



JABATAN PELAJARAN TERENGGANU

PEPERIKSAAN PERCUBAAN
SIJIL PELAJARAN MALAYSIA 2008

SCIENCE

Paper 1

One Hour and Fifteen Minutes

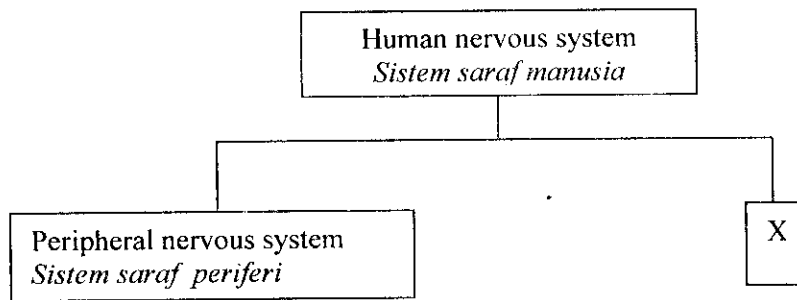
DO NOT OPEN THIS TEST PAPER UNTIL YOU ARE TOLD TO DO SO

- 1 *This question paper consists of 50 questions.*
 - 2 *Answer all questions.*
 - 3 *Answer each question by blackening the correct space on the objective answer sheet.*
 - 4 *Blacken only one space for each question.*
 - 5 *If you wish to change your answer, erase the blackened mark that you have made. Then blacken the space for the new answer.*
 - 6 *The diagrams in the questions provided are not drawn to scale unless stated.*
 - 7 *You may use a non-programmable scientific calculator.*
-

This question paper consists of 22 printed pages

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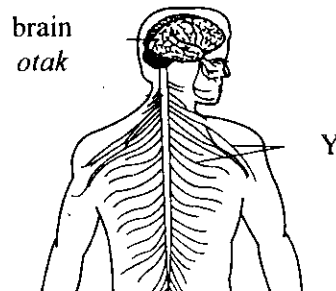
- 1 Diagram shows the components of the human nervous system.
Rajah menunjukkan komponen-komponen pada sistem saraf manusia.



What is X ?

Apakah X ?

- A Sensory nervous system
Sistem saraf deria
 - B Spinal nervous system
Sistem saraf spina
 - C Central nervous system
Sistem saraf pusat
 - D Receptors and effectors
Reseptor dan efektor
- 2 Diagram shows the human nervous system.
Rajah menunjukkan sistem saraf manusia.



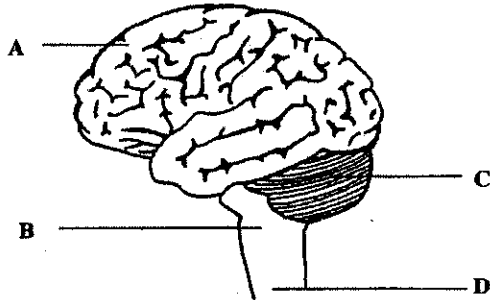
What is Y ?

Apakah Y ?

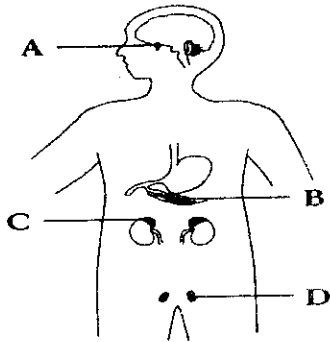
- A Spinal nerves
Saraf spina
- B Spinal cord
Saraf tunjang
- C Cranial nerves
Saraf kranium
- D Autonomic nerves
Saraf autonomi

- 3 Diagram shows the structure of a human brain.
Which of the parts A, B, C or D controls the body equilibrium ?

Rajah menunjukkan struktur otak manusia. Antara bahagian A, B, C atau D yang manakah mengawal keseimbangan badan ?



- 4 The urine of a student contains glucose. Which endocrine gland is not functioning ?
Air kencing pelajar mengandungi gula. Kelenjar endokrin manakah yang tidak berfungsi ?



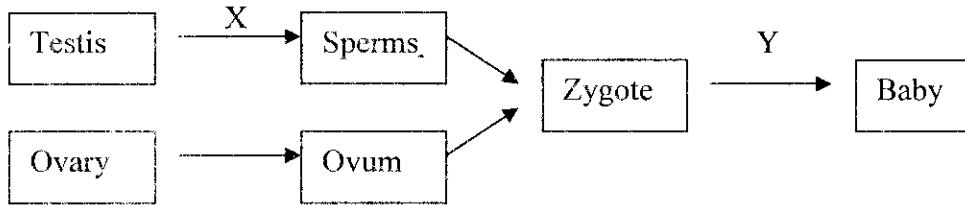
- 5 Which of the following is the chromosome mutation ?
Manakah antara berikut merupakan mutasi kromosom ?

- A Haemophilia
Hemofilia
- B Down's syndrome
Sindrom down
- C Albinism
Albino
- D Colour blindness
Buta warna

- 6 A man with free ear lobes genotype Ee marries a woman with the same genotype. What is the chances of percentage of their offspring to have attached ear lobes ?
Seorang lelaki bercuping telinga bebas dan mempunyai gen Ee berkahwin dengan seorang perempuan yang mempunyai gen yang sama. Berapa peratuskah kemungkinan anak-anak mereka mempunyai cuping telinga melekap ?

- A 25%
- B 50%
- C 75%
- D 100%

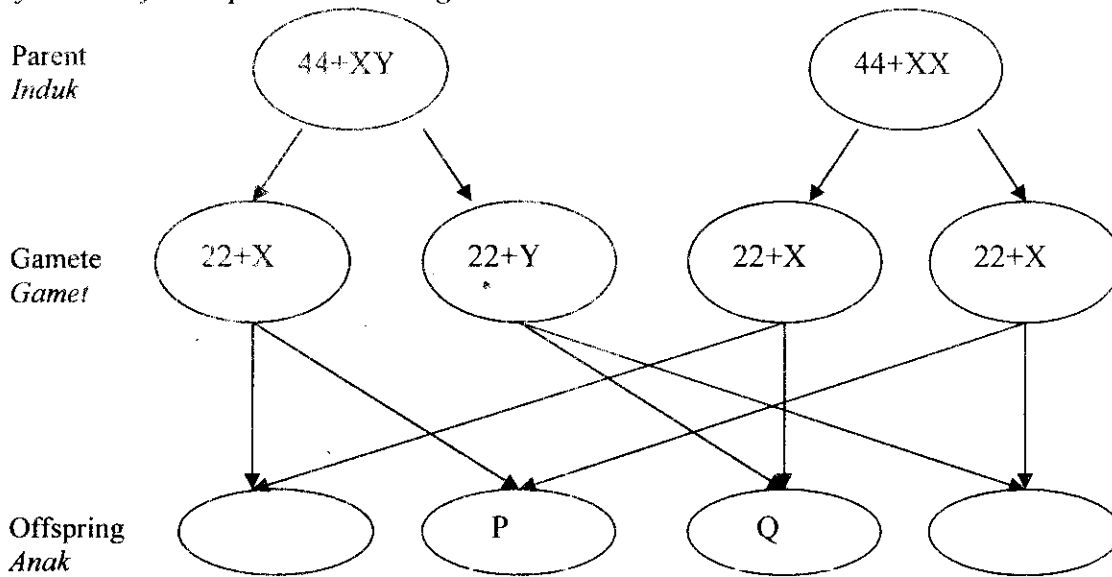
7 Diagram shows the reproductive process in humans.
Rajah menunjukkan proses pembiakan manusia.



What are processes X and Y ?
Apakah proses X dan Y ?

	Process X <i>Proses X</i>	Process Y <i>Proses Y</i>
A	Mitosis	Mitosis
B	Mitosis	Meiosis
C	Meiosis	Mitosis
D	Meiosis	Meiosis

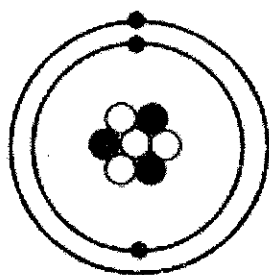
8 Diagram shows the sex determination in human.
Rajah menunjukkan penentuan sex bagi manusia.



What are the phenotypes of P and Q ?
Apakah fenotip bagi P dan Q ?

	P	Q
A	Female <i>Perempuan</i>	Female <i>Perempuan</i>
B	Female <i>Perempuan</i>	Male <i>Lelaki</i>
C	Male <i>Lelaki</i>	Female <i>Perempuan</i>
D	Male <i>Lelaki</i>	Male <i>Lelaki</i>

9 Diagram shows the structure of atom X.
Rajah menunjukkan struktur atom X.



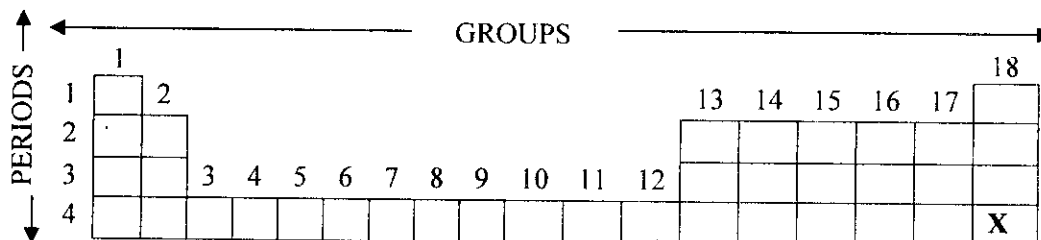
Keys

- Electron (*Elektron*)
- Proton (*Proton*)
- Neutron (*Neutron*)

What is the proton number, the nucleon number and the number of electron ?
Apakah nombor proton, nombor nukleon dan bilangan elektron ?

	Proton number <i>Nombor proton</i>	Nucleon number <i>Nombor nukleon</i>	Number of electron <i>Bilangan elektron</i>
A	3	3	4
B	3	4	3
C	4	10	3
D	3	7	3

10 Diagram shows an incomplete Periodic Table.
Rajah menunjukkan Jadual Berkala yang tidak lengkap.



What is X ?
Apakah X ?

- A Metal
Logam
- B Non-metal
Bukan logam
- C Noble gas
Gas Nadir
- D Transition element
Unsur peralihan

- 11 The table shows some physical properties of substances X, Y and Z.
Jadual menunjukkan sebahagian sifat fizikal bagi bahan X, Y dan Z.

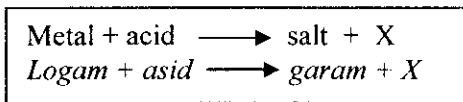
Substance <i>Bahan</i>	Melting point ($^{\circ}\text{C}$) <i>Takat lebur</i>	Electrical conductivity <i>Kekonduksian elektrik</i>	
		Solid state <i>Keadaan pepejal</i>	Molten state <i>Keadaan lebur</i>
X	115	Cannot <i>Tidak boleh</i>	Cannot <i>Tidak boleh</i>
Y	800	Cannot <i>Tidak boleh</i>	Can <i>Boleh</i>
Z	2 100	Can <i>Boleh</i>	Can <i>Boleh</i>

What are substances X, Y and Z?
Apakah bahan X, Y dan Z?

	X	Y	Z
A	Molecular substance <i>Bahan molekul</i>	Atomic substance <i>Bahan atom</i>	Ionic substance <i>Bahan ion</i>
B	Molecular substance <i>Bahan molekul</i>	Ionic substance <i>Bahan ion</i>	Atomic substance <i>Bahan atom</i>
C	Atomic substance <i>Bahan atom</i>	Molecular substance <i>Bahan molekul</i>	Ionic substance <i>Bahan ion</i>
D	Ionic substance <i>Bahan ion</i>	Atomic substance <i>Bahan atom</i>	Molecular substance <i>Bahan molekul</i>

- 12 Liquid M has boiling points of 78°C and liquid N has boiling point of 100°C . How to obtain liquid M from the mixture of the two liquids?
Cecair M mempunyai takat didih 78°C dan takat didih cecair N 100°C . Bagaimanakah cara untuk mendapatkan cecair M daripada campuran kedua-dua cecair tersebut?
- A Filtration
Penurasan
- B Crystallization
Penghabluran
- C Distillation
Penyulingan
- D Evaporation
Penyejatan

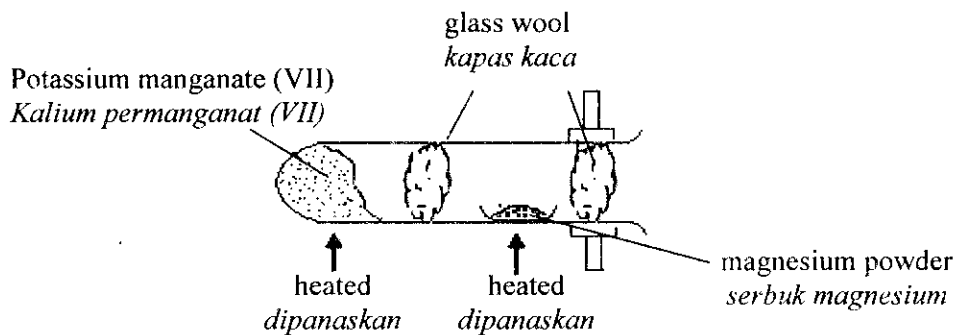
- 13 The following word equation represents a chemical reaction.
Persamaan perkataan berikut mewakili satu tindak balas kimia.



What is X ?

Apakah X ?

- A Carbon
Karbon
- B Oxygen
Oksigen
- C Carbon dioxide
Karbon dioksida
- D Hydrogen
Hidrogen
- 14 Diagram shows the apparatus set-up of an experiment.
Rajah menunjukkan susunan radas bagi satu eksperimen.

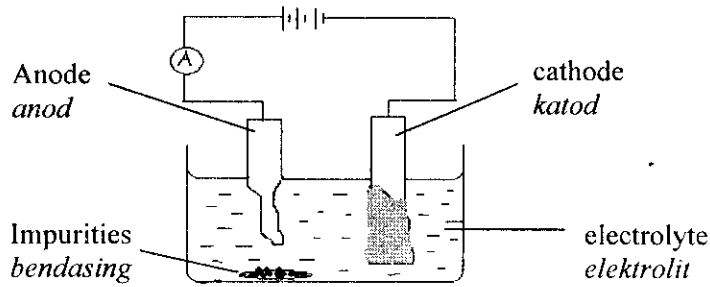


What is the function of potassium manganat (VII) ?

Apakah fungsi kalium permanganat (VII) ?

- A Produces oxygen
Menghasilkan oksigen
- B Attracts hydrogen gas
Menarik gas hidrogen
- C Releases heat for reaction
Membebaskan haba untuk tindak balas
- D Reacts with magnesium powder
Bertindakbalas dengan serbuk magnesium

- 15 The diagram shows the process of purification of silver.
Rajah menunjukkan proses penulenan argentum.

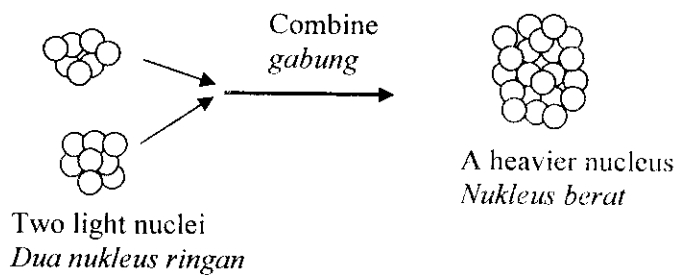


Which of the following is **true** about the process ?

Antara berikut yang manakah **benar** tentang proses tersebut ?

- A Pure silver is used as the anode
Argentum tulen digunakan sebagai anod
- B Impure silver is used as the cathode
Argentum tak tulen digunakan sebagai katod
- C Silver nitrate solution is used as the electrolyte
Larutan argentum nitrat digunakan sebagai elektrolit
- D Pure silver is collected at the anode
Argentum tulen dikumpul di anod
- 16 Which of the following are the products of photosynthesis ?
Antara berikut yang manakah hasil fotosintesis ?
- A Carbon dioxide and glucose
Karbon dioksida dan glukosa
- B Oxygen and glucose
Oksigen dan glukosa
- C Water and carbon dioxide
Air dan karbon dioksida
- D Chlorophyll and oxygen
Klorofil dan oksigen
- 17 Which of the following emits radioactive rays ?
Antara berikut yang manakah memancarkan sinaran radioaktif ?
- A Uranium-238
- B Carbon -12
- C Iodine -127
- D Oxygen -12

- 18 Diagram shows the combining process of two light nuclei together to form a heavier nucleus.
Rajah menunjukkan proses gabungan dua nukleus ringan membentuk satu nukleus berat.

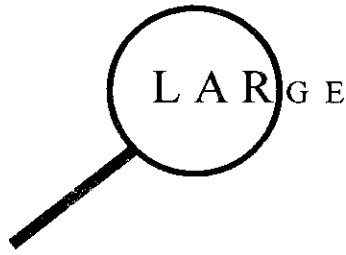


What is the process above ?

Apakah proses di atas ?

- A Nuclear fission
Pembelahan nukleus
- B Nuclear fusion
Pelakuran nukleus
- C Nuclear energy
Tenaga nuklear
- D Nuclear combination
Gabungan nucleair
- 19 Which of the following is a use of radioactive substance ?
Antara berikut yang manakah kegunaan bahan radioaktif ?
- A To treat genetic diseases
Untuk merawat penyakit genetik
- B To kill cancerous cells
Untuk membunuh sel-sel kanser
- C To determine the age of living organism
Untuk menentukan usia sesuatu organisma hidup
- D To sterilize livestock
Untuk memandulkan haiwan ternakan
- 20 What is the effect of radioactive leakage ?
Apakah kesan akibat kebocoran bahan radioaktif ?
- A Tsunami will occur
Kejadian tsunami
- B Earth temperature will increase
Peningkatan suhu bumi
- C Depletion of ozone layer will occur
Kejadian penipisan lapisan ozon
- D Mutation of living things will occur
Kejadian mutasi kepada hidupan

- 21 Diagram shows a magnifying glass .
Rajah menunjukkan sebuah kanta pembesar.

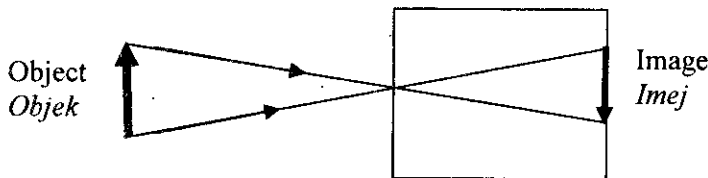


What is the distance between the lens and the word **LARGE** so that the image formed will be as above ?

Apakah jarak antara kanta dengan perkataan **LARGE** supaya imej terbentuk seperti di atas ?

- A Twice the lens focal length
Dua kali jarak fokus kanta
- B Same as the lens focal length
Sama dengan jarak fokus kanta
- C Longer than the lens focal length
Lebih besar daripada jarak fokus kanta
- D Shorter than the lens focal length
Lebih kecil daripada jarak fokus kanta

- 22 Diagram shows a pinhole camera.
Rajah menunjukkan sebuah kamera lubang jarum.



What happens to the image if the distance of the object is decreased ?

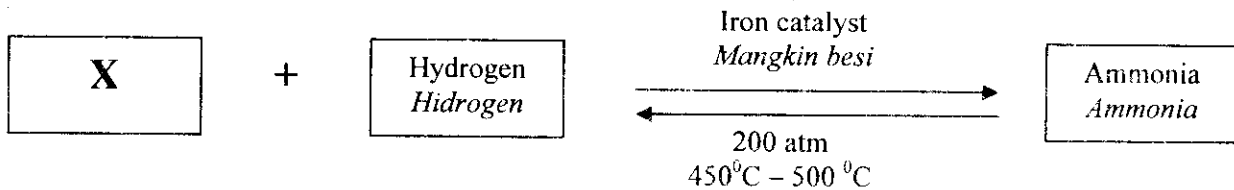
Apakah yang berlaku pada imej jika jarak objek dikurangkan ?

- A Become smaller
Semakin kecil
- B Become bigger
Semakin besar
- C Nothing happens
Tiada perubahan
- D Upright
Menegak

- 23 Fatimah wears a yellow blouse and green trousers walks under a red light. What are the colours of her blouse and trousers?
Fatimah memakai baju kuning dan seluar hijau sedang berjalan di bawah cahaya merah. Apakah warna baju dan seluarnya?

	Blouse (<i>Baju</i>)	Trousers (<i>Seluar</i>)
A	Yellow (<i>Kuning</i>)	Green (<i>Hijau</i>)
B	Yellow (<i>Kuning</i>)	Black (<i>Hitam</i>)
C	Red (<i>Merah</i>)	Green (<i>Hijau</i>)
D	Red (<i>Merah</i>)	Black (<i>Hitam</i>)

- 24 The diagram shows the word equation of the Haber process.
Rajah menunjukkan persamaan perkataan bagi proses Haber.



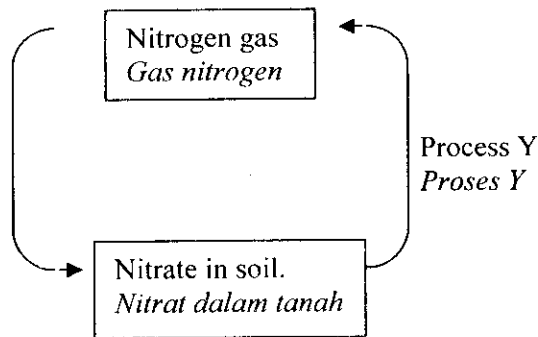
What is substance X?

Apakah bahan X?

- A Lead
Plumbum
- B Nitrogen
Nitrogen
- C Carbon dioxide
Karbon dioksida
- D Chloroflourocarbons
Kloroflourokarbon
- 25 Choose the correct match between industrial wastes and the method of controlling them.
Pilih padanan yang betul antara bahan sisa industri dengan cara mengawalnya.

	Industrial wastes <i>Sisa industri</i>	Methods of controlling <i>Cara mengawal</i>
A	Radioactive wastes <i>Sisa radioaktif</i>	Recycle <i>Kitar semula</i>
B	Toxic wastes <i>Sisa beracun</i>	Flow out to the river <i>Alirkan ke sungai</i>
C	Oil palm wastes <i>Sisa minyak sawit</i>	Open burning <i>Pembakaran terbuka</i>
D	Soot and dust <i>Jelaga dan debu</i>	Electrostatic precipitator <i>Pemendak elektrostatik</i>

- 26 What is the optimum temperature for the growth of bacteria ?
Apakah suhu optimum untuk pertumbuhan bakteria ?
- A 27°C
 - B 30°C
 - C 37°C
 - D 40°C
- 27 Diagram shows the Nitrogen Cycle.
Rajah menunjukkan kitar nitrogen.

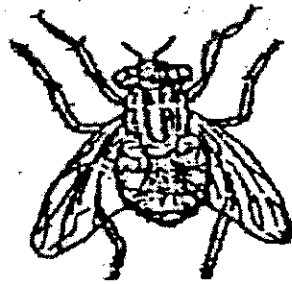


What is process Y ?

Apakah proses Y ?

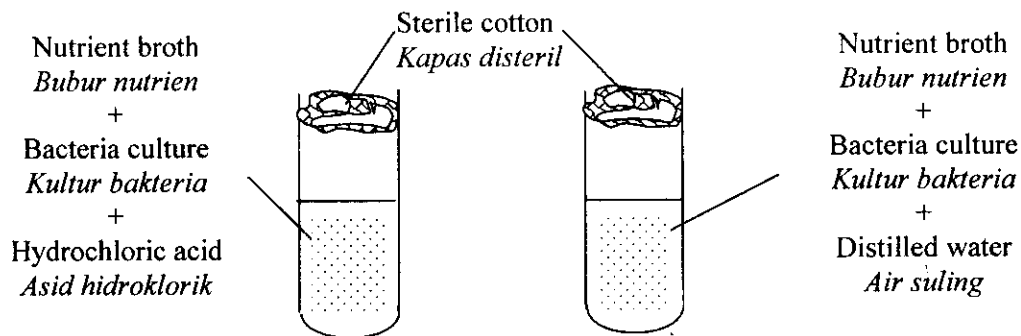
- A Decomposing bacteria
Bakteria pengurai
- B Denitrifying bacteria
Bakteria pendenitritan
- C Nitrifying bacteria
Bakteria penitritan
- D Nitrogen- fixing bacteria
Bakteria pengikat nitrogen

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



Which of the following diseases is carried by the vector?
Antara berikut yang manakah penyakit yang dibawa oleh vektor itu?

- A Tuberculosis
Tibi
- B Malaria
Malaria
- C Cholera
Taun
- D Tetanus
Kancing gigi
- 29 Diagram shows an experiment to study the growth of bacteria at room temperature.
Rajah menunjukkan eksperimen untuk mengkaji pertumbuhan bakteria pada suhu bilik.



Which of the following factors is being studied?
Antara berikut faktor manakah yang dikaji?

- A pH
pH
- B Light
Cahaya
- C Nutrient
Nutrien
- D Temperature
Suhu

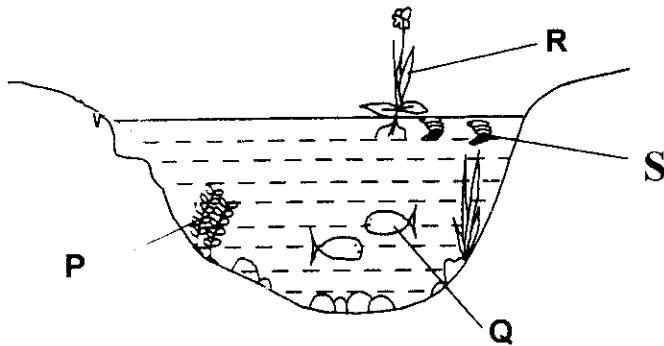
- 30 The table shows the amount of energy in three types of food.
Jadual menunjukkan jumlah tenaga dalam tiga jenis makanan.

Type of food (<i>Jenis makanan</i>)	Calorific value (kJ/100g) <i>Nilai kalori (kJ/100 g)</i>
Beef burger <i>Burger daging</i>	110
Green apple <i>Apple hijau</i>	150
Soya milk <i>Susu soya</i>	250

How much energy is stored in 100 g of beef burger, 200 g green apples and 200 g of soya milk?
Berapa jumlah tenaga yang tersimpan di dalam 100 g burger daging, 200 g apel hijau dan 200 g susu soya?

- A 310 kJ
 B 500 kJ
 C 510 kJ
 D 910 kJ
- 31 Why does a male labour need more calories than a male clerk?
Kenapa buruh lelaki memerlukan jumlah kalori yang lebih dari kerani lelaki?
- A to build up more muscles
untuk membina lebih banyak otot
- B to develop more body cells
untuk menambahkan sel tubuh
- C to increase his fatty tissues
untuk meningkatkan tisu lemak
- D to carry out more physical activities
untuk menjalankan lebih banyak aktiviti fizikal
- 32 Deficiency of nutrient Y causes plant A to be short, have weak stems, few roots and leaves with purple tips. What is nutrient Y?
Kekurangan nutrient Y menyebabkan pokok A menjadi rendah, berbatang lembut, mempunyai akar yang sedikit dan bertompok ungu. Apakah nutrient Y?
- A Boron
Boron
- B Nitrogen
Nitrogen
- C Potassium
Kalium
- D Phosphorus
Fosforus

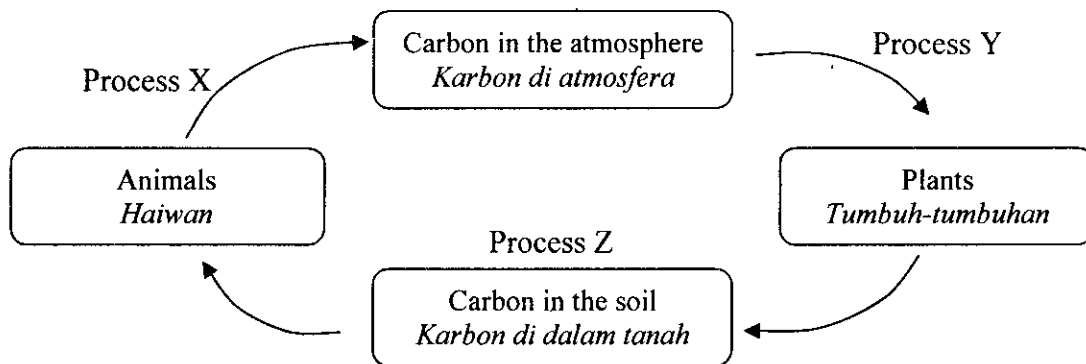
33 Diagram shows a habitat in a pond.
Rajah menunjukkan satu habitat kolam.



Which of the following are consumer ?
Antara berikut yang manakah pengguna ?

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

34 Diagram shows a carbon cycle.
Rajah menunjukkan kitar karbon.



- | | | | |
|---|---------------------------------------|---------------------------------------|-------------------------------------|
| | X | Y | Z |
| A | Respiration
<i>Respirasi</i> | Photosynthesis
<i>Fotosintesis</i> | Decomposition
<i>Penguraian</i> |
| B | Respiration
<i>Respirasi</i> | Transpiration
<i>Transpirasi</i> | Decomposition
<i>Penguraian</i> |
| C | Photosynthesis
<i>Fotosintesis</i> | Respiration
<i>Respirasi</i> | Decomposition
<i>Penguraian</i> |
| D | Photosynthesis
<i>Fotosintesis</i> | Respiration
<i>Respirasi</i> | Transpiration
<i>Transpirasi</i> |

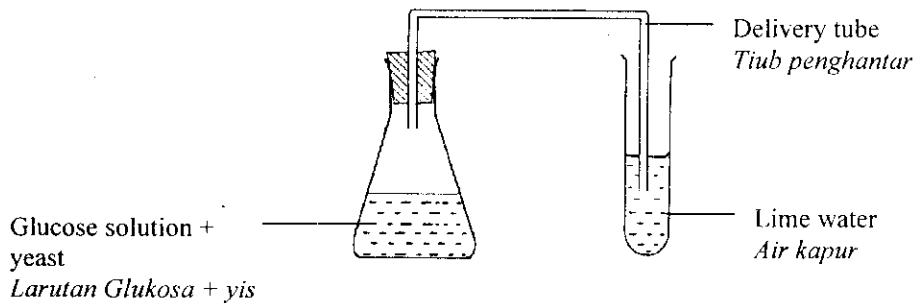
- 35 The information shows the characteristics of substance Y.
Maklumat berikut menunjukkan ciri-ciri bahan Y.

- | |
|---|
| <ul style="list-style-type: none"> • Contains carbon element
<i>Mengandungi unsur karbon</i> • Originates from living things
<i>Berasal daripada benda hidup</i> • Burns and gives out heat
<i>Terbakar dan membebaskan haba</i> |
|---|

What is Y ?

Apakah Y ?

- A A polymer
Polimer
- B A monomer
Monomer
- C An organic compound
Sebatian organik
- D An inorganic compound
Sebatian bukan organik
- 36 Diagram shows how ethanol can be produced.
Rajah menunjukkan bagaimana ethanol boleh dihasilkan.

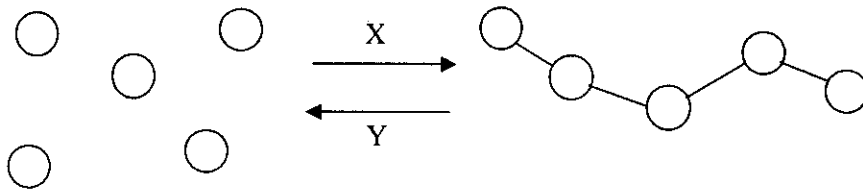


What is the process involved ?

Apakah proses yang terlibat ?

- A Distillation
Penyulingan
- B Fermentation
Penapaian
- C Esterification
Pengesteran
- D Filtration
Penurasan

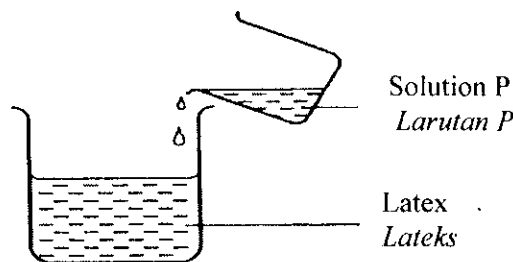
37 Diagram shows a type of chemical change.
Rajah menunjukkan sejenis perubahan kimia.



What are processes X and Y ?
Apakah proses X dan Y ?

	Y	Z
A	Polymerisation <i>Pempolimeran</i>	Vulcanisation <i>Pemvulkanan</i>
B	Polymerisation <i>Pempolimeran</i>	Depolymerisation <i>Penyahpolimeran</i>
C	Depolymerisation <i>Penyahpolimeran</i>	Polymerisation <i>Pempolimeran</i>
D	Vulcanisation <i>Pemvulkanan</i>	Esterification <i>Pengesteran</i>

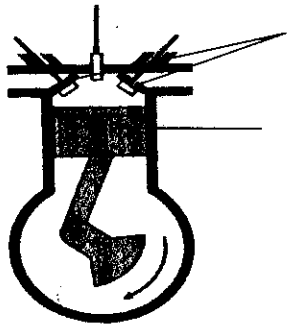
38 Diagram shows that latex coagulates faster when added with solution P.
Rajah menunjukkan lateks menggumpal lebih cepat bila dicampurkan dengan larutan P.



What is solution P ?
Apakah larutan P ?

- A Salt
Garam
- B Minerals
Garam mineral
- C Ethanoic acid
Asid etanoik
- D Ammonium solution
Larutan ammonia

- 39 Diagram shows a stage of one stroke in a petrol engine.
Rajah menunjukkan satu peringkat lejang dalam enjin petrol.



Inlet and exhaust valve closes
Injap masuk dan injap ekzos tertutup

Piston moves upwards
Omboh bergerak ke atas

What is the stroke ?

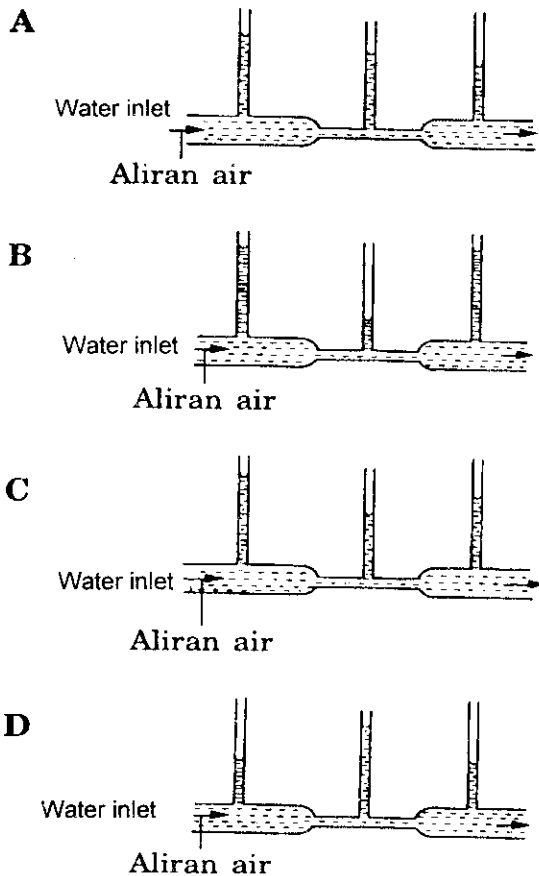
Apakah lejang tersebut ?

- A Exhaust stroke
Lejang ekzos
- B Power stroke
Lejang kuasa
- C Induction stroke
Lejang pengambilan
- D Compression stroke
Lejang mampatan
- 40 Which model of shoe exerts the least pressure on the surface of the ground when worn by the same lady ?
Model kasut yang manakah akan menghasilkan tekanan paling rendah di permukaan tanah jika dipakai oleh wanita yang sama ?

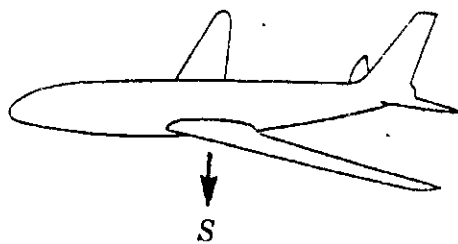


- 41 Diagram shows the flow of water through a Bernoulli's tube. Which of the following shows the correct water level in the three vertical tubes ?

Rajah menunjukkan pengaliran air melalui tiub Bernoulli. Antara berikut yang manakah menunjukkan aras air yang betul pada ketiga-tiga turus tegak ?



- 42 Diagram shows a force acting on a flying aeroplane.
Rajah menunjukkan satu daya yang bertindak ke atas sebuah kapal terbang yang sedang terbang



What is force S ?
Apakah daya S ?

- A Drag
Seretan
- B Berat
Weight
- C Thrust
Tujah
- D Upthrust
Daya angkat

- 43 A housewife buys 10 kg of prawns as a week supply. What is the best method to preserve the freshness of the prawns ?
Seorang suri rumah membeli 10kg udang untuk bekalan seminggu. Apakah kaedah terbaik untuk mengekalkan kesegaran udang tersebut ?
- A Drying
Pengeringan
 - B Cooling
Penyejukan
 - C Freezing
Pembekuan
 - D Pasteurization
Pempasteuran
- 44 Which of the following chemical substances is used in processed food to enhance the taste of food ?
Manakah antara bahan kimia berikut digunakan dalam makanan yang sudah diproses untuk menambahkan rasa makanan ?
- A Colouring
Perwarna
 - B Flavouring
Perisa
 - C Stabilizer
Penstabil
 - D Antioxidant
Antioksida
- 45 Which of the following farming methods can prevent the loss of soil fertility ?
Yang manakah di antara berikut kaedah yang boleh mengelakkan kehilangan kesuburan tanah dalam pertanian ?
- A Crop rotation
Tanaman bergilir
 - B Mixed farming
Pertanian bercampur
 - C Use pesticides
Menggunakan racun serangga
 - D Intensive cultivation
Penanaman intensif

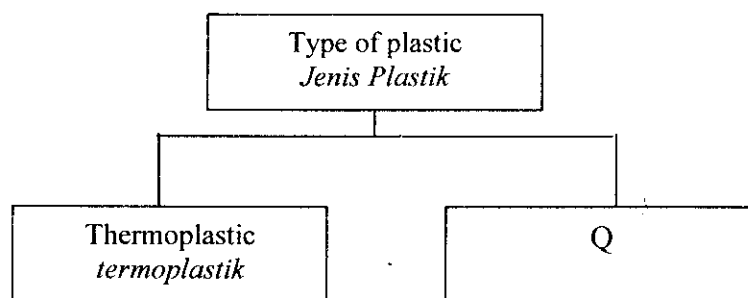
- 46 Diagram shows the label of food.
Rajah menunjukkan label makanan.



What is the information that is **not** displayed on the food label above according to the food legislations ?

Apakah maklumat yang tidak dipamerkan pada label di atas mengikut Peraturan Makanan ?

- A Expiry date
Tarikh luput
- B The name and address of manufacturer
Nama dan alamat pengeluar
- C The name of food
Nama makanan
- D The net weight of the food
Berat bersih makanan
- 47 Diagram shows a classification of plastic.
Rajah menunjukkan pengelasan plastik.



What is the property of plastic type Q ?

Apakah sifat bagi plastik jenis Q ?

- A Can be reshaped repeatedly
Boleh diacu semula berulang kali
- B Poor electrical insulator
Penebat elektrik yang lemah
- C Dissolve in organic solvents
Larut dalam pelarut organik
- D Higher melting point.
Takat lebur yang lebih tinggi

- 48 Why bakelite is used to make the handles of kitchen utensils ?
Mengapakah bakelit digunakan untuk membuat pemegang alat memasak ?
- A High elasticity
Kekenyalannya tinggi
 - B Low inner heat effect
Kesan haba dalamannya tinggi
 - C Resistance towards organic solvents
Tahan terhadap pelarut organik
 - D High melting point
Takat leburnya yang tinggi
- 49 A wave travels with a velocity of 45 ms^{-1} . Calculate the frequency of the wave if it has a wavelength of 3 m ?
Suatu gelombang bergerak dengan halaju 45 ms^{-1} . Kira frekuensi gelombang itu jika ia mempunyai panjang gelombang 3 m ?
- A 15 Hz
 - B 135 Hz
 - C 0.07 Hz
 - D 48 Hz
- 50 Which of the following is **true** about communication satellites ?
Antara berikut, yang manakah benar tentang satelit komunikasi ?
- A Located outside the Earth's orbit
Terletak di luar orbit Bumi
 - B Obtains energy from the Earth's satellite station
Memperoleh tenaga daripada stesen satelit Bumi
 - C Three satellites are needed for worldwide communication
Tiga satelit diperlukan untuk komunikasi seluruh dunia
 - D Makes one complete orbit around the Earth in one month
Membuat satu edaran lengkap mengelilingi Bumi dalam satu bulan.

END OF QUESTION PAPER
KERTAS SOALAN TAMAT