

SULIT

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SAINS
PAPER 1
OKT / NOV
2008
1¼ HOURS



JABATAN PELAJARAN TERENGGANU

PEPERIKSAAN AKHIR TAHUN 2008

TINGKATAN EMPAT

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 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

- 1 Diagram shows the structure of a human brain. Which of the parts A, B, C or D controls involuntary actions?
Rajah menunjukkan struktur otak manusia. Antara bahagian A, B, C atau D yang manakah mengawal tindakan luar kawal?

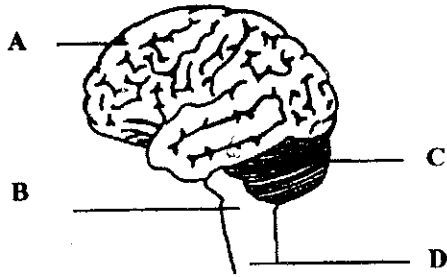
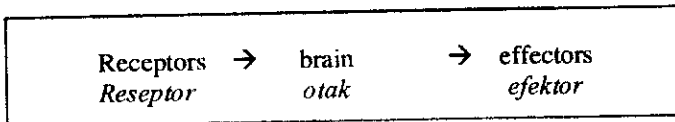


Diagram shows the impulse pathway of an action.
Rajah menunjukkan laluan impuls bagi satu tindakan.



Which action this impulse pathway refers to?
Tindakan yang manakah merujuk kepada laluan impuls ini?

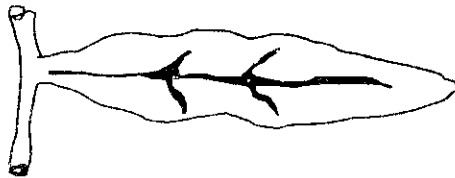
- A Sneeze
Bersin
- B Vomiting
Muntah
- C Heartbeat
Denyutan jantung
- D Reading a book
Membaca buku

- 3 The following information shows the characteristics of a human body system.
Maklumat berikut menunjukkan ciri-ciri bagi satu sistem badan manusia.

- ❖ Responses are slow
Tindak balas adalah perlahan
- ❖ It may last for a long period
Boleh tahan lama
- ❖ It involves the secretion of hormones
Melibatkan rembesan hormon

Which of the following systems has the above criteria?
Antara sistem berikut yang manakah mempunyai kriteria di atas?

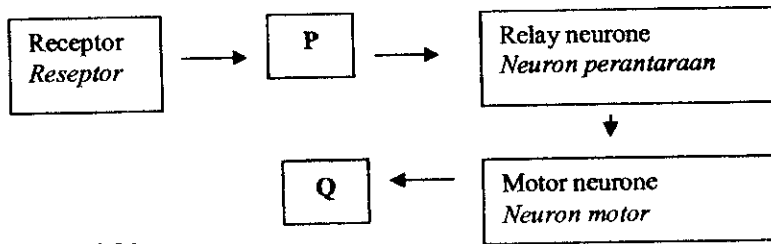
- A Blood circulation system
Sistem peredaran darah
 - B Respiration system
Sistem respirasi
 - C Endocrine system
Sistem endokrin
 - D Nervous system
Sistem saraf
- 4 Diagram shows one of the endocrine glands in human body.
Rajah menunjukkan satu kelenjar endokrin dalam badan manusia.



What is the effect if that gland does not secrete its hormone?
Apakah kesan sekiranya kelenjar ini tidak merembeskan hormon?

- A Dwarfism
Kekerdilan
- B Diabetes
Diabetes
- C Obesity
Gendut
- D Goitre
Goiter

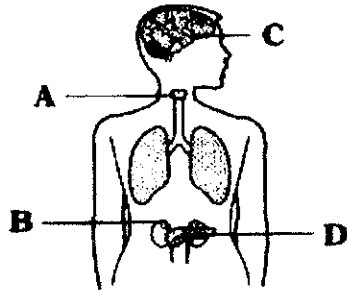
- 5 Diagram shows the path of the nerve impulse of a reflex action.
Rajah menunjukkan laluan impuls saraf bagi tindakan refleks.



What are P and Q?
Apakah P dan Q?

- | | P | Q |
|---|--|--|
| A | Effector
<i>Efektor</i> | Muscle
<i>Otot</i> |
| B | Synapse
<i>Sinaps</i> | Effector
<i>Efektor</i> |
| C | Effector
<i>Efektor</i> | Sensory neurone
<i>Neuron deria</i> |
| D | Sensory neurone
<i>Neuron deria</i> | Effector
<i>Efektor</i> |

Diagram shows the position of endocrine glands in human body.
Rajah menunjukkan kedudukan kelenjar endokrin dalam badan manusia.



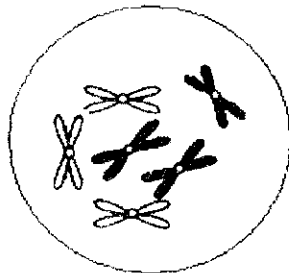
Which of the glands labelled as A,B,C and D produces hormone that controls the body metabolic rate?
Kelenjar yang manakah berlabel A, B, C dan D yang merembeskan hormon yang mengawal kadar metabolisma badan?

Deficiency of which element causes the thyroid gland to swell?
Kekurangan unsur manakah yang menyebabkan kelenjar tiroid membesar?

- | | |
|---|---------------------------|
| A | Calcium
<i>Kalsium</i> |
| B | Sodium
<i>Natrium</i> |
| C | Iron
<i>Besi</i> |

D Iodine
Iodin

- 8 What is the effect of alcohol on a pregnant woman?
Apakah kesan alkohol kepada wanita yang mengandung?
- A The foetus will free from diseases
Fetus bebas daripada penyakit
- B The foetus becomes addicted to alcohol
Fetus menjadi ketagih kepada alcohol
- C Alcohol can stimulate excessive growth on the foetus
Alkohol merangsang pertumbuhan fetus secara berlebihan
- D Alcohol may cause physical and mental deformity in the baby
Alkohol boleh menyebabkan kecacatan fizikal dan mental pada bayi
- 9 Which of the following statements is **true** about gene?
*Pernyataan manakah yang **benar** tentang gen ?*
- A The gene is located in the cytoplasm.
Gen terdapat di dalam sitoplasma
- B There is no dominant gene, only recessive gene.
Tidak terdapat gen dominan, hanya terdapat resesif
- C The gene carries certain information for traits such as knowledge
Gen membawa maklumat tertentu seperti pengetahuan.
- D The gene groups carry instructions that control human characteristics.
Kumpulan gen membawa arahan untuk mengawal ciri-ciri seseorang
- 10 Diagram shows a stage of mitosis.
Rajah menunjukkan satu peringkat mitosis.

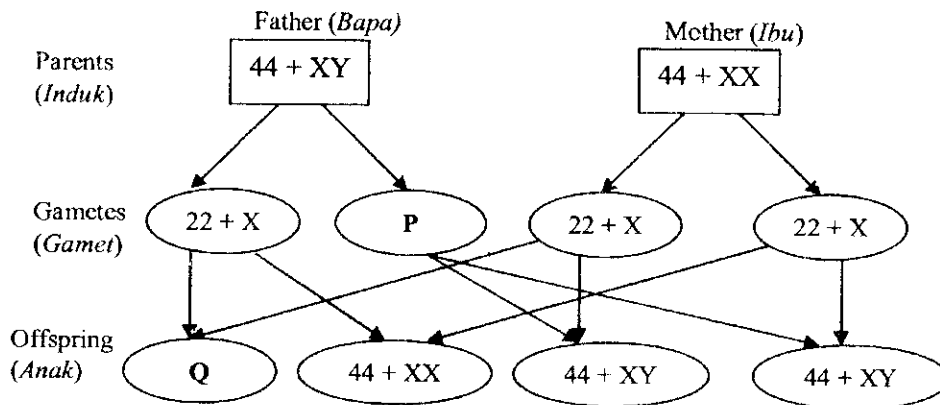


What will be the number of chromosomes in each daughter cell when the process of mitosis is complete?

Berapakah bilangan kromosom dalam setiap sel anak setelah proses mitosis selesai?

- A Two
dua
- B Three
Tiga
- C Six
Enam
- D Twelve
Dua belas

- 11 In which part of the plant does meiosis occur?
 Di bahagian tumbuhan yang manakah meiosis berlaku?
- A Petal
Ranggi
 - B Anther
Anter
 - C Root tip
Hujung akar
 - D Shoot tip
Hujung pucuk
- 12 Which of the following shows the chromosomes present in the female liver cells?
 Antara berikut yang manakah menunjukkan kromosom yang hadir dalam sel hati wanita?
- A 22 + X
 - B 22 + Y
 - C 44 + XX
 - D 44 + XY
- 13 The schematic diagram shows sex determination in human.
 Rajah skema menunjukkan penentuan seks manusia.



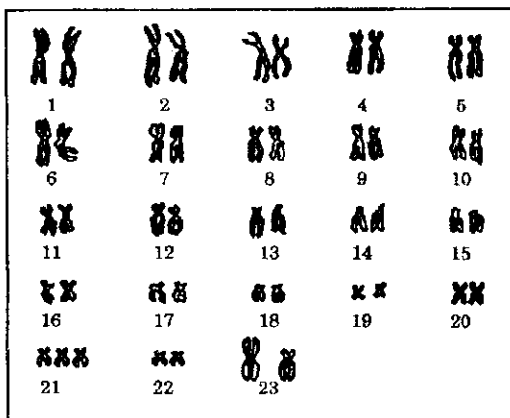
Which of the following are chromosomes found in P and Q?
 Antara berikut manakah kromosom yang terdapat dalam P dan Q?

	P	Q
A	22 + Y	44 + XY
B	22 + Y	44 + XX
C	22 + X	44 + XX
D	22 + X	44 + XY

14 Which of the following is **true** about non-identical twins?
 Antara berikut manakah **benar** tentang kembar tak seiras?

- A They always have the same gender.
Jantina mereka sentiasa sama.
- B Two ova are fertilized by two sperms.
Dua ovum disenyawakan oleh dua sperma.
- C Both foetuses share the same placenta.
Kedua-dua fetus berkongsi plasenta yang sama
- D The zygote formed after fertilisation splits into two.
Zigot yang terhasil selepas proses persenyawaan membahagi dua.

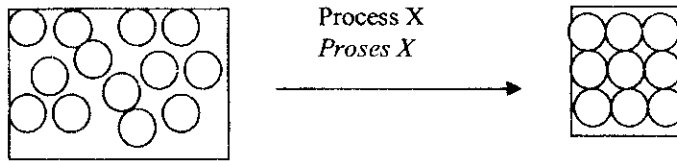
15 Diagram shows the chromosomes found in a baby skin cells.
 Rajah menunjukkan kromosom yang terdapat dalam sel kulit seorang bayi.



Which of the following genetic diseases is the baby suffering from?
 Antara berikut manakah penyakit genetik yang dihidapi oleh bayi tersebut?

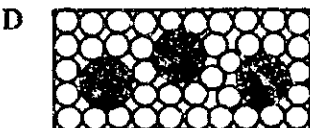
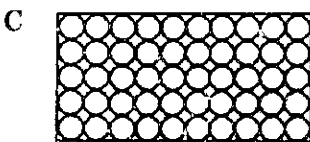
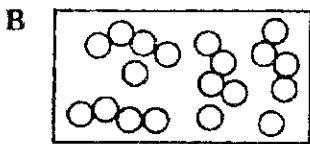
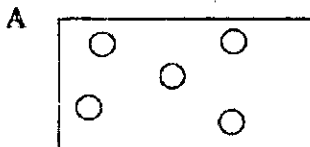
- A Albinism
Albino
- B Colour blindness
Buta warna
- C Turner's syndrome
Sindrom Turner
- D Down's syndrome
Sindrom Down

- 16 Diagram shows the arrangement of particles which undergo process X.
Rajah menunjukkan susunan zarah yang melalui proses X.

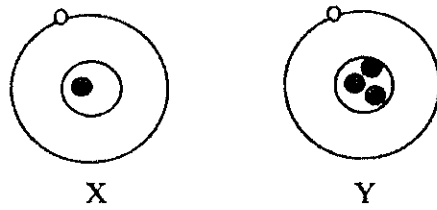


What is process X?
Apakah proses X?

- A Boiling
Pendidihan
 - B Melting
Peleburan
 - C Freezing
Pembekuan
 - D Condensation
Kondensasi
- 17 Which of the following A, B, C or D represents gas particles?
Antara berikut, yang manakah A, B, C atau D mewakili zarah gas?



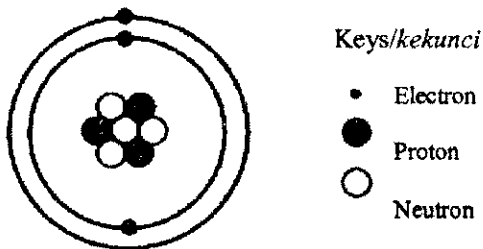
- 18 Diagram show the structures of atoms X and Y.
Rajah menunjukkan struktur atom X dan Y.



Keys
 ○ Electron
 ● Proton
 ● Neutron

What is the similarity between atom X and Y?
Apakah persamaan di antara atom X dan Y?

- A The number of neutrons.
Bilangan neutron
- B The nucleon number.
Nombor nukleon
- C The proton number
Nombor proton
- D The subatomic particles
Zarah subatom
- 19 Diagram shows the structure of an atom.
Rajah menunjukkan satu struktur atom.



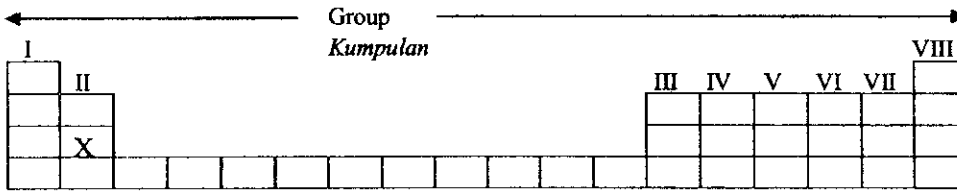
Keys/kekunci

● Electron
 ● Proton
 ○ Neutron

What is the nucleon number in this atom?
Apakah nombor nukleon atom ini?

- A 3
 B 4
 C 7
 D 6

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



Which of the following is the correct property of X ?
Antara yang berikut, yang manakah sifat X yang betul ?

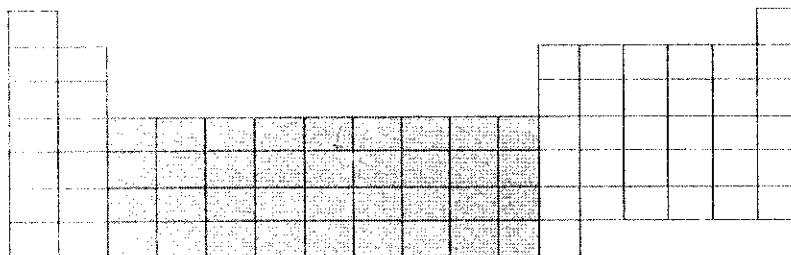
- A Dull
Pudar
- B Ductile
Mulur
- C Low melting point
Takat lebur rendah
- D Low tensile strength
Kekuatan regangan rendah

Based on the following table, which elements are isotopes?
Berdasarkan jadual berikut, yang manakah unsur-unsur tersebut adalah isotop?

Elemen (Unsur)	Nucleon number (Nombor nukleon)	Proton number (Nombor proton)	Number of neutrons (Bilangan neutron)
K	12	6	6
L	13	6	7
M	14	7	7
N	16	8	8

- A K and L
- B K and M
- C M and N
- D L and M

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



What type of element is in the shaded area ?
Apakah unsur dalam kawasan berlorek ?

- A Metal
Logam
- B Non-metal
Bukan logam
- C Semi-metal
Separuh logam
- D Transition metal
Logam peralihan

- 23 Table shows some physical properties of elements X, Y and Z.
Jadual menunjukkan sifat fizikal unsur-unsur X, Y, dan Z.

Element <i>Unsur</i>	Melting point <i>Takat lebur</i> (°C)	Electrical conductivity <i>Kekonduksian elektrik</i>	
		Solid state <i>Keadaan pepejal</i>	Molten state <i>Keadaan cecair</i>
X	118	Cannot <i>Tidak boleh</i>	Cannot <i>Tidak boleh</i>
Y	815	Cannot <i>Tidak boleh</i>	Can <i>Boleh</i>
Z	2 200	Can <i>Boleh</i>	Can <i>Boleh</i>

What are elements X, Y and Z ?
Apakah unsur-unsur X, Y, dan Z ?

	X	Y	Z
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>

- 24 The following information shows the characteristics and uses of material Y.
Maklumat berikut menunjukkan ciri-ciri dan kegunaan bahan Y.

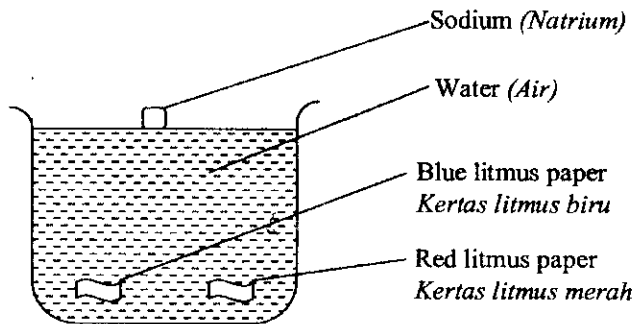
- | |
|--|
| <ul style="list-style-type: none"> • Light weight (<i>ringan</i>) • Shiny surface (<i>permukaan berkilat</i>) • Used as a food wrapper (<i>Digunakan sebagai pembalut makanan</i>) • Good heat conductor (<i>konduktor haba yang baik</i>) |
|--|

What is material Y ?

Apakah bahan Y ?

- A Zinc
Zink
- B Plastic
Plastik
- C Carbon
Karbon
- D Aluminium
Aluminium
- 25 Which of the following methods can be used to produce pure water from sea water ?
Antara kaedah-kaedah berikut, yang manakah boleh digunakan untuk menghasilkan air tulen daripada air laut ?
- A Filtration
Penurasan
- B Boiling
Pendidihan
- C Distillation
Penyulingan
- D Crystallization
Penghabluran
- 26 Which of the following shows a chemical change?
Manakah antara berikut menunjukkan perubahan kimia?.
- A Rusting of iron nail
Pengaratian paku besi
- B Boiling of water
Pendidihan air
- C Dissolving of sugar in water
Pelarutan gula dalam air
- D Mixing of sulphur and iron filings
Pencampuran sulfur dan serbuk besi

- 27 Diagram shows a piece of sodium placed in a beaker of water.
Rajah menunjukkan sekeping natrium yang diletakkan dalam bikar berisi air.



Which of the following is the observation of the experiment?
Antara berikut yang manakah pemerhatian bagi eksperimen tersebut?

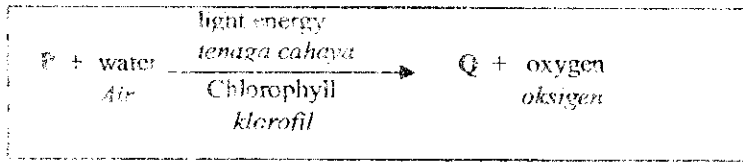
- A The red litmus paper turns blue
Kertas litmus merah bertukar menjadi biru
- B The blue litmus paper turns red
Kertas litmus biru bertukar menjadi merah
- C The red litmus paper is bleached
Kertas litmus merah dilunturkan
- D The blue litmus paper is bleached
Kertas litmus merah dilunturkan
- 28 The information below shows the reactivity of metal X, Y and Z with water.
Maklumat di bawah menunjukkan kereaktifan logam X, Y dan Z dengan air.

X	No reaction either with hot or cold water <i>Tiada tindakbalas dengan air panas atau air sejuk</i>
Y	Reacts vigorously with water <i>Bertindakbalas cergas dengan air</i>
Z	No reaction with cold water but reacts with hot water <i>Tiada tindakbalas dengan air sejuk tetapi bertindakbalas dengan air panas</i>

Which of the following is the arrangement of their reactivities in ascending order?
Antara berikut yang manakah adalah susunan kereaktifan logam tersebut secara menaik?

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

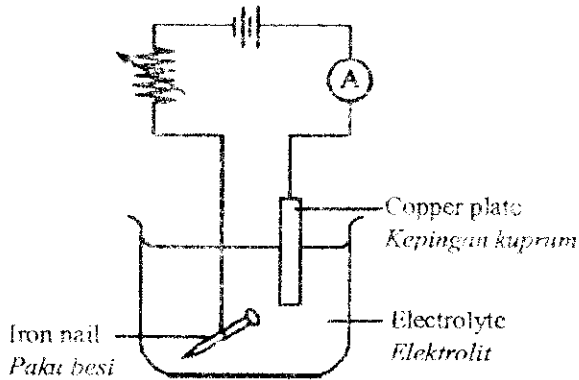
23. A chemical reaction in green plants can be represented by the equation below.
 Satu tindakbalas kimia yang berlaku dalam tumbuhan hijau boleh diwakili oleh persamaan berikut.



What are P and Q in the above reaction?
 Apakah P dan Q dalam persamaan di atas?

	P	Q
A	Hydrogen <i>Hydrogen</i>	Protein <i>Protein</i>
B	Mineral salt <i>Garam mineral</i>	Carbon dioxide <i>Karbon dioksida</i>
C	Carbon dioxide <i>Karbon dioksida</i>	Glucose <i>Glukosa</i>
D	Glucose <i>Glukosa</i>	Hydrogen <i>Hydrogen</i>

24. Diagram shows the electroplating process of an iron nail.
 Rajah menunjukkan proses penyaduran sebatang paku besi.



Which of the following solution can be used as the electrolyte?
 Antara larutan berikut yang manakah boleh digunakan sebagai elektrolit?

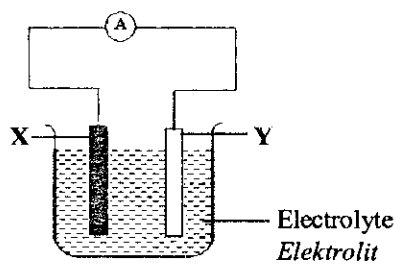
- A Silver nitrate
Argentum nitrat
- B Copper sulphate
Kuprum sulfat
- C Iron sulphate
Ferum sulfat
- D Aluminium nitrate
Aluminium nitrat

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31 What type of battery is used in a mobile-phone?
Apakah jenis bateri yang digunakan dalam telefon bimbit ?

- A Acid-lead battery
Bateri asid-plumbum
- B Nickel-cadmium battery
Bateri nikel-kadmium
- C Silver oxide-mercury battery
Bateri argentum oksida-merkuri
- D Alkaline battery
Bateri alkali

Diagram shows a simple cell which is connected to an ammeter.
Rajah menunjukkan satu sel ringkas yang disambungkan kepada ammeter.



Which of the following pairs of electrode X, Y and electrolyte will cause a deflection in the ammeter needle?

Antara pasangan elektrod X, Y dan elektrolit berikut, yang manakah akan menyebabkan pesongan pada jarum ammeter?

	X	Y	Electrolyte <i>Elektrolit</i>
A	Iron <i>Ferum</i>	Zinc <i>Zink</i>	Methylbenzene <i>Metilbenzena</i>
B	Carbon <i>Karbon</i>	Carbon <i>Karbon</i>	Hydrochloric acid <i>Asid hidroklorik</i>
C	Zinc <i>Zink</i>	Zinc <i>Zink</i>	Copper (II) chloride solution <i>Larutan kuprum (II) klorida</i>
D	Copper <i>Kuprum</i>	Magnesium <i>Magnesium</i>	Sodium chloride solution <i>Larutan natrium klorida</i>

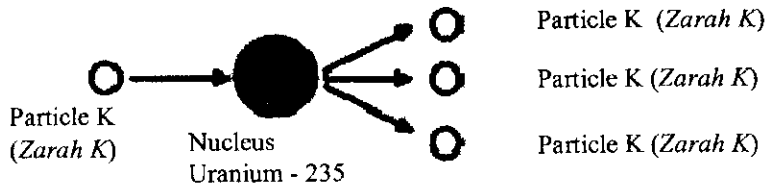
- 33 The following statements are the characteristics of one radioactive ray
Pernyataan berikut adalah sifat-sifat bagi satu sinaran radioaktif

- It cannot be stopped except by very thick lead
la tidak dapat dihalang kecuali dengan plumbum yang tebal
- It is not affected by a magnetic field
la tidak dipengaruhi oleh medan magnet

Which ray the characteristics refer to?

Sinar manakah yang merujuk sifat-sifat di atas?

- A Alpha
Alfa
- B Beta
Beta
- C Gamma
Gamma
- D Nucleus
Nukleus
- 34 Which of the following radioactive material is used to estimate the age of artifacts?
Antara bahan radioaktif berikut yang manakah digunakan untuk menganggar usia artifak?
- A Carbon-14
Karbon-14
- B Iodine-131
Iodin-131
- C Cobalt-60
Cobalt-60
- D Phosphorus-32
Fosforus-32
- 35 Diagram shows a part of the fission process of a radioactive substance.
Rajah menunjukkan sebahagian daripada proses pembelahan nukleus suatu bahan radioaktif



What is particle K ?

Apakah zarah K?

- A Proton
Proton
- B Electron
Elektron
- C Neutron
Neutron
- D Krypton atom
Atom krypton

- 36 Radioisotope X is used to study the rate and amount of fertilizer absorbed by the plant. What is X?
Radioisotop X digunakan untuk mengkaji kadar dan jumlah baja yang diserap oleh tumbuhan. Apakah X?

- A Iodine-131
Iodin-131
B Carbon-12
Karbon-12
C Phosphorus-32
Fosforus-32
D Cobalt-60
Kobalt-60

- 37 The table shows the penetration power of nuclear radiation.
Jadual menunjukkan kuasa penembusan sinar radioaktif

Radiation <i>Sinaran</i>	Can be blocked with <i>Boleh dihalang oleh</i>
P	Aluminium <i>Aluminium</i>
Q	Paper <i>Kertas</i>
R	Lead <i>Plumbum</i>

Arrange them in a sequence showing reducing penetration power.
Susunkan kuasa penembusan sinar radioaktif tersebut secara menurun

- A R, P, Q
B Q, R, P
C P, Q, R
D R, Q, P
- 38 What is the main usage of nuclear energy in industries ?
Apakah kegunaan utama tenaga nuklear dalam perindustrian ?
- A To preserve food
Untuk mengawet makanan
B To disinfect germs
Untuk membasmi kuman
C To generate electricity
Untuk menjana tenaga elektrik
D To sterile equipment
Untuk mensteril alatan

- 39 Diagram shows an object which is placed in front of a plane mirror.
Rajah menunjukkan kedudukan satu objek yang diletakkan di hadapan sebuah cermin satah.

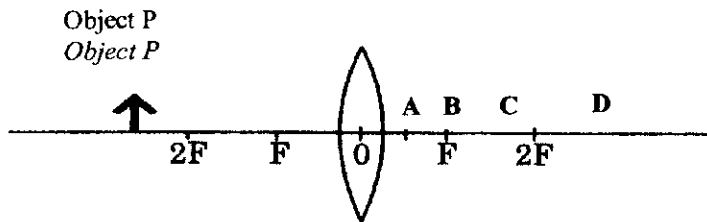


Which image appears in the plane mirror?
Imej yang manakah kelihatan di atas cermin satah itu?

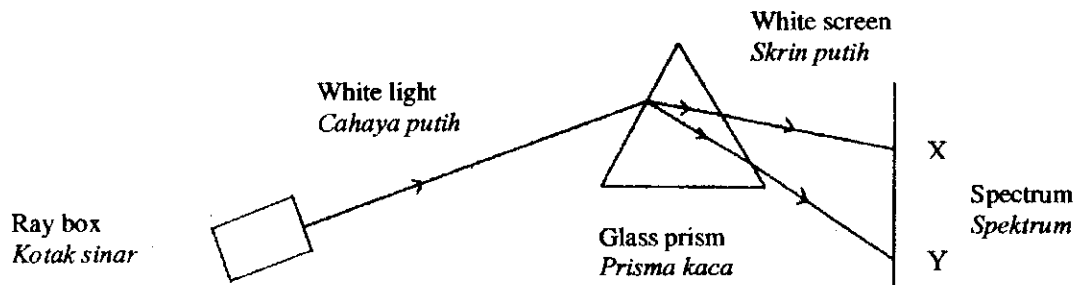
- A
- B
- C
- D

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- 40 Diagram shows the position of object P in front of a convex lens.
 Which of the following position A, B, C and D is the image of object P formed?
Rajah menunjukkan kedudukan objek P di hadapan kanta cembung.
Antara kedudukan A, B, C dan D, di manakah imej bagi objek P terbentuk ?



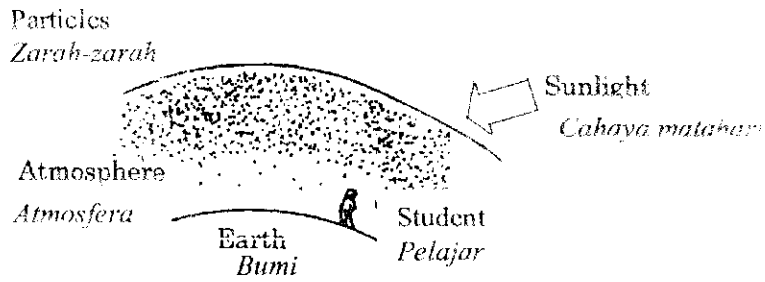
- 41 Diagram shows the dispersion of white light using a glass prism.
Rajah menunjukkan proses penyebaran cahaya putih menggunakan prisma kaca.



What are the colours at X and Y ?
Apakah proses X dan Y?

- | | X | Y |
|---|------------------|----------------|
| A | Violet
Ungu | Red
Merah |
| B | Red
Merah | Violet
Ungu |
| C | Red
Merah | Blue
Biru |
| D | Orange
Jingga | Violet
Ungu |
- 42 Why does a hornet have bright colours on its body?
Mengapakah seekor tebuan mempunyai warna yang terang di badannya?
- A As protection
Sebagai perlindungan
 - B For camouflage
Untuk penyamaran
 - C To attract a mate
Untuk menarik pasangan
 - D As a warning sign
Sebagai tanda amaran

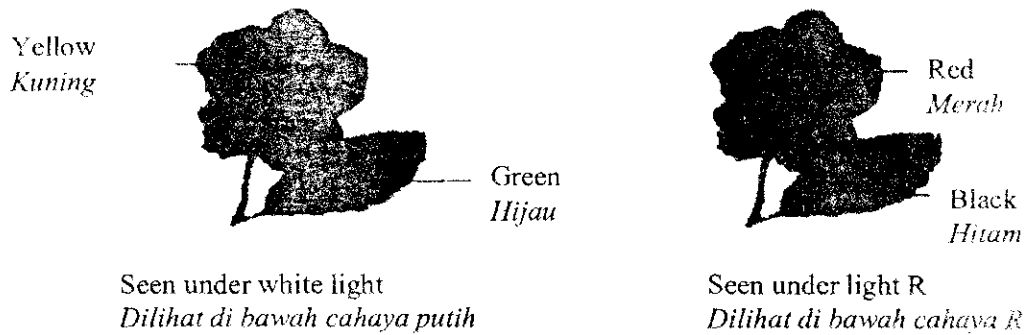
- 43 Diagram shows a student looking at the sky during sunset.
Rajah menunjukkan seorang pelajar memerhati langit pada waktu senja.



Which colour of sunlight scattered the most?
Warna yang manakah terserak paling banyak?

- A Blue
Biru
- B Green
Hijau
- C Red
Merah
- D Yellow
Kuning

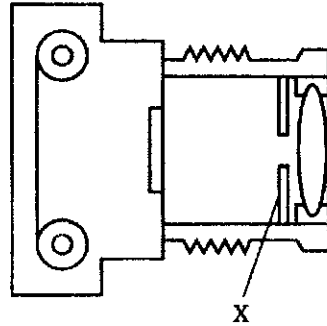
- 44 Diagram shows the colours of a flower and a leaf under different colours of light.
Rajah menunjukkan warna bunga dan daun dilihat di bawah warna cahaya yang berbeza.



What is the colour of light R?
Apakah warna cahaya R?

- A Blue
Biru
- B Green
Hijau
- C Red
Merah
- D Yellow
Kuning

- 45 Diagram shows the structure of a camera.
Rajah menunjukkan struktur sebuah kamera.



What is the function of part labelled X?
Apakah fungsi bahagian yang berlabel X?

- A Controls the size of aperture
Mengawal saiz bukaan
- B Controls the movements of the lens
Mengawal pergerakan kanta
- C Controls the time taken for light to enter the camera
Mengawal masa yang diambil untuk cahaya masuk ke dalam kamera
- D Controls the amount of light that enters the camera
Mengawal jumlah cahaya yang masuk ke dalam kamera

Dapatkan Skema jawapan di www.banksoalanspm.com

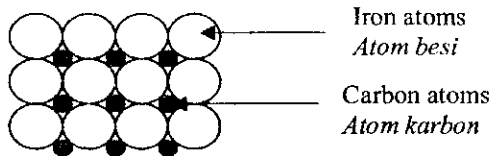
- 46 Which of the following is the phenomenon caused by the dispersion of light?
Manakah antara berikut merupakan fenomena yang terhasil daripada penyebaran cahaya?

- A Blue sky
Langit berwarna biru
- B Yellow moon
Bulan berwarna kuning
- C Red sunset
Kemerahan matahari pada waktu senja
- D Rainbow
Pelangi

- 47 What colour will be formed when yellow and blue pigments are mixed?
Apakah warna yang terhasil apabila pigmen kuning dan biru dicampurkan?

- A Violet
Ungu
- B Red
Merah
- C Green
Hijau
- D Black
Hitam

- 48 Diagram shows the arrangements of atoms in steel.
Rajah menunjukkan susunan atom dalam keluli.



What is the function of carbon atoms?

Apakah fungsi atom karbon?

- A Make metal corrosive
Menyebabkan kakisan logam
- B Reduce the boiling point
Merendahkan takat didih
- C Prevent electric flow in metal atoms
Menghalang aliran elektrik dalam atom-atom logam
- D Prevent layers of metal atom from sliding
Menghalang lapisan logam atom daripada menggelongsor

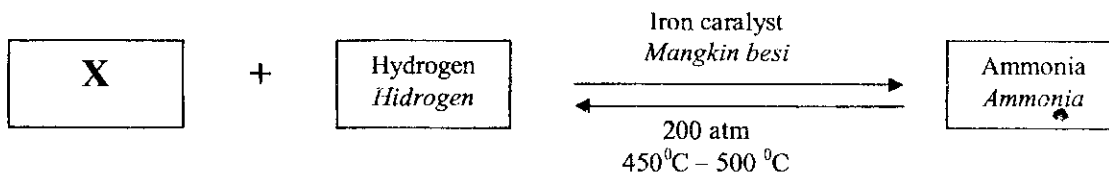
49 Choose the correct match between alloy and its composition.

Pilih padanan yang betul antara aloi dengan campurannya.

	Alloy <i>Aloi</i>	Composition <i>Campuran</i>
A	Duralumin <i>Duralumin</i>	Aluminium + Copper <i>Aluminium Kuprum</i>
B	Steel <i>Keluli</i>	Copper + Zinc <i>Kuprum Zink</i>
C	Pewter <i>Puiter</i>	Tin + antimony <i>Timah Antimoni</i>
D	Bronze <i>Gangsa</i>	Copper + tin <i>Kuprum Timah</i>

50 Diagram shows a word equation of 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 Chlorofluorocarbons
Klorofluorokarbon

END OF QUESTION PAPER
KERTAS SOALAN TAMAT