

SULIT



JABATAN PELAJARAN NEGERI SELANGOR
PERSIDANGAN KEBANGSAAN PENGETUA SEKOLAH MENENGAH



PROGRAM PENINGKATAN PRESTASI AKADEMIK (2)
SIJIL PELAJARAN MALAYSIA 2010

4531/1

PHYSICS
Kertas 1
Sept./Okt.
1¼ jam

Satu jam lima belas minit

JANGAN BUKA KERTAS SOALAN INI SEHINGGA DIBERITAHU

1. *Kertas soalan ini adalah dalam dwibahasa.*
2. *Soalan adalah dalam bahasa Inggeris dan diikuti dengan bahasa Melayu yang sepadan.*
3. *Calon dikehendaki membaca maklumat di halaman belakang kertas soalan ini.*

Kertas soalan ini mengandungi 32 halaman bercetak.

The following information may be useful. The symbols have their usual meaning.
Maklumat berikut mungkin berfaedah. Simbol-simbol mempunyai makna yang biasa.

- | | | | |
|----|---|----|---|
| 1 | $a = \frac{v-u}{t}$ | 15 | $E = mc^2$ |
| 2 | $v^2 = u^2 + 2as$ | 16 | $v = f\lambda$ |
| 3 | $s = ut + \frac{1}{2}at^2$ | 17 | Power, $P = \frac{\text{energy}}{\text{time}}$
Kuasa, $P = \frac{\text{tenaga}}{\text{masa}}$ |
| 4 | Momentum = mv | 18 | $\frac{1}{f} = \frac{1}{u} + \frac{1}{v}$ |
| 5 | $F = ma$ | 19 | $\lambda = \frac{ax}{D}$ |
| 6 | Kinetic energy / Tenaga kinetik
$= \frac{1}{2}mv^2$ | 20 | $n = \frac{\sin i}{\sin r}$ |
| 7 | Gravitational potential energy /
Tenaga keupayaan graviti = mgh | 21 | $n = \frac{\text{real depth}}{\text{apparent depth}}$
$n = \frac{\text{dalam nyata}}{\text{dalam ketara}}$ |
| 8 | Elastic potential energy /
Tenaga keupayaan kenyal = $\frac{1}{2}Fx$ | 22 | $Q = It$ |
| 9 | $\rho = \frac{m}{V}$ | 23 | $V = IR$ |
| 10 | Pressure / Tekanan, $p = h\rho g$ | 24 | Power / Kuasa, $P = IV$ |
| 11 | Pressure / Tekanan, $p = \frac{F}{A}$ | 25 | $\frac{N_s}{N_p} = \frac{V_s}{V_p}$ |
| 12 | Heat / Haba, $Q = mc\theta$ | 26 | Efficiency / Kecekapan
$= \frac{I_s V_s}{I_p V_p} \times 100\%$ |
| 13 | Heat / Haba, $Q = ml$ | 27 | $g = 10 \text{ m s}^{-2}$ |
| 14 | $\frac{pV}{T} = \text{constant} / \text{pemalar}$ | 28 | $c = 3.0 \times 10^8 \text{ m s}^{-1}$ |

- 1 Which of the following sets of prefixes are arranged in ascending order?
Antara set-set imbuhan berikut, yang manakah disusun dalam susunan menaik?

- A Micro, mili, kilo, mega
- B Kilo, mega, mili, micro
- C Micro, kilo, centi, mega
- D Kilo, mega, micro, centi

- 2 Diagram 1 shows a micrometer screw gauge used to measure the thickness of 100 sheets of paper.
Rajah 1 menunjukkan tolok skru mikrometer yang digunakan untuk mengukur ketebalan 100 helai kertas.

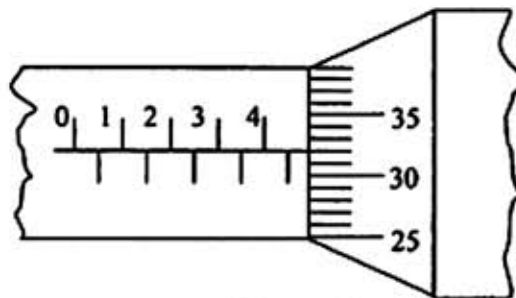


Diagram 1
Rajah 1

What is the thickness of one sheet of paper in mm?
Apakah ketebalan sehelai kertas dalam mm?

- A 0.0432
- B 0.0438
- C 0.0482
- D 0.0488

- 3 Table 1 shows four sets of measurement of the same plank measured by four students. The actual thickness of the plank is 2.53 cm.

Jadual 1 menunjukkan empat set pengukuran papan yang sama diukur oleh empat orang pelajar. Ketebalan sebenar sekeping papan itu adalah 2.53 cm.

Student Pelajar	Measurement / cm Ukuran / cm			
	1	2	3	4
A	2.50	2.50	2.50	2.50
B	2.53	2.53	2.53	2.53
C	2.52	2.53	2.54	2.53
D	2.71	2.73	2.74	2.74

Table 1
Jadual 1

Which student's measurement is less precision but accurate?

Pengukuran pelajar manakah yang kurang persis tetapi jitu?

- 4 A group of students carried out an experiment to investigate the relationship between two variables, the variables are as follows:

Sekumpulan pelajar menjalankan satu eksperimen untuk menyiasat hubungan antara dua pembolehubah, pembolehubah-pembolehubahnya adalah seperti berikut:

Manipulated variable : P

Pembolehubah dimanipulasikan

Responding variable : Q

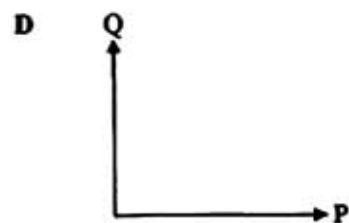
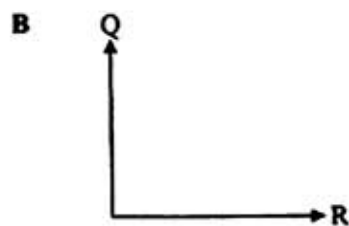
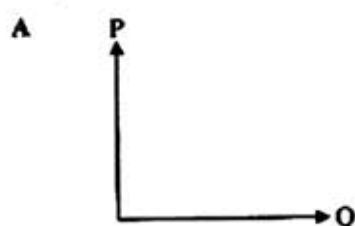
Pembolehubah bergerak balas

Constant variable : R

Pembolehubah dimalarkan

Which graph shows the relationship between the variables?

Graf manakah yang menunjukkan hubungan antara pembolehubah-pembolehubah itu?



- 5 Diagram 2 shows a track for 200 m event. An athlete has finished the race in 25 s.
Rajah 2 menunjukkan trek bagi acara larian 200 m. Seorang atlet telah menamatkan larian tersebut dalam masa 25 s.

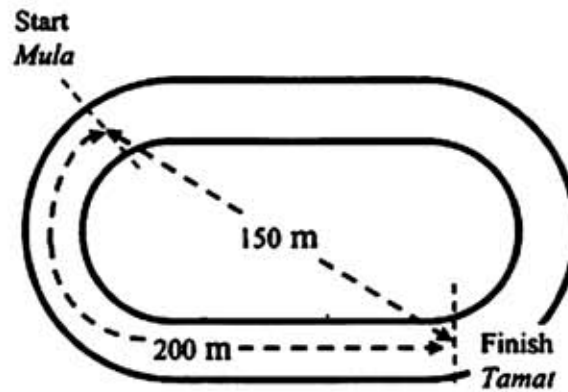
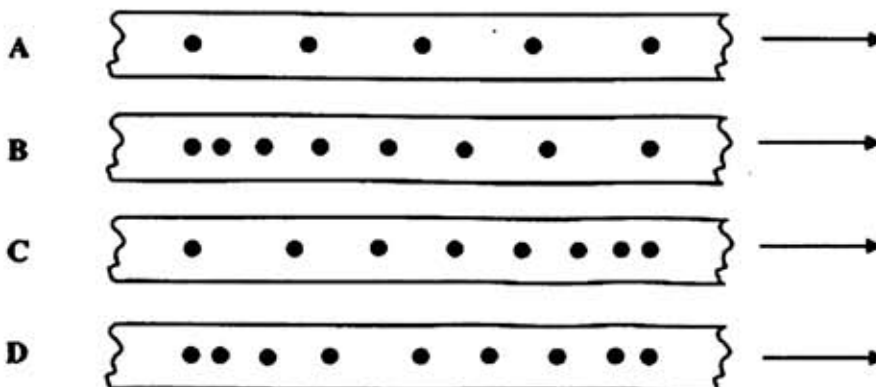


Diagram 2
Rajah 2

What is the velocity of the athlete in m s^{-1} ?
Berapakah halaju atlet itu dalam m s^{-1} ?

- A $\frac{350}{25}$
- B $\frac{200}{25}$
- C $\frac{150}{25}$
- D $\frac{25}{200}$
- 6 Which of the following ticker tapes show acceleration?
Antara pita detik berikut, yang manakah menunjukkan pecutan?



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- 7 Diagram 3 shows a velocity-time graph of a moving bicycle.
Rajah 3 menunjukkan graf halaju-masa bagi sebuah basikal yang bergerak.

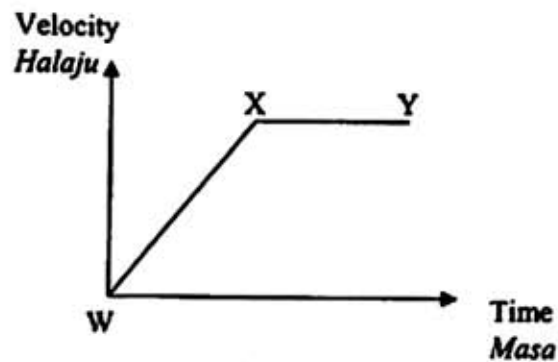


Diagram 3
Rajah 3

- Which of the following describes the acceleration of the bicycle?
Antara yang berikut, yang manakah menerangkan pecutan basikal itu?

	WX	XY
A	Increasing <i>Bertambah</i>	Decreasing <i>Berkurang</i>
B	Increasing <i>Bertambah</i>	Uniform <i>Seragam</i>
C	Zero <i>Sifar</i>	Uniform <i>Seragam</i>
D	Uniform <i>Seragam</i>	Zero <i>Sifar</i>

- 8 Diagram 4 shows a stroboscopic photograph of a ball falling towards the ground.
Rajah 4 menunjukkan gambar foto stroboskop sebiji bola yang sedang jatuh ke tanah.



Diagram 4
Rajah 4

Which statement describes the motion of the ball?
Pernyataan manakah menerangkan gerakan bola itu?

- A It falls with constant velocity
la jatuh dengan halaju malar
 - B It falls with decreasing velocity
la jatuh dengan halaju berkurangan
 - C It falls with constant acceleration
la jatuh dengan pecutan malar
 - D It falls with increasing acceleration
la jatuh dengan pecutan bertumbuh
- 9 Diagram 5 shows a heavy steam roller.
Rajah 5 menunjukkan sebuah jentera penggelek stim yang berat.



Diagram 5
Rajah 5

The difficulty to change the direction of the vehicle can be explained by
Kesukaran untuk menukar arah gerakan jentera boleh dijelaskan dengan

- A the concept of inertia
konsep inersia
- B the concept of equilibrium of forces
konsep keseimbangan daya
- C the principle of conservation of energy
prinsip keabadian tenaga
- D the principle of conservation of momentum
prinsip keabadian momentum

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- 10 Diagram 6 shows three forces P, Q and R acting on an object O. The object is in equilibrium state.
Rajah 6 menunjukkan tiga daya P, Q dan R yang bertindak ke atas satu objek O. Objek tersebut berada dalam keadaan keseimbangan.

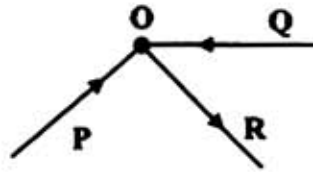
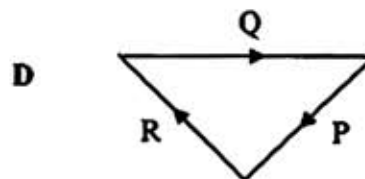
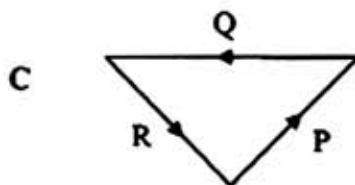
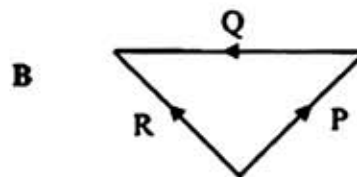
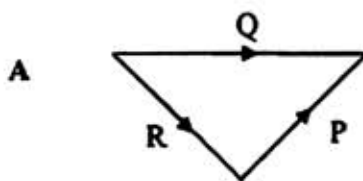


Diagram 6
Rajah 6

- Which vector diagram shows the correct triangle of forces?
Rajah vektor yang manakah menunjukkan segi tiga daya yang betul?



- 11 The power of a device increases when it does
Kuasa sebuah alat bertambah apabila ia melakukan
- A less work in a short period of time
kurang kerja dalam masa yang pendek
 - B less work in a long period of time
kurang kerja dalam masa yang panjang
 - C more work in a short period of time
lebih banyak kerja dalam masa yang pendek
 - D more work in a long period of time
lebih banyak kerja dalam masa yang panjang

- 12 Diagram 7 shows a process of water supply from a tank on top of a hill to tank X on a tall building.
Rajah 7 menunjukkan proses bekalan air dari sebuah tangki di atas puncak bukit ke tangki X di atas sebuah bangunan tinggi.

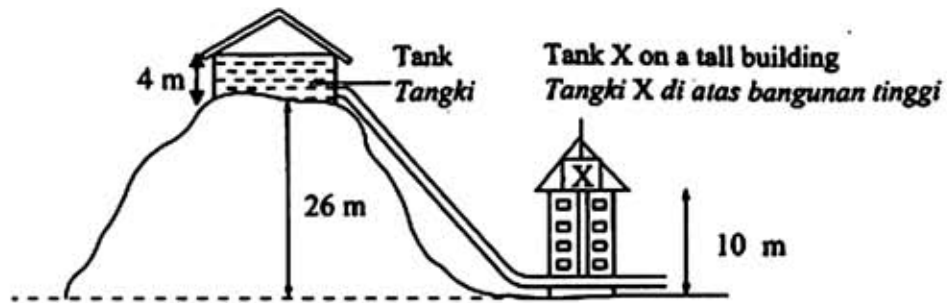


Diagram 7
Rajah 7

What is the pressure of the water at X?
[Density of water = $1\,000\text{ kg m}^{-3}$]

Berapakah tekanan air di X?
[Ketumpatan air = $1\,000\text{ kg m}^{-3}$]

- A $1.4 \times 10^5\text{ N m}^{-2}$
 B $2.0 \times 10^5\text{ N m}^{-2}$
 C $2.6 \times 10^5\text{ N m}^{-2}$
 D $3.0 \times 10^5\text{ N m}^{-2}$
- 13 Why is the atmospheric pressure at a higher altitude lower?
Mengapa tekanan atmosfera pada tempat yang tinggi altitudnya adalah rendah?
- A Temperature is high
Suhu adalah tinggi
 B Density of air is high
Ketumpatan udara adalah tinggi
 C The layer of air is thin
Lapisan udara adalah nipis
 D The volume of air does not change
Isi padu udara tidak berubah

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- 14 Diagram 8 shows a mercury column in a capillary tube. There is air trapped in the upper part of the tube.

Rajah 8 menunjukkan satu turus merkuri di dalam sebuah tiub kapilari. Terdapat udara terperangkap di bahagian atas tiub itu.

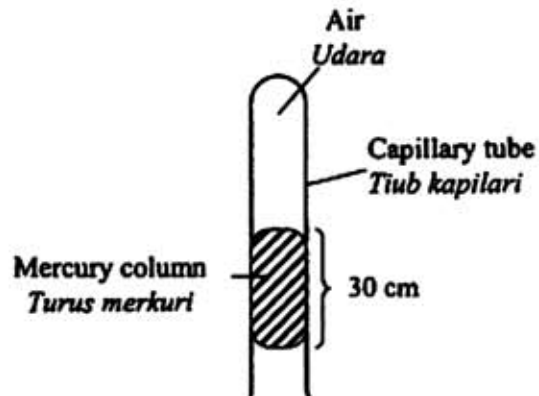


Diagram 8
Rajah 8

What is the air pressure in the tube? [Atmospheric pressure = 76 cm Hg]

Berapakah tekanan udara di dalam tiub itu? [Tekanan atmosfera = 76 cm Hg]

- A 30 cm Hg
 B 46 cm Hg
 C 76 cm Hg
 D 106 cm Hg
- 15 Which of the following instrument is used to measure the atmospheric pressure?
Antara alat berikut, yang manakah digunakan untuk mengukur tekanan atmosfera?
- A Barometer
Barometer
 B Manometer
Manometer
 C Hydrometer
Hidrometer
 D Galvanometer
Galvanometer

- 16 Diagram 9 shows a hydraulic system.
Rajah 9 menunjukkan sebuah sistem hidraulik.

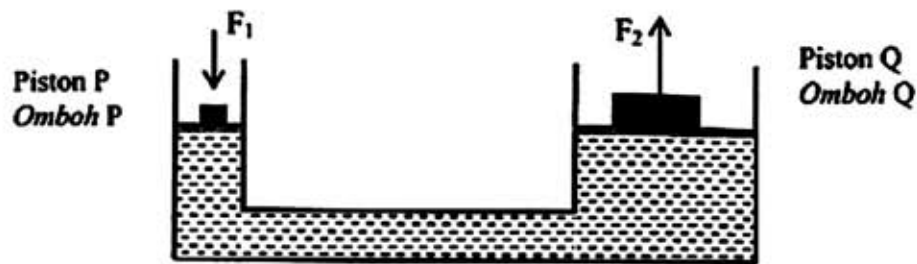


Diagram 9
Rajah 9

Which comparison is true?

Perbandingan yang manakah benar?

- A Pressure on piston P > Pressure on piston Q
Tekanan di omboh P > Tekanan di omboh Q
- B Pressure on piston P = Pressure on piston Q
Tekanan di omboh P = Tekanan di omboh Q
- C Pressure on piston P < Pressure on piston Q
Tekanan di omboh P < Tekanan di omboh Q
- 17 Diagram 10 shows a wooden block floating on water.
Rajah 10 menunjukkan blok kayu yang terapung di air.



Diagram 10
Rajah 10

The weight of wooden block is

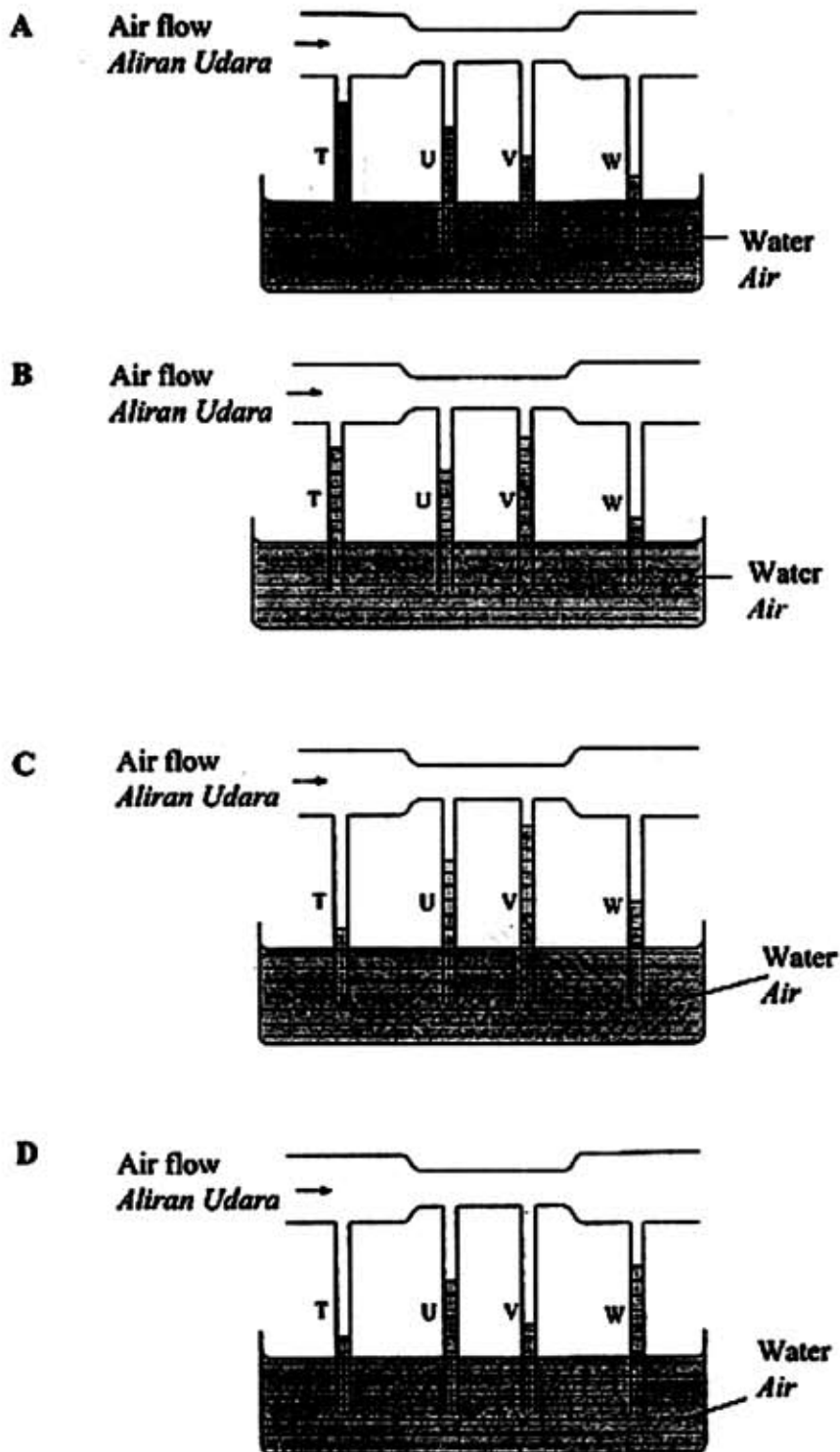
Berat blok kayu adalah

- A less than buoyant force
kurang dari daya julangan
- B more than buoyant force
lebih dari daya julangan
- C equal to buoyant force
sama dengan daya julangan

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18 Which of the following diagram shows the correct water level in tube T, U, V and W?

Antara rajah berikut, yang manakah menunjukkan aras air yang betul pada tiub T, U, V dan W?



- 19 Diagram 11 shows a mercury thermometer which has not been calibrated. The length of mercury column in the thermometer is 5 cm at 0°C and 55 cm at 100°C .

Rajah 11 menunjukkan sebuah termometer merkuri yang belum ditentukur. Panjang turus merkuri pada termometer ialah 5 cm pada 0°C dan 55 cm pada 100°C .

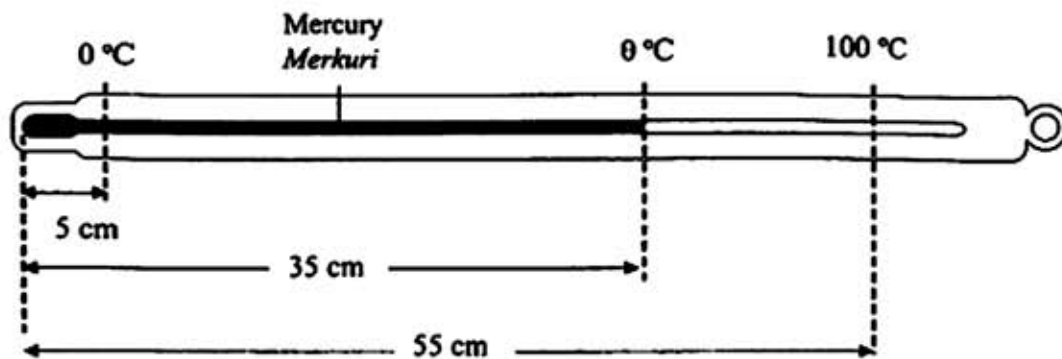


Diagram 11
Rajah 11

When the thermometer is placed in hot water, the length of the mercury column is 35 cm. What is the temperature of the hot water?

Apabila termometer itu dimasukkan ke dalam air panas, panjang turus merkuri menjadi 35 cm. Berapakah suhu air panas tersebut?

- A 35.0 $^{\circ}\text{C}$
 B 40.0 $^{\circ}\text{C}$
 C 60.0 $^{\circ}\text{C}$
 D 70.0 $^{\circ}\text{C}$
- 20 The temperature of 5 kg water rises by 50°C when heated. What is the rise in temperature if 8 kg water is heated by the same amount of heat?
Suhu bagi 5 kg air meningkat sebanyak 50°C apabila dipanaskan. Berapakah peningkatan suhu jika 8 kg air dipanaskan dengan jumlah haba yang sama?
- A 6.25 $^{\circ}\text{C}$
 B 31.25 $^{\circ}\text{C}$
 C 51.60 $^{\circ}\text{C}$
 D 80.00 $^{\circ}\text{C}$

- 21 Diagram 12 shows a cooling curve of a substance which is initially at gas state.
Rajah 12 menunjukkan lengkung penyejukan suatu bahan yang pada asalnya dalam keadaan gas.

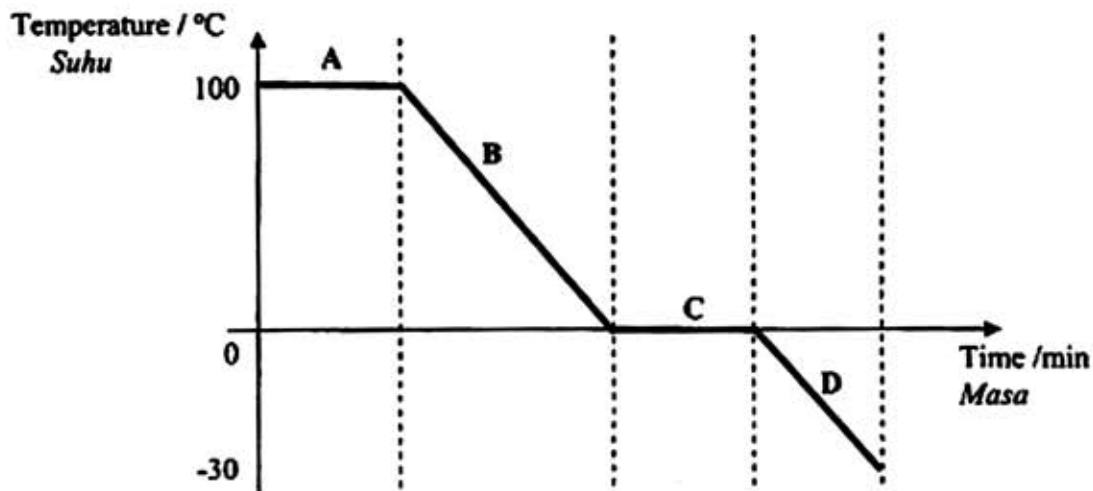


Diagram 12
 Rajah 12

At which phase, is the substance in the state of solid and liquid at the same time?
Pada fasa manakah, bahan itu dalam keadaan pepejal dan cecair pada masa yang sama?

- 22 Diagram 13 shows block L and block M of different material which are in thermal equilibrium.
Rajah 13 menunjukkan bongkah L dan bongkah M daripada bahan berlainan yang berada dalam keseimbangan terma.

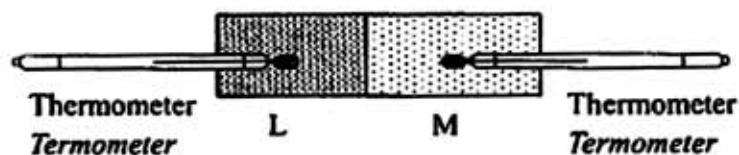


Diagram 13
 Rajah 13

Which of following statements is true?
Antara pernyataan berikut, yang manakah benar?

- A The net rate of heat transferred is zero
Kadar bersih pemindahan haba adalah sifar
- B Temperature of L is higher than temperature of M
Suhu L lebih tinggi daripada suhu M
- C Specific heat capacity of L = specific heat capacity of M
Muatan haba tentu L = muatan haba tentu M

- 23 After a long journey the air pressure in a car tyre is increased. This can be explain by
Selepas satu perjalanan yang jauh, tekanan udara di dalam kereta akan bertambah. Ini dapat diterangkan oleh

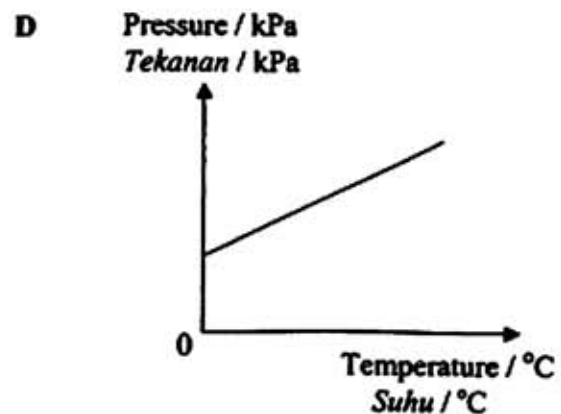
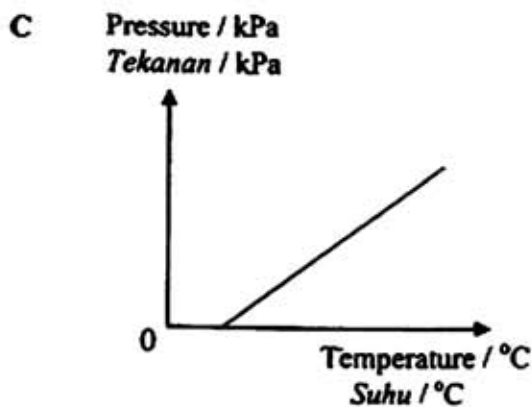
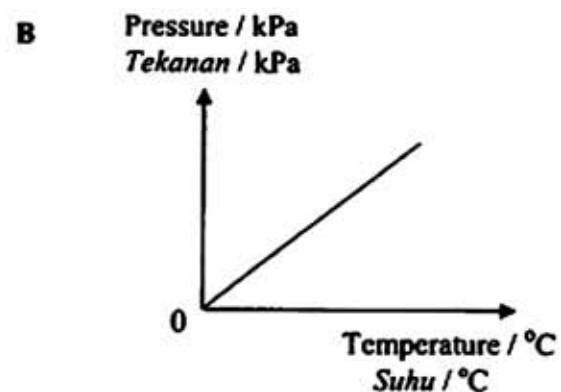
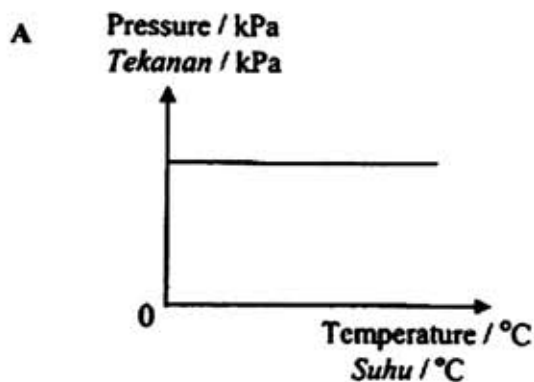
- A Boyle's law
Hukum Boyle
- B Charles law
Hukum Charles
- C Pressure law
Hukum Tekanan
- D Lenz's law
Hukum Lenz

- 24 An experiment is carried out to investigate the change of pressure with temperature for a fixed mass of gas in a conical flask.

Which graphs shows the correct relationship between pressure and temperature?

Satu eksperimen dijalankan untuk menyiasat perubahan tekanan dengan suhu bagi suatu gas yang berjisim tetap dalam satu kelalang.

Graf yang manakah menunjukkan hubungan antara tekanan dengan suhu yang betul?



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25 Alcohol is used as a thermometric liquid at North pole because of its
Alkohol digunakan sebagai cecair dalam termometer di kutub Utara kerana

- A of its low density
ketumpatannya rendah
- B of its low freezing point
takat bekunya rendah
- C of its high specific heat capacity
muatan haba tentu yang tinggi
- D of its ability to wet the glass tube
kebolehannya membasahi tiub kaca

26 Diagram 14 shows the formation of an image from an object by a convex lens.
Rajah 14 menunjukkan pembentukan imej daripada suatu objek oleh kanta cembung.

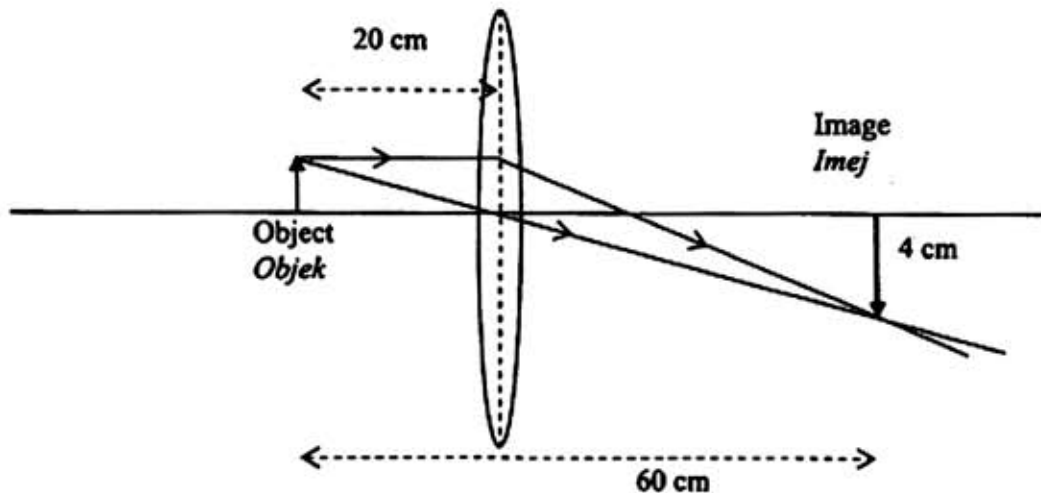


Diagram 14
 Rajah 14

What is the height of the object if the height of its image is 4 cm?

Berapakah tinggi objek itu jika tinggi imejnya adalah 4 cm?

- A 0.3 cm
- B 1.3 cm
- C 2.0 cm
- D 3.0 cm

- 27 Diagram 15 shows the word "sport" viewed through lens X and lens Y from two different pairs of spectacles.

Rajah 15 menunjukkan perkataan "sport" yang dilihat melalui kanta X dan kanta Y daripada dua pasang cermin mata yang berlainan.

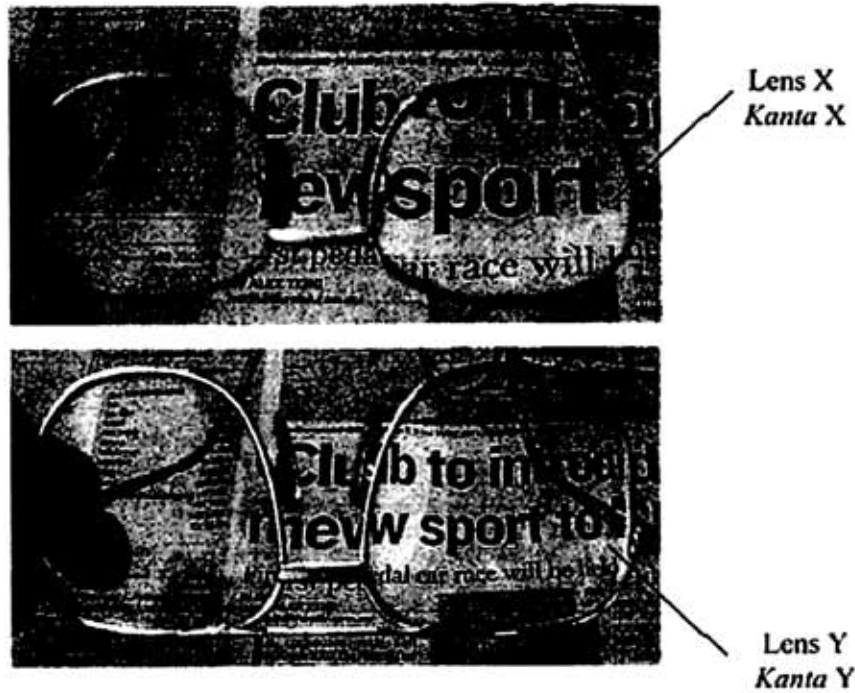


Diagram 15
Rajah 15

What type is lens X and lens Y?

Apakah jenis kanta X dan kanta Y?

	Lens X Kanta X	Lens Y Kanta Y
A	Convex Cembung	Convex Cembung
B	Concave Cekung	Concave Cekung
C	Concave Cekung	Convex Cembung
D	Convex Cembung	Concave Cekung

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- 28 Diagram 16 shows an arrangement of lenses for a simple astronomical telescope at normal adjustment. The focal length of the eyepiece, P and objective lens, Q, are f_P and f_Q respectively.
Rajah 16 menunjukkan susunan kanta-kanta bagi sebuah teleskop astronomi ringkas pada pelarasan normal. Panjang fokus kanta mata, P dan kanta mata objektif, Q, masing-masing ialah f_P dan f_Q .

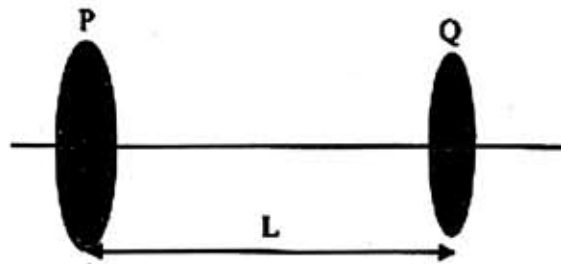
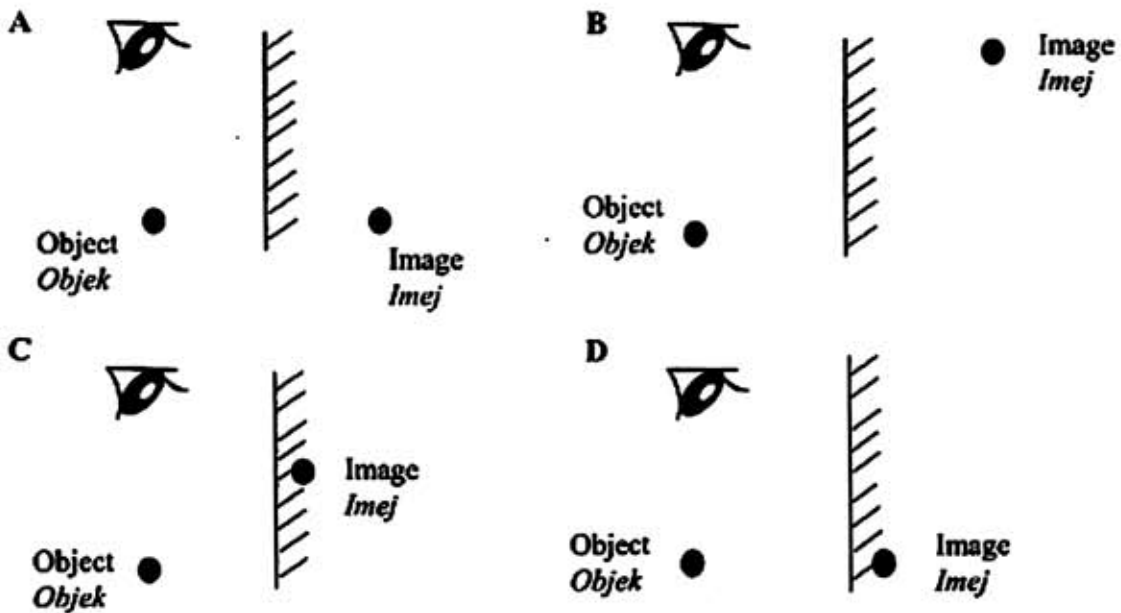


Diagram 16
 Rajah 16

Which of the following is correct?

Antara yang berikut, yang manakah betul?

- A $L = f_Q + f_P$
 - B $L > f_Q + f_P$
 - C $L > f_Q - f_P$
 - D $L = f_Q - f_P$
- 29 Which of the following shows the correct ray diagram in producing the image for a plane mirror?
Antara yang berikut, yang manakah menunjukkan rajah sinar yang betul bagi pembentukan imej sebuah cermin satah?



- 30 Diagram 18 shows a displacement–time graph of an oscillating spring.
Rajah 18 menunjukkan graf sesaran–masa bagi suatu ayunan spring.

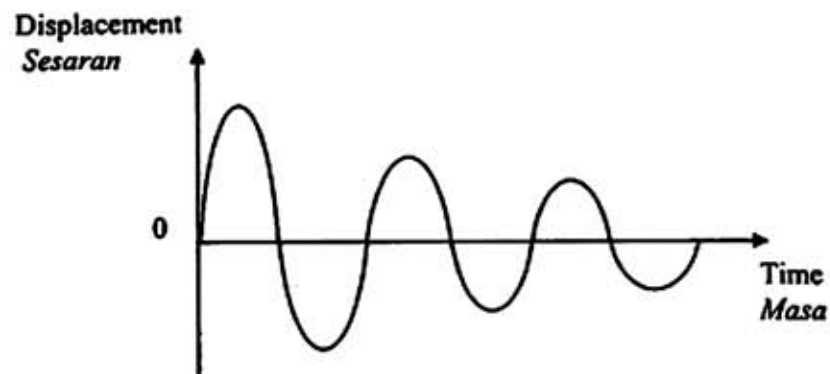


Diagram 18
Rajah 18

The spring undergoes
Spring itu sedang mengalami

- A damping
-pelembapan
- B resonance
resonans
- C interference
interferens
- D forced oscillation
ayunan paksaan

- 31 Diagram 19 shows a boy shouting between two high cliff. He heard an echo after 1.0 s.
Rajah 19 menunjukkan seorang budak lelaki menjerit antara dua tebing tinggi. Dia mendengar gema lepas 1.0 s.

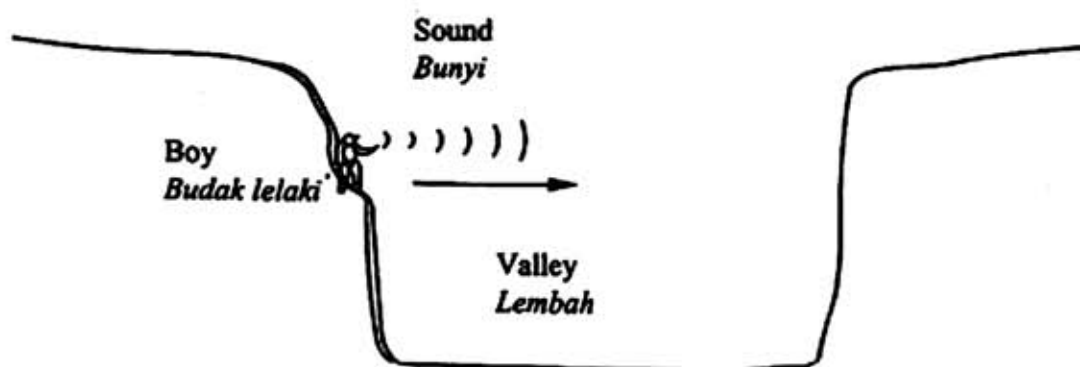


Diagram 19
Rajah 19

What is the width of the valley if the sound velocity travels at 340 m s^{-1} ?
Berapakah lebar lembah tersebut jika halaju gelombang bunyi ialah 340 m s^{-1} ?

- A 85 m
 B 170 m
 C 340 m
 D 680 m
- 32 Diagram 20 shows an interference pattern of two coherent water sources, X and Y. At which points, A, B, C or D does destructive interference occurred?
Rajah 20 menunjukkan satu corak interferens terbentuk daripada dua punca gelombang yang koheren X dan Y.
Pada titik manakah, A, B, C atau D berlakunya interferens memusnah?

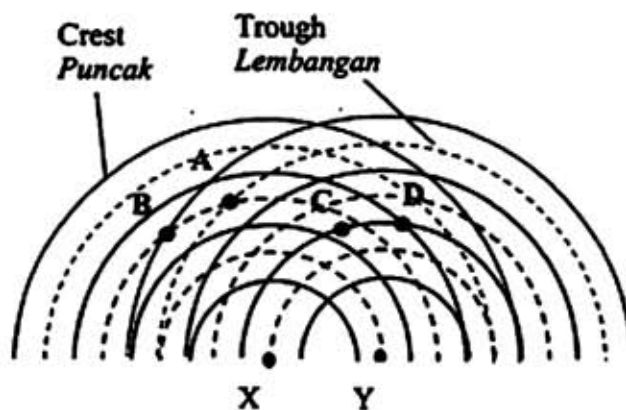


Diagram 20
Rajah 20

- 33 Which physical quantity does **not** change if water waves propagate from deep area to shallow area?
Kuantiti fizik manakah yang tidak berubah jika gelombang air merambat daripada kawasan dalam ke kawasan cetek?

- A Velocity
Halaju
- B Frequency
Frekuensi
- C Amplitude
Amplitud
- D Wavelength
Panjang gelombang

- 34 Diagram 21 shows a house at the bottom of a hill receiving radio waves from a transmission station.
Rajah 21 menunjukkan sebuah rumah di kaki bukit menerima gelombang radio daripada stesen pemancar.

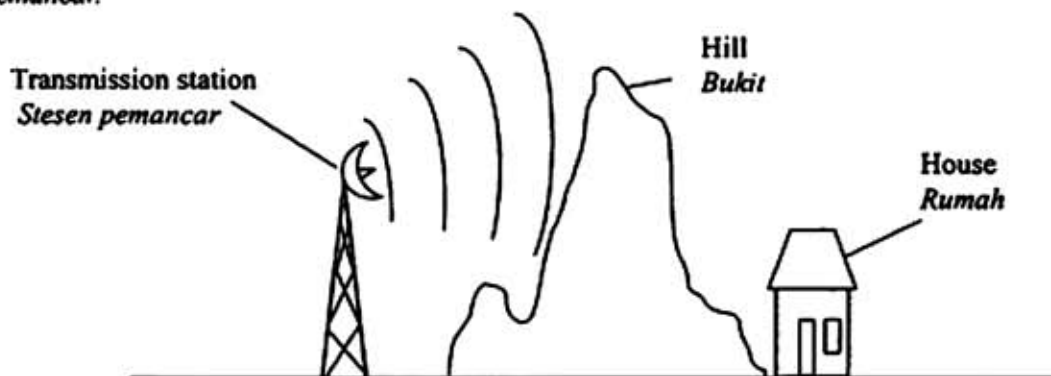


Diagram 21
Rajah 21

This phenomenon happens because the radio waves is
Fenomena ini berlaku disebabkan oleh gelombang radio

- A diffracted
dibelau
- B refracted
dibias
- C reflected
dipantul
- D dispersed
diserak

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- 35 Diagram 22 shows P, Q, R and S as components of an electromagnetic spectrum.
Rajah 22 menunjukkan P, Q, R dan S sebagai komponen-komponen dalam spektrum elektromagnet.

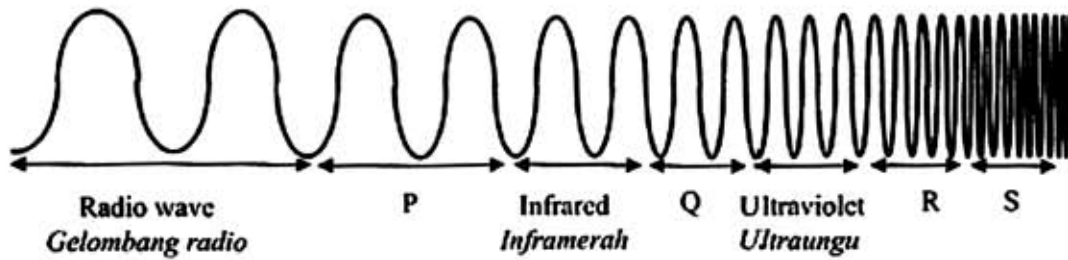


Diagram 22
Rajah 22

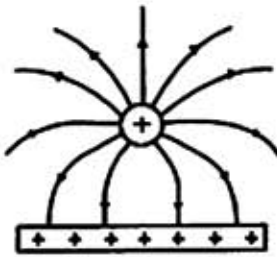
- Which of the following is true for P, Q, R and S?
Antara yang berikut, yang manakah betul bagi P, Q, R dan S?

	P	Q	R	S
A	Microwave <i>Gelombang mikro</i>	X-rays <i>Sinar-X</i>	Visible light <i>Cahaya nampak</i>	Gamma rays <i>Sinar Gama</i>
B	Gamma rays <i>Sinar Gama</i>	Visible light <i>Cahaya nampak</i>	X-rays <i>Sinar-X</i>	Microwave <i>Gelombang mikro</i>
C	Gamma rays <i>Sinar Gama</i>	X-rays <i>Sinar-X</i>	Visible light <i>Cahaya nampak</i>	Microwave <i>Gelombang mikro</i>
D	Microwave <i>Gelombang mikro</i>	Visible light <i>Cahaya nampak</i>	X-rays <i>Sinar-X</i>	Gamma rays <i>Sinar Gama</i>

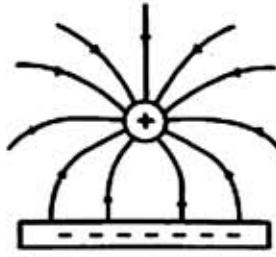
36 Which diagram shows the correct electric field pattern?

Rajah manakah yang menunjukkan corak medan elektrik yang betul?

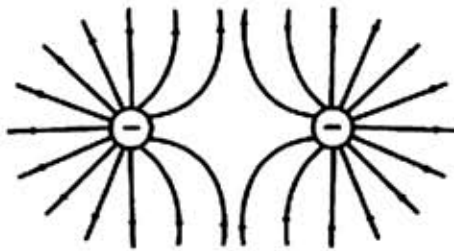
A



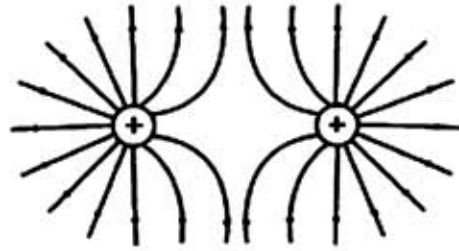
B



C

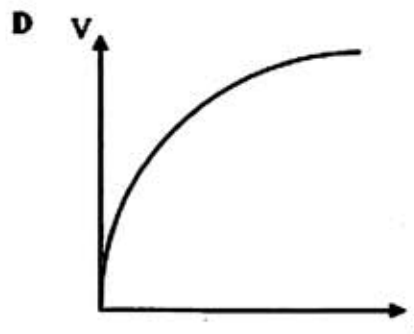
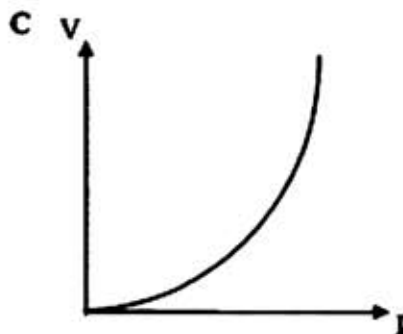
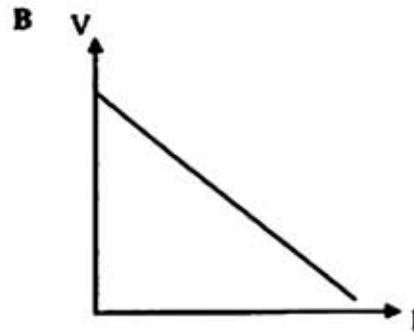
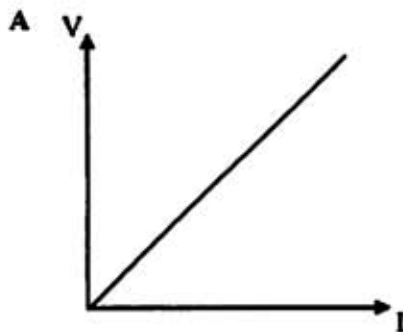


D



37 Which graph shows the relationship between potential difference, V , and current, I , for a conductor that obeys Ohm's law?

Graf manakah menunjukkan hubungan beza keupayaan, V , dengan arus, I , bagi suatu konduktor yang mematuhi hukum Ohm?



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- 38 Diagram 23 shows a bar magnet being pushed into a solenoid.
Rajah 23 menunjukkan sebatang magnet bar ditolak ke arah satu solenoid.

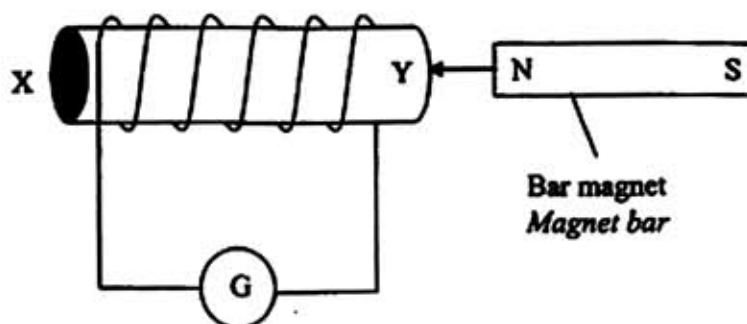


Diagram 23
Rajah 23

- Which of the following are correct about poles X and Y?
Antara yang berikut, kutub X dan kutub Y manakah yang betul?

	X	Y
A	North <i>Utara</i>	North <i>Utara</i>
B	North <i>Utara</i>	South <i>Selatan</i>
C	South <i>Selatan</i>	North <i>Utara</i>
D	South <i>Selatan</i>	South <i>Selatan</i>

- 39 The direction of an induced current when there is a relative motion between a conductor and a magnetic field can be determined by
Arah arus aruhan apabila terdapat gerakan relatif antara satu konduktor dengan satu medan magnet boleh ditentukan oleh
- A right-hand grip rule
petua gengaman tangan-kanan
 - B Fleming's right-hand rule
petua tangan-kanan Fleming
 - C Fleming's left-hand rule
petua tangan-kiri Fleming
 - D Maxwell's Cork Screw rule
petua Skru Gabus Maxwell

- 40 Diagram 24 shows a dry cell in an electric circuit.
Rajah 24 menunjukkan sel kering di dalam satu litar elektrik.

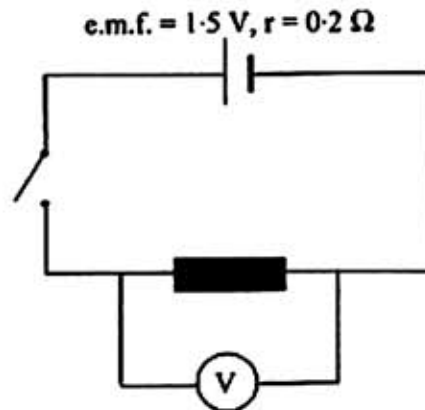


Diagram 24
Rajah 24

What is the reading of the voltmeter when the switch is on?
Apakah bacaan voltmeter apabila suis dihidupkan?

- A 0 V
- B 1.5 V
- C More than 1.5 V
Lebih daripada 1.5 V
- D Less than 1.5 V
Kurang daripada 1.5 V
- 41 Which of the following instruments does not apply the effect of electromagnet in its working principle?
Antara alat berikut, yang manakah tidak mengaplikasikan kesan elektromagnet dalam prinsip kerjanya?
- A Ticker timer
Jangka masa detik
- B Speaker
Pembesar suara
- C Circuit breaker
Pemutus litar
- D Electric bell
Loceng elektrik

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- 42 Diagram 25 shows an electric circuit.
Rajah 25 menunjukkan satu litar elektrik.

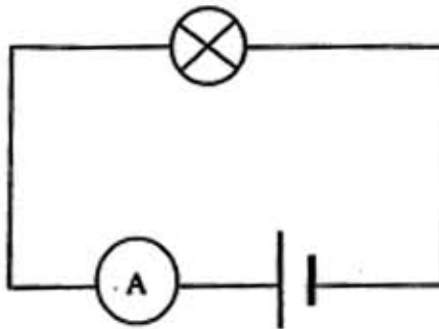


Diagram 25
Rajah 25

What will happen to the ammeter reading when another identical bulb is connected parallel to the bulb in the circuit?

Apakah yang akan berlaku kepada bacaan ammeter apabila satu lagi mentol yang serupa disambungkan secara selari kepada mentol dalam litar?

- A Increases
Bertambah
- B Decreases
Berkurang
- C No change
Tidak berubah
- 43 A $10\ \Omega$ resistor is connected across the terminals of a 9 V battery.
What is the power dissipated in the resistor?
*Satu perintang $10\ \Omega$ disambungkan merentasi terminal sebiji bateri 9 V.
Berapakah kuasa yang dilesapkan dalam perintang?*
- A 0.9 W
- B 8.1 W
- C 11.1 W
- D 90.0 W

- 44 Diagram 26 shows a transformer connected to a computer.
Rajah 26 menunjukkan satu transformer yang disambungkan kepada sebuah komputer.

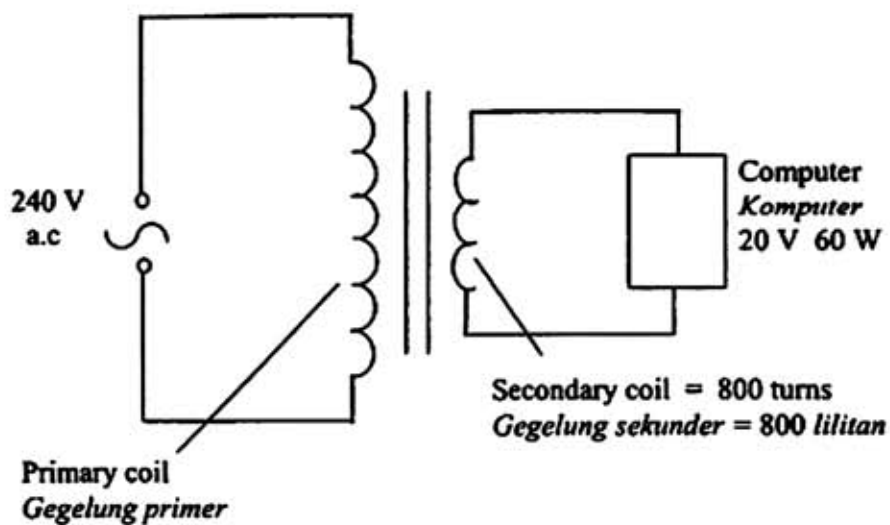
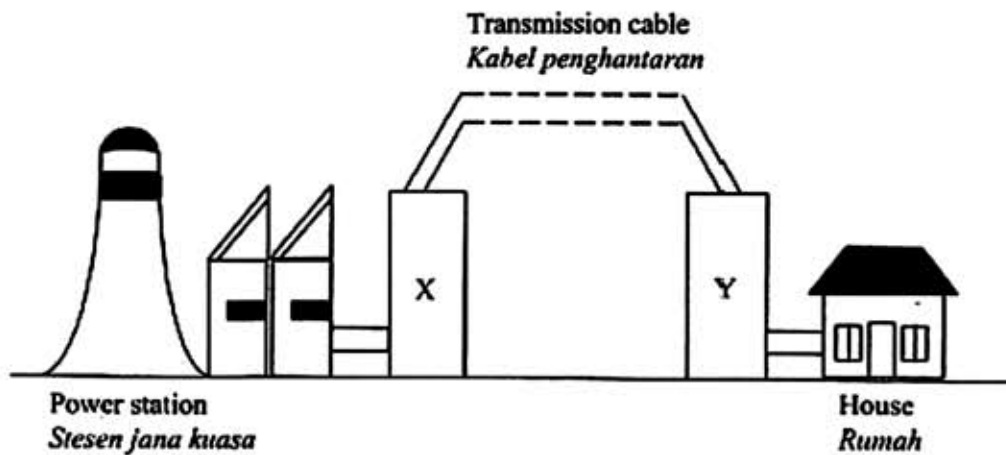


Diagram 26
Rajah 26

What is the number of turns of the primary coil?
Berapakah bilangan lilitan gegelung primer?

- A 9 600
- B 3 200
- C 160
- D 67

- 45 Diagram 27 shows a model of transmission of electricity.
Rajah 27 menunjukkan model penghantaran elektrik.



- Which are the correct transformer for X and Y?
Transformer yang manakah betul bagi X dan Y?

	X	Y
A	Step-up transformer <i>Transformer injak naik</i>	Step-up transformer <i>Transformer injak naik</i>
B	Step-up transformer <i>Transformer injak naik</i>	Step-down transformer <i>Transformer injak turun</i>
C	Step-down transformer <i>Transformer injak turun</i>	Step-down transformer <i>Transformer injak turun</i>
D	Step-down transformer <i>Transformer injak turun</i>	Step-up transformer <i>Transformer injak naik</i>

- 46 Diagram 28 shows a circuit connected to the cathode ray oscilloscope (CRO).
 Rajah 28 menunjukkan satu litar yang disambungkan kepada osiloskop sinar katod (OSK).

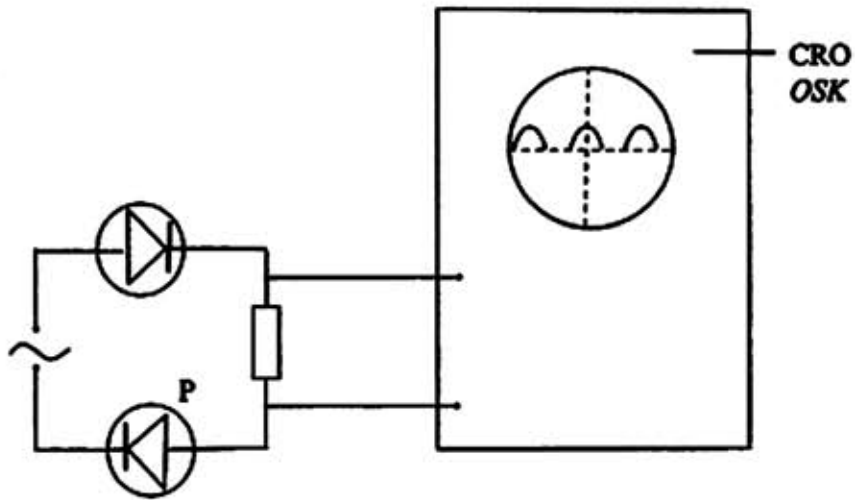
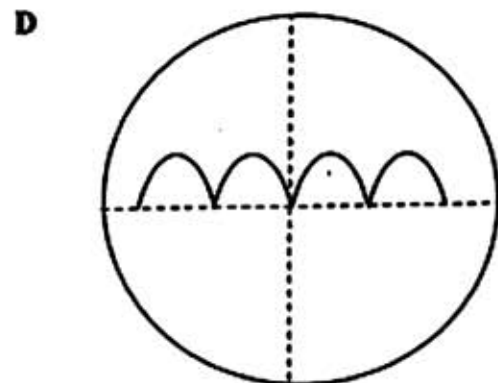
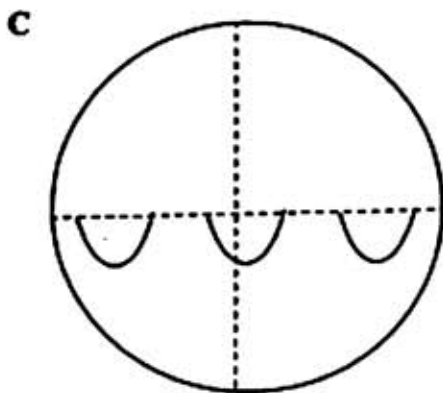
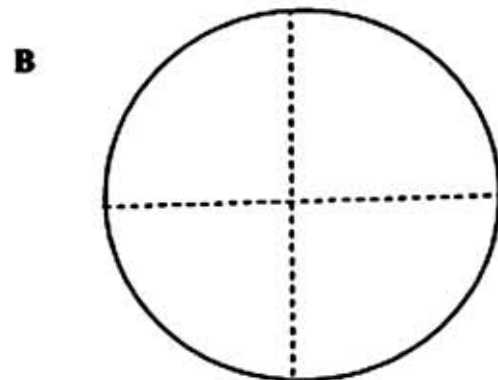
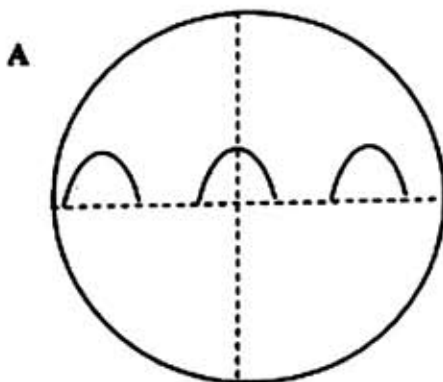


Diagram 28
 Rajah 28

Which of the following traces displayed on the CRO is correct when diode P is reversed?
 Antara surihan berikut, yang manakah betul dipaparkan pada OSK apabila diod P disongsangkan?



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- 47 Diagram 29 shows a combinations of logic gates and a truth table.

Rajah 29 menunjukkan kombinasi get-get logik dan jadual kebenaran.

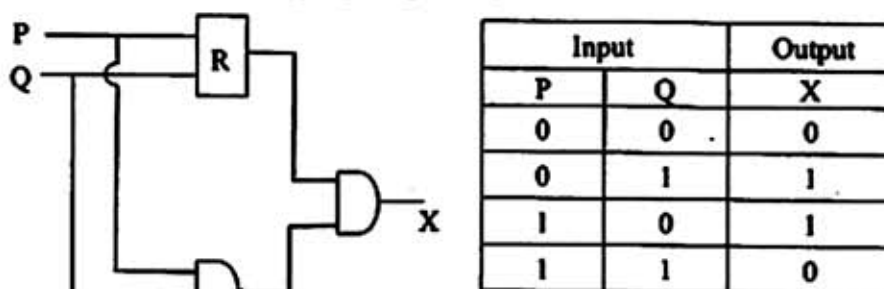


Diagram 29
Rajah 29

What is logic gate R?

Apakah get logik R?

- A OR
ATAU
- B NOR
TAK ATAU
- C AND
DAN
- D NAND
TAK DAN
- 48 Diagram 30 shows the decay curve of a radioactive material.
Rajah 30 menunjukkan lengkungan penyusutan suatu bahan radioaktif.

Activity / counts per minute
Aktiviti / bilangan per minit

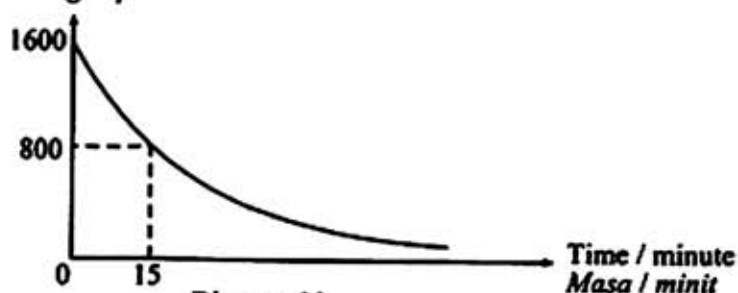


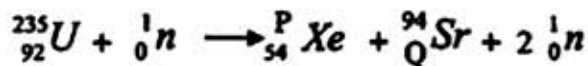
Diagram 30
Rajah 30

What is the activity after 1 hour?

Berapakah aktiviti selepas 1 jam?

- A 400
- B 200
- C 100
- D 50

- 49 The equation shows the nuclear fission of Uranium-235.
Persamaan menunjukkan pembelahan nukleus bagi Uranium-235.



What are the values of P and Q?

Apakah nilai P dan nilai Q?

	P	Q
A	142	36
B	141	38
C	140	38
D	139	36

- 50 Diagram 31 shows the path of a radioactive particle, X passing through two charged plates.
Rajah 31 menunjukkan lintasan satu zarah radioaktif, X melalui dua plat bercas.

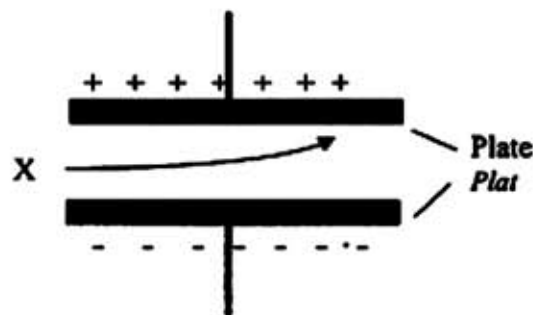


Diagram 31
Rajah 31

What is X?

Apakah X?

- A α -particle
zarah - α
- B β -particle
zarah - β
- C X-ray
sinar - X
- D γ -ray
sinar - γ

END OF QUESTION PAPER
KERTAS SOALAN TAMAT