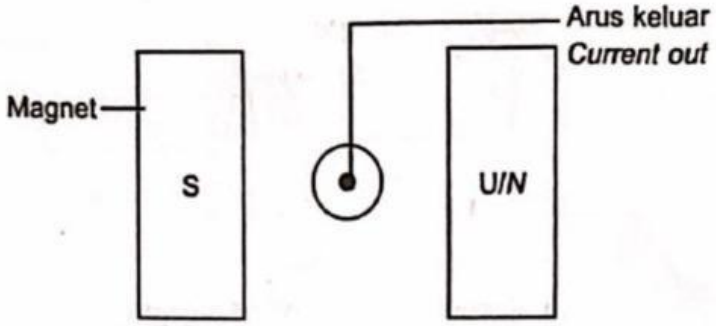
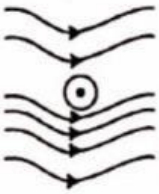
30 Rajah 16 menunjukkan konduktor pembawa arus yang diletakkan di antara dua magnet.
Diagram 16 shows a current-carrying conductor that is placed between two magnets.



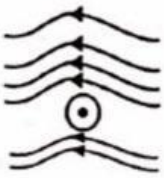
Rajah 16
Diagram 16

Corak medan magnet yang manakah mewakili situasi di atas?
What magnetic field pattern is represented by the situation above?

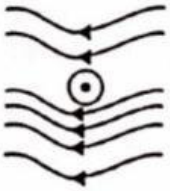
A



B



C



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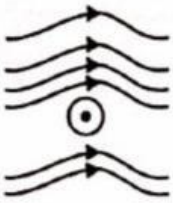

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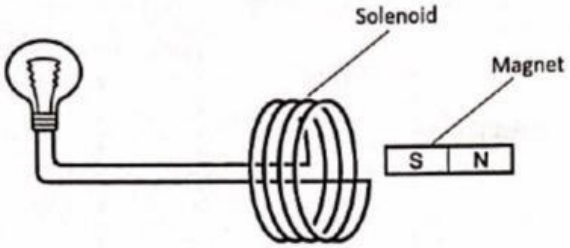
31 Rajah 17 menunjukkan susunan solenoid dan magnet.
Diagram 17 *shows the arrangements of a solenoid and a magnet.*



Rajah 17
Diagram 17

Antara yang berikut, yang manakah **bukan** kaedah untuk menyalakan mentol di Rajah 17?
Which of the following statement is ***not*** *a method to light up the bulb in Diagram* 17*?*

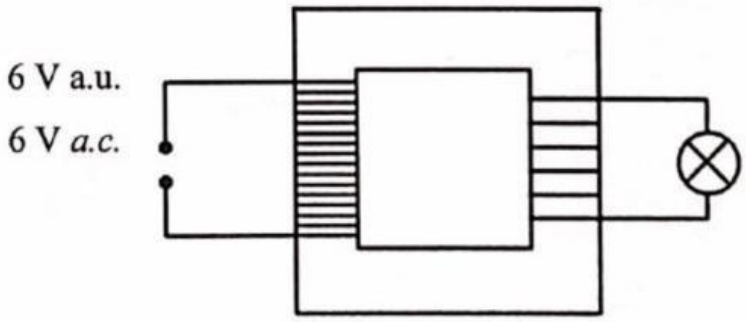
A Magnet ditarik keluar dari solenoid.
The magnet is pulled out of the solenoid.

B Magnet digerak masuk ke dalam solenoid.
The magnet is moved into the solenoid.

C Solenoid digerakkan ke arah magnet.
Solenoid is moved towards the magnet.

D Magnet dan solenoid digerakkan dengan halaju yang sama.
The magnet and the solenoid are moved at the same velocity.

32 Rajah 18 menunjukkan sebuah transformer ringkas. Mentol menyala dengan kecerahan normal.
Diagram 18 *shows a simple transformer. The bulb lights up with normal brightness.*



Rajah 18
Diagram 18

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Apa yang akan berlaku apabila bekalan input a.u. digantikan dengan bateri 6 V?
What will happen when the a.c. input supply is replaced with a 6 V battery?

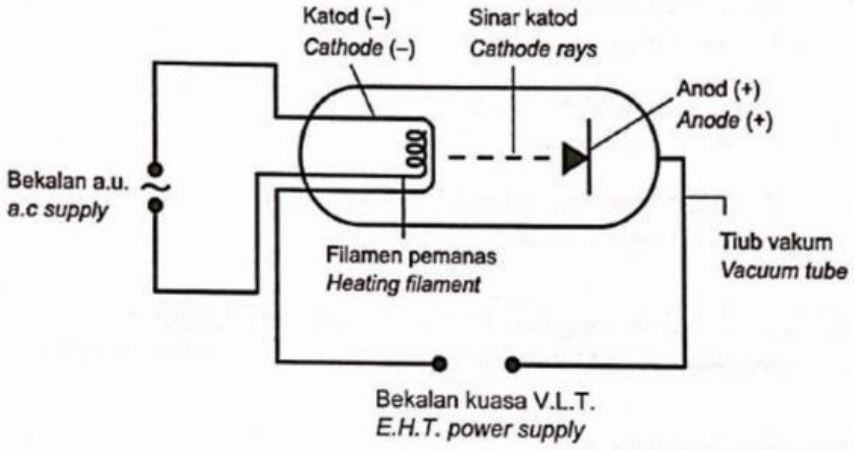
A Kecerahan mentol tidak berubah.
Brightness of bulb does not change.

B Kecerahan mentol bertambah.
Brightness of bulb increases.

C Mentol tidak bernyala.
Bulb does not light up.

D Mentol terbakar.
Bulb has blown.

33 Rajah 19 menunjukkan suatu katod yang dipanaskan oleh satu filamen.
Diagram 19 shows a cathode being heated by a filament.



Rajah 19
Diagram 19

Antara berikut yang manakah **bukan** ciri sinar katod?
*Which of the following is **not** a characteristic of cathode ray?*

A Bercas positif.
Positively charged.

B Bergerak dengan kelajuan yang tinggi.
Moves with high velocity.

C Boleh dipesongkan oleh medan elektrik.
Can be deflected by an electric field.

D Boleh dipesongkan oleh medan magnet.
Can be deflected by a magnetic field.

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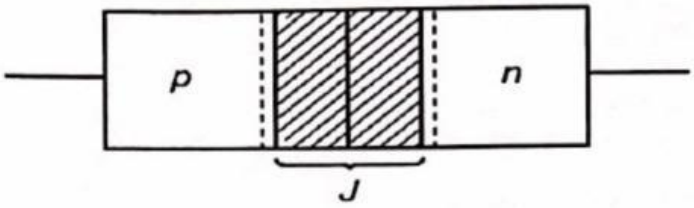
34 Rajah 20 menunjukkan satu diod semikonduktor.
Diagram 20 shows a semiconductor diode.



Rajah 20
Diagram 20

Apakah yang berlaku pada kawasan J ketika pincang songsang berlaku?
What happen to region J when reversed biased occur?

A Kawasan J menebal.
Region J becomes thicker.

B Kawasan J menipis.
Region J becomes thinner.

C Kawasan J tidak berubah.
Region J unchanged.

D Kawasan J terpisah menjadi dua bahagian.
Region J separates into two parts.

35 Pernyataan manakah yang **betul** mengenai suatu transistor?
*Which statement is **correct** about a transistor?*

A Mempunyai dua terminal.
Has two terminals.

B Berfungsi sebagai rektifier gelombang penuh.
Works as full-wave rectifier.

C Mempunyai bekalan tenaga sendiri.
Has its own energy supply.

D Berfungsi sebagai amplifier arus.
Works as current amplifier.

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36 Antara yang berikut, yang manakah **tidak** benar mengenai reputan radioaktif?
Which of the following is not true about radioactive decay?

A Menghasilkan sinaran radioaktif.
Produces radioactive radiation.

B Menghasilkan nukleus yang lebih stabil.
Produce more stable nucleus.

C Berlaku secara spontan dan rawak.
Occurs spontaneously and randomly.

D Meningkatkan jisim nukleus.
Increase the mass of the nucleus.

37 Dalam suatu pembelahan nukleus, tenaga haba, E yang terhasil ialah 4.8×10^{-10} J. Hitungkan cacat jisim, m bagi tindak balas nuklear dalam unit u.j.a..
In a nucleus fission, heat energy, E *produced is* 4.8×10^{-10} J. *Calculate the mass defect of the nuclear reaction in a.m.u unit.*
[1 u.j.a. / *a.m.u.* = 1.66×10^{-27} kg]

A 1.35 u.j.a. / *a.m.u.*

B 0.98 u.j.a. / *a.m.u.*

C 2.87 u.j.a. / *a.m.u.*

D 3.21 u.j.a. / *a.m.u.*

38 Satu elektron mempunyai laju 2v dan panjang gelombang de Broglie $\frac{1}{2}\lambda$. Jika laju elektron meningkat kepada 8v, hitungkan panjang gelombang de Broglie yang baharu.
An electron has speed 2v *and de Broglie wavelength* $\frac{1}{2}\lambda$. *If the speed of electron increases to* 8v, *calculate the new de Broglie wavelength.*

A $\frac{1}{16}\lambda$

B 16λ

C $\frac{1}{8}\lambda$

D 8λ

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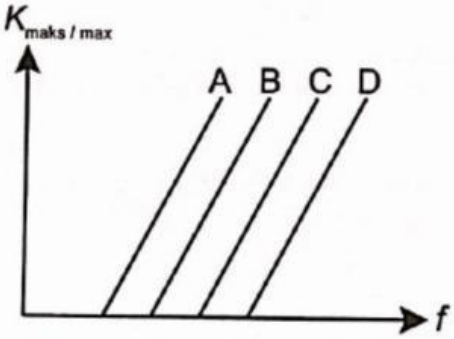
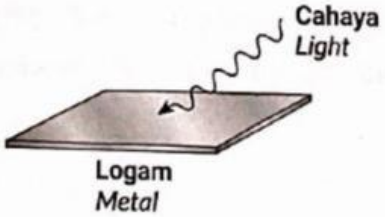
39 Rajah 21 menunjukkan graf tenaga kinetik maksimum fotoelektron, K_{max} melawan frekuensi cahaya, f bagi logam A, B, C dan D.
Diagram 21 *shows the graph of the maximum kinetic energy of photoelectron,* K_{max} *against the frequency of light, f for metals* A, B, C *and* D.



Rajah 21
Diagram 21

Antara logam **A**, **B**, **C** dan **D**, yang manakah mempunyai fungsi kerja yang paling rendah?
Which of the metals **A**, **B**, **C** *and* **D**, *that has the least work function?*

40 Rajah 22 menunjukkan satu foton cahaya dipancarkan ke arah permukaan logam yang mempunyai fungsi kerja, W.
Jika tiada elektron dibebaskan dari permukaan logam, pernyataan manakah adalah benar?
Diagram 22 *shows a photon of light aimed at a metal surface that has a work function,* W.
If no electrons are released from the metal surface, which of the following is true?



Rajah 22
Diagram 22

A Panjang gelombang cahaya > panjang gelombang ambang
Wavelength of light > threshold wavelength
B Frekuensi cahaya < frekuensi ambang
Frequency of light < threshold frequency
C Tenaga foton > fungsi kerja
Photon energy > Work function
D Frekuensi cahaya > fungsi kerja
Frequency of light > work function

SOALAN MODUL TAMAT

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