berat blok  
*Weight of the block*
  - D Ketumpatan blok  
*Density of the block*
- 39** Diagram 22 shows hydraulic system.  
*Rajah 22 menunjukkan satu sistem hidraulik.*

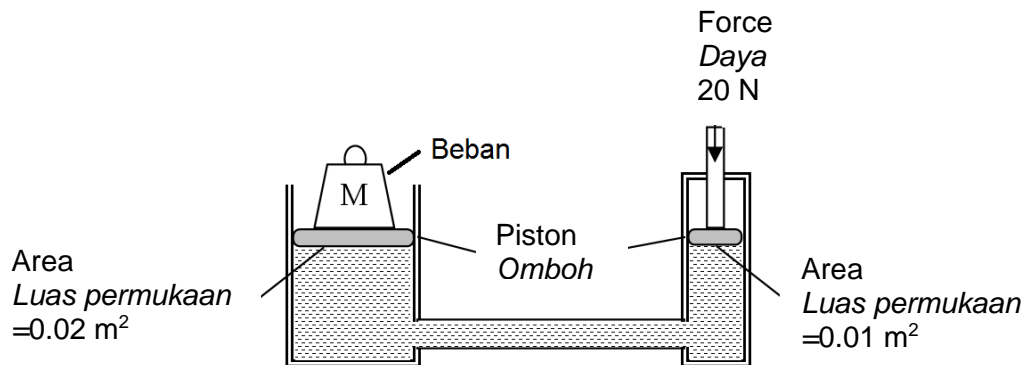


Diagram 22  
*Rajah 22*

$$\text{Pressure} = \frac{\text{Force}}{\text{Surface area}}$$

$$\text{Tekanan} = \frac{\text{Daya}}{\text{Luas permukaan}}$$

What is the force of **M**?

*Berapakah daya bagi M?*

- A 10 N
- B 20 N
- C 30 N
- D 40 N

**40**

Diagram 23 shows a metal rod partially immersed in water.

*Rajah 23 menunjukkan sebuah rod logam yang separa tenggelam di dalam air.*

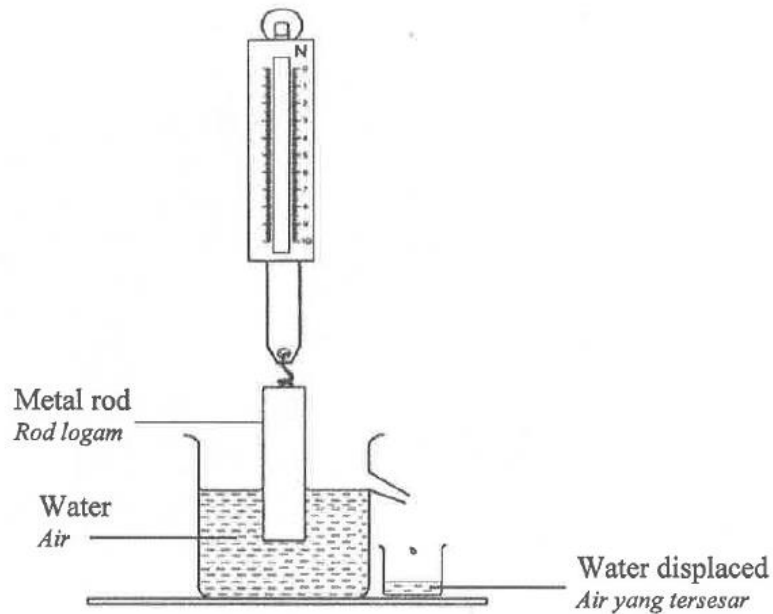


Diagram 23

*Rajah 23*

The weight of the metal rod is 1.10 N and the weight of the water displaced is 0.08 N

What is the weight of the metal rod in water?

*Berat rod logam ialah 1.10 N dan berat air yang disesarkan ialah 0.08 N.*

*Berapakah berat rod logam dalam air?*

- A 0.08 N
- B 1.02 N
- C 1.10 N
- D 1.18 N

41 What is the function of aspartame?  
*Apakah fungsi aspartam?*

- A Adding sweetness to the food  
Menambah rasa manis makanan
- B Making food more delicious  
Menjadikan makanan lebih enak
- C Adding colour to the food to make it more appealing  
Menambah warna kepada makanan supaya lebih menarik
- D Emulsifying food  
Mengemulsi makanan

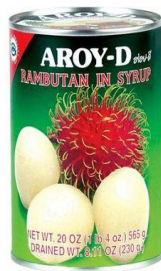
42 Diagram 24 shows a type of fruit. What is the most appropriate food processing technology used to make this fruit ripe slowly?  
*Rajah 24 menunjukkan sejenis buah. Apakah teknologi pemprosesan makanan yang paling sesuai digunakan supaya buah ini lambat masak?*



Diagram 24  
*Rajah 24*

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

- 43 Diagram 25 shows food **A** and food **B**.  
*Rajah 25 menunjukkan makanan A dan makanan B.*



**Food A**  
**Makanan A**



**Food B**  
**Makanan B**

Diagram 25  
*Rajah 25*

Which of the following is correct for the food processing method of food **A** and food **B**?

*Antara berikut yang manakah betul tentang kaedah pemprosesan makanan A dan makanan B?*

	<b>Food A</b> <b>Makanan A</b>	<b>Food B</b> <b>Makanan B</b>
A	Food is heated at 63°C for 30 minutes <i>Makanan dipanaskan 63°C selama 30 minit</i>	Food is heated at 121°C <i>Makanan dipanaskan 121°C</i>
B	Food is cooled at room temperature after heated <i>Makanan dibiarkan sejuk pada suhu bilik setelah dipanaskan</i>	Food is cooled instantly after heated <i>Makanan disejukkan serta merta setelah dipanaskan</i>
C	Food is exposed with gamma ray <i>Makanan didedahkan dengan sinaran gama</i>	Food is dry freeze. <i>Makanan dikering beku</i>
D	Food does not need to be sterilized first <i>Makanan tidak disteril terlebih dahulu</i>	Food needs to be sterilized first <i>Makanan perlu disteril terlebih dahulu</i>



- 44 A food manufacturer is fined because the food label does not comply with the Food Regulations 1985. Diagram 26 shows the food label.  
*Seorang pengilang makanan didenda kerana label makanannya tidak mematuhi Peraturan makanan 1985. Rajah 26 menunjukkan label makanan tersebut.*



Diagram 26

Rajah 26

What is missing in the food label?

*Apakah yang tiada dalam label makanan tersebut?*

- A Nett weight  
*Berat bersih*
- B Date of food is made  
*Tarikh makanan dibuat*
- C Method of food preparing  
*Cara penyediaan makanan*
- D How to store the food  
*Cara penyimpanan makanan*
- 45 The following information shows the characteristics of a type of fruit.  
*Maklumat berikut menunjukkan ciri-ciri sejenis buah.*

- Resistance to pest  
*Tahan rintangan terhadap serangga perosak*
- High nutritional content  
*Tinggi kandungan nutrisi*
- Better taste, colour and texture  
*Rasa, warna dan tekstur yang lebih baik*

Which method is the most suitable to produce fruit with these characteristics?

*Kaedah manakah yang paling sesuai untuk menghasilkan buah yang mempunyai ciri-ciri ini?*

- A Genetic engineering  
*Kejuruteraan genetik*
- B Use of chemical fertilizer  
*Penggunaan baja kimia*
- C Efficient land management  
*Pengurusan tanah yang berkesan*
- D Guidance for farmers  
*Bimbingan kepada petani*

- 46 Diagram 27 shows examples of the use of a type of synthetic polymer.  
*Rajah 27 menunjukkan contoh kegunaan sejenis polimer sintetik.*



Diagram 27  
*Rajah 27*

What is the synthetic polymer?  
*Apakah polimer sintetik itu?*

- A Plastic  
*Plastik*
  - B Glass  
*Kaca*
  - C Synthetic rubber  
*Getah sintetik*
  - D Synthetic fibers  
*Gentian sintetik*
- 47 Diagram 28 shows the structure of a plastic type polymer.  
*Rajah 28 menunjukkan struktur polimer sejenis plastik.*

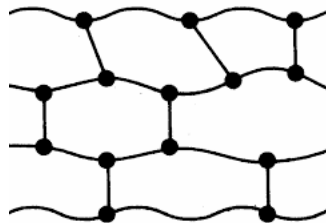


Diagram 28  
*Rajah 28*

What is the characteristic of the plastic?  
*Apakah ciri plastik tersebut?*

- A Strong  
*Kuat*
- B Flammable  
*Mudah terbakar*
- C Easily bend  
*Mudah lentur*
- D Can be remoulded  
*Boleh diacu berulang kali*

- 48** A housewife found many plastic bags at home.  
What should she do?  
*Seorang suri rumah mendapati terdapat banyak beg plastik dirumahnya.  
Apakah yang patut beliau lakukan?*

- I Send to recycle center  
*Hantar ke tempat kitar semula*
  - II Use the plastic as rubbish bags  
*Gunakan plastik tersebut sebagai plastik sampah*
  - III Burn the plastics  
*Bakar plastik tersebut*
- A I and II only  
*I dan II sahaja*
  - B I 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*

- 49** Which of the following is **not true** about satellite?  
*Antara berikut yang manakah **tidak benar** tentang satelit?*

- A Not disturbed by the weather  
*Tidak diganggu oleh cuaca*
- B Sends information quickly  
*Menghantar maklumat dengan cepat*
- C Casting high frequency waves  
*Memancarkan gelombang berfrekuensi tinggi*
- D Two satellites are needed for worldwide coverage  
*Dua satelit diperlukan untuk mendapat liputan seluruh dunia*

- 50 Diagram 29 shows a type of a radio block.  
*Rajah 29 menunjukkan sejenis blok radio.*

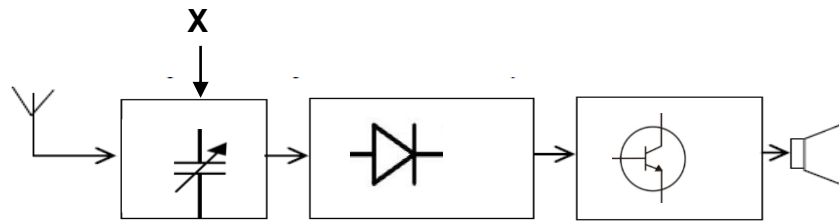


Diagram 29  
*Rajah 29*

What is **X**?  
*Apakah **X**?*

- A Amplifier  
*Amplifier*
- B Oscillator  
*Pengayun*
- C Tuner circuit  
*Litar penala*
- D Detector circuit  
*Litar pengesan*

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