EXTRA EXERCISE – ANSWERS

QUESTION 6

(a) (i)

The amount of heat absorbed given off by an object to bring about a temperature change of 1 °C.
Jumlah harga yang diserap / dibebaskan oleh objek untuk menghasilkan perubahan suhu sebanyak 1^0C.

(ii)

1. The temperature drop in beaker Y is bigger / more.
Penurunan suhu di dalam bikar Y *lebih besar banyak.*
2. More heat is released by the boiling water in beaker Y // Less heat is released by the boiling water in beaker X.
Lebih banyak haba dibebaskan oleh air mendidih di dalam bikar Y // *Kurang haba dibebaskan oleh air meadidih dalam bikar X.*
3. Heat absorbed by the ice cubes in beaker Y = The heat released by the boiling water in beaker Y.
Haba yang diserap oleh ais di dalam bikar Y = Haba yang dihebas oleh air mendidih di dalam bikar Y.
4. Therefore, more heat is absorbed by the ice cubes.
Oleh itu, lebih banyak haba diserap oleh ais.

(b)

1. Gel has a high specific heat capacity.
Gel mempunyai muatan haba terlalu yang tinggi.
2. When stored in the refrigerator, it experiences a big temperature drop // Releases a large amount of heat.
Apabila disimpan di dalam peii sejuk, ia akan mengalami penurunan suhu yang besar // Banyak haba dibebaskan.
3. Hence it can absorb a large amount of heat from the patient's body.
Oleh itu ia boleh menyerap lebih banyak haba daripada badan pesakii.
4. Before reaching thermal equilibrium with the patient's body.

(c) (i)

1. Use a liquid that is shiny like mercury.
Gunakan cecair yang berkilau seperti merkuri.
2. For good visibility // Light easily reflected.
Mudah dilihat // Cahaya mudah dipanlulkan.
3. Use a liquid that has expands uniformly with temperature.
Gunakan cecair yang mengembang secara seragam dengan suhu.
4. To get a uniform temperature scale.
Untuk dapatkan skala suhu yang seragam.
5. Thin walls for the bulb at the lower end of the thermometer.
Dinding betas yang nipis pada hujung bawah termometer.
6. Increases accuracy of temperature readings.
Meningkatkan kejituan bacaan suhu

(ii)

Design
Keka bentuk

1. Use the Celsius temperature calibration.
Gunakan tentu ukur suhu Celsius
2. Schools use the metric unit for temperature measurements.
Sekoloh gunakan unit metrik untuk pengukuran suhu.
3. Use a narrow capillary.
Gunakan tiub kapilary dengan halus
4. To increase sensitivity.
Meningkatkan kepekaan.

Other possibilities

1. A large bulb to house more thermometer liquid.
Bekas yang besar untuk simpan air yang cecair.

2. Greater expansion and contraction // Increased visibility.
Pengembangan dan pengecutan lebih besar // Meningkatkan penglihatan.
3. Temperalure range from below 0 °C // -10 °C to > 110 °C
Julat suhu daripada banyak 0 °C // -10 °C *ke* > 110 °C.
4. Melting point of ice is 0°C and boiling point of water is 100 °C.
Takat lebur ais ialah 0 °C *dan takat didih air ialah* 100 °C.

QUESTION 7

(a)

- Gas molecules collide with the container walls.

Molekul-molekul gas bertanggar dengan dinding bekas.

- The molecules will experience a change in momentum during the collisions.

Molekul-molekul akan mengalami perubahan momentum semasa perlanggaran.

- The change in momentum exerts a force on the walls of the container.
Perubahan momentum mengenakan daya ke atas dinding bekas.

$$\text{Pressure} = \frac{\text{Force}}{\text{Area}}$$

$$\textit{Tekanan} = \frac{\textit{Daya}}{\textit{Luas}}$$

(b)

Boyle's law states that at a constant temperature, the pressure of a fixed mass of gas is inversely proportional to the volume.
Hukum Boyle menyatakan bahawa pada suhu malar, tekanan bagi jisim gas yang tetap *adalah berkadar songsang dengan isi padu.*

(c)(i)

Using $P_1V_1 = P_2V_2$
Menggunakan $P_1V_1 = P_2V_2$
$1.5 \times 10^5 \times 80 = 2.5 \times 10^5 \times V$
$V = 48\ cm^3$

(ii)

Using $P_1V_1 = P_2V_2$
Menggunakan $P_1V_1 = P_2V_2$
$1.5 \times 10^5 \times 80 = P \times 60$
$P = 2.0 \times 10^5$ Pa

(d)

Using $P_1V_1 = P_2V_2$
Menggunakan $P_1V_1 = P_2V_2$
$P \times V = 10 \times 2V$
P = 20 m of water
20 m *air*
∴ Depth of pond = 10 m
∴ *Kedalaman kolam* = 10 m

QUESTION 8

(a) Refraction of light / *Pembiasan cahaya*

(b) The image size will be bigger
Saiz imej akan menjadi tebih besar.

(c)(i)
Convex lens
Kanta cembung

(ii)
1/15 = 1/10 +1/v
v = -30 cm

(iii) Virtual and upright
Maya den tegak

QUESTION 9

(a) The incident angle in the denser medium when the refracted angle in the less dense medium is equal to 90°.
Sudut tuju dalam medium yang lebih tumpat apabila sudut bacaan dalam medium kurang tumpat adalah bersamaan dengan 90°.

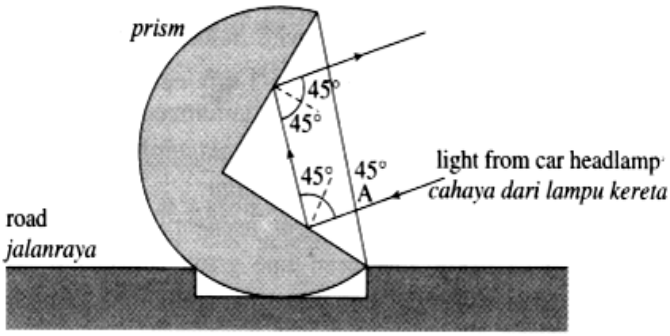
(b) Using formula / *menggunakan formula,*

$$\sin c = \frac{1}{n}$$

$$\sin c = \frac{1}{1.49}$$

$c = 42.16°$ or/*atau* 42 9'

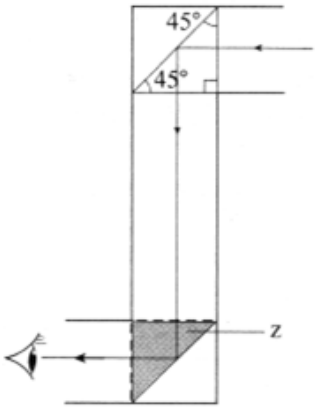
(c)(i)



(ii) The reflector reflects light from the headlamp of a car to the driver's eye lo give an indication of its position,
Pemantul itu memantulkan cahaya dari lampu hadapan kepada mata pemandu untuk memberikan pemajuk kedudukannya.

(iii) Total internal reflection / *Pantutan dalam penuh.*

(d)(i)



(ii) Not all the light rays are reflected by the plane mirror. The image formed by the plane mirror is not clear or not bright.
Bukan semua sinar cahaya dapat dipantulkan oleh cermin satah / imej yang terbentuk oleh cermin satah adalah tidak jelas atau tidak terang.

QUESTION 10

(a) Diagram 6.1 is a parallel circuit and Diagram 6.2 is a series circuit.
Rajah 6.1 *ialah litar selari dan Rajah* 6.2 *ialah litar sesiri.*

(b) (i) The brightness of bulbs in Diagram 6.1 is greater than the brightness of bulbs in Diagram 6.2.
Mentol dalam Rajah 6.1 *menyala dengan lebih cerah daripada mentol dalam Rajah* 6.2.

(ii) The reading of ammeter in Diagram 6.1 is greater than the reading of ammeter in Diagram 6.2.
Bacaan ammeter dalam Rajah 6.1 *adalah lebih besar daripada bacaan ammeter dalam Rajah* 6.2.

(iii) The greater the ammeter readings, the brighter the bulbs.
Semakin besar bacaan ammeter, semakin cerah mentol.

(c) The total resistance of bulbs in Diagram 6.1 is smaller than the total resistance of bulbs in Diagram 6.2.
Jumlah rintangan mentol dalam Rajah 6.1 *adalah lebih kecil daripada jumlah rintangan mentol dalam Rajah* 6.2.

(d) The brightness of the bulbs reduces as the total resistance of the bulbs increases.
Kecerahan mentol berkurang apabila jumlah rintangan mentol bertambah.

(e) (i) The bulbs in Diagram 6.3 produce the same brightness as the bulbs in Diagram 6.4.
Mentol-mentol dalam Rajah 6.3 menyala dengan kecerahan yang sama dengan mentol-mentol dalam Rajah 6.4.

(ii) The ammeter reading in Diagram 6.3 is greater than the ammeter reading in Diagram 6.4.
Bacaan ammeter dalam Rajah 6.3 lebih besar daripada bacaan ammeter dalam Rajah 6.4.

QUESTION 11

(a) (i) resistance / *rintangan*

(ii) $Q = It$

$= (2.3A)(5 \times 60s)$

$= 690C$

(iii) Number of electrons / *Bilangan elektron*

$$= \frac{690C}{1.6 \times 10^{-19}C}$$

$= 4.31 \times 10^{21}$

(b) (i) Electric current is defined as the rate of flow of charge.
Arus elektrik ditokrijkan sebagai kadar pengaliran cos.

(ii) The Ohm's law states that the current flowing through a conductor is directly proportional to the potential difference across the conductor.
Hukum Ohm menyatakan arus yang mengalir melalui satu konduktor berkadar tents dengan beza keupayaan merentasi konduktor itu.

(iii) Resistance is defined as the ratio of the potential difference across the conductor to the current.
Rintangan ditakdirkan sebagai nisbah beta keupayaan merentasi satu konduktor kepada arm.

$$R = \frac{V}{I}$$

(c)

$$V_x = (3 - 1.2)V$$

$$= 1.8\ V$$

$$R_x = \frac{V_x}{I}$$

$$= \frac{1.8}{0.2}$$

$$= 9\ \Omega$$

QUESTION 12

(a) An electromagnet is a temporary magnet. It acts as a magnet when there is current flowing and ceases to be a magnet when there is no current flowing.
Elektromagnet ialah magnet sementara. la bertindak sebagai magnet apabila ada arus mengalir melaluinya dan berhenti menjadi magnet apabila tiada arus mengalir melaluinya.

(b)

1. Increase the current.
Tambahkan arus.

2. Increase the number of turns of the wire in the solenoid.
Tambahkan bilangan lilitan wayar pads solenoid.

(c)

X : South/ *Selatan*

Y: North/ *Uiara*

(d)

(i) The magnitude of the induced electromotive force (e.m.f.) is directly proportional to the rate of change of magnetic flux.
Magnitud daya gerak elektrik (d.g.e.) alihan berkadar terns dengan kadar perubahan fluks magnet.

(ii)

1. The magnetic flux density
Ketumpatan fluks magnet

2. The length of wire AB

Panjang wayar AB

3. The speed of movement of the wire
Laju pergerakan wayar

QUESTION 13

(a) i. Suatu arus ulang alik ialah arus yang arahnya berbalik pada suatu frekuensi tertentu.
An alternating current is a current that reverses direction at a certain frequency. [1*m*]

ii. – Suatu transformer mengandungi suatu gegelung primer dan suatu gegelung sekunder yang dililitkan pada suatu teras besi-lembut.
A transformer consists of a primary coil and a secondary coil wound onto a soft iron core. [1*m*]

– Apabila a.u. mengalir melalui gegelung primer, suatu perubahan fluks magnet berlaku.
When an a.c. current flows through the primary coil, a changing magnetic flux is produced. [1*m*]

– Fluks magnet yang berubah ini juga meliputi gegelung sekunder melalui teras besi-lembut.
This changing magnetic flux is linked to the secondary coil through the soft iron core. [1*m*]

– Fluks magnet yang berubah menghasilkan suatu d.g.e. teraruh dalam gegelung sekunder.
The changing magnetic flux produces an induced e.m.f. in the secondary coil. [1*m*]

(b) 1. Teras transformer mesti diperbuat daripada besi-lembut.
The transformer core must be made of soft iron. [1*m*]

2. Supaya ia mudah dimagnetkan dan dinyahmagnetkan.
So that it is easy to be magnetised and demagnetised. [1*m*]

3. Teras besi-lembut harus berlamina.
The soft iron core must be laminated. [1*m*]

4. Supaya kuasa terhilang dikurangkan
So that power loss is reduced. [1*m*]

5. Pilih dawai kuprum tebal bagi gegelung primer dan sekunder.
Choose a thick copper wire to make the primary and secondary coils. [1*m*]

6. Supaya rintangan dawai berkurang dan kuasa terhilang dikurangkan.
So that the resistance of the wire is low and loss of power is reduced. [1*m*]

7. Pilih gegelung primer dan sekunder yang dililitkan rapat di atas satu sama lain pada teras besi-lembut yang sama, untuk mengurangkan kehilangan fluks magnet.
Choose the primary and secondary coils that are wound tightly one on top of the other on the same soft iron core, in order to reduce flux leakage. [1*m*]

8. $\frac{N_s}{N_p} = \frac{V_s}{V_p} = \frac{6}{240} = \frac{1}{40}$
Bilangan lilitan gegelung sekunder, N_s, harus 40 kali kurang daripada N_p.
The number of turns in the secondary coil, N_s, should be 40 times less. [1*m*]

9. Transformer Q paling sesuai.
Transformer Q is the most suitable. [1*m*]

10. Q mempunyai teras besi-lembut berlamina, dawai kuprum yang tebal, gegelung primer di atas gegelung sekunder dan mempunyai nisbah
It uses a laminated soft iron core, thick copper wires, the primary and secondary coils are wound one on top of the other and the ratio:
$= \frac{N_s}{N_p} = \frac{1}{40}$ [1*m*]

(c) i. $P = VI$, $24 = 12I$
Arus sekunder/*Secondary current*, $I = \frac{24}{12} = 2$ A [1*m*]

ii. Kuasa output,/*Output power*,
$P_o = I^2R + 24$ [1*m*]
$= (2)^2\ 6 + 24$
$= 48$ W [1*m*]
Kuasa input,/*Input power*,
$P_i = V_pI_p$
$= (240)(0.25)$
$= 60$ W [1*m*]
Kecekapan transformer,
Efficiency of the transformer,
$= \frac{P_o}{P_i} \times 100\%$
$= \frac{48}{60} \times 100 = 80\%$ [1*m*]

QUESTION 14

(a) The process of adding a small amount of impurities to the crystalline lattice of semiconductors. *Proses menambahkan kuantiti kecil berdasing kepada kekisi hablur semikonduktor*.

(b)

1. n-type semiconductor / *Semikonduktor jenis* n
2. p-type semiconductor / *Semikonduktor jenis* p

(c)

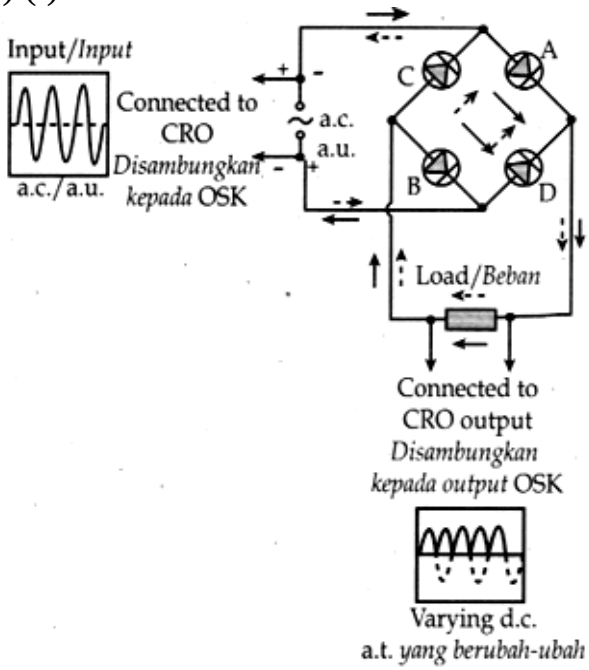
(i) Germanium and silicon
Germanium dan silikon

(ii) Conductors have high electrical conductivity. Semiconductors have electrical conductivity which is

between that of an insulator and a conductor.
Konduktor mempunyai kekonduksian elektrik yang tinggi. Semikonduktor mempunyai kekonduksian elektrik di antara penebat dan konduktor.

(iii) The pure semiconductor becomes a p-type semiconductor which has the 'hole' as the major charge carrier.
Semikonduktor tulen menjadi semikonduktor jenis p yang mempunyai lohong sebagai pembawa cas utama.

(d) (i)



(ii)

- During the forward half of each cycle, diodes A and B are forward-biased but diodes C and D are reverse-biased. Diodes A and B allow the current to flow but diodes C and D block the current.
Semasa separuh depan setiap kitar, diod A *dan* B *ialah diod ke depan tetapi diod C dan diod D ialah pincangan ke belakang. Diod* A *dan diod* B *menibenarkan arus untuk mengalir tetapi diod* C *dan diod* D *menghalang arus.*
- During the reverse half, diodes C and D are forward-biased but diodes Aand B are reverse-biased. Diodes C and D allow the current to flow but diodes A and B block the current. *Semasa separuh belakang, diod* C *dan diod* D *ialnii pinamgan ke depan tetapi diod* A *dan diod* B *ialah pincangan ke belakang. Diod* C *dan diod* D *membenarkan ams mengalir tetapi diod* A *dan diod* B *mengiwlang ants.*
- As a result, the current always flows in the same direction, thus creating a full-wave rectification.
Keputusannya, arus sentiasa mengalir Mam arah yang sama menghasilkan rektifikasi gelombang.

QUESTION 15

(a)

(i) Half-life is the time taken for the number of atoms in a given sample to decay to half of its original number.
Setengah hayat ialah masa yang diperlukam untuk bilangan atom sampel mereput kepada setengah daripada bilangan asal.

(ii) Radium-226 will decay at a faster rate because its half-life is shorter than the half-life of carbon-14.
Radium-216 mereput padn kadar yang lebih cepat kerana setengah hayatnya lebih pendek daripada setengah hayat karbon-14.

(b)

(i) Beta ray (β) / Sinaran beta (β)

(ii) G-M tube / Tiub G-M

(iii) By adding sodium-24 to the water that flows in the pipe. The leakage can be detected by slowly moving a G-M tube above the underground pipe. If there is a leakage, the tube will detect a higher reading.
Dengan menambahkan natrium-24 ke dalam air yang mengalir di dalam paip. Kebocoran boleh dikesan dengan

mengerakkan perlahan-lahan tiub G-M di atas paip bawah tanah. Jika ada kebocoran, tiub itu akan menunjukkan bacaan yang lebih tinggi.

PAPER 3

QUESTION 2

(a) Inference: the temperature change of a liquid is depend on its density.
Inferens: perubahan suhu cecair adalah bergantung kepada ketumpatannya.

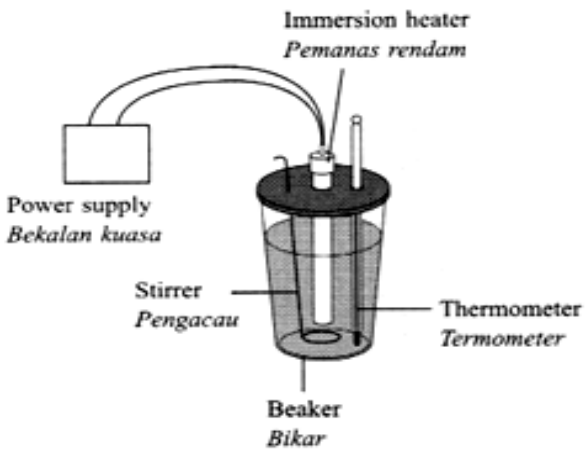
(b) Hypothesis: when the density of a liquid is higher, the temperature change is lower. *Hipotesis: apabila ketumpatan cecair adalah tinggi, maka perubahan suhu adalah rendah.*

(c) (i) Aim of experiment: to investigate the relationship between the density and the temperature
Tujuan eksperimen: untuk mengkaji hubungan antara ketumpatan cecair dengan perubahan suhu.

(ii)
Manipulated variables: mass of sail, m (g).
Pemboleh ubah dimanipulasi: jisim garam. m (g).
Responding variables: temperature change, 9 (°C) (represent the density of liquid).
Pemboleh ubhi bergerak balas: perubahan suhu, 9 (°C) *(mewakili ketumpatan cecair).*
Constant variables: volume of water // power of immersion heater // time of heating. *Pemboleh ubah dlmalarkan: isi padu air // kuasa pemanas rendam // masa pemanasan*

(iii)
List of apparatus: immersion heater, stirrer, water, salt powder, power supply, thermometer, stop watch, beaker, measuring cylinder and electronic balance.

(iv)
Arrangement of apparatus:
Susunan alat radas:



(v)
Procedures:
1. Set-up apparatus as the diagram shown above.
Sediakan radas seperti rajah di atas.
2. Pour 50 g of sail powder into a beaker with 100 cm^3 of water and stir the water.
Tuangkan 50 g *serbuk garam ke dalam bikar yang mempunyai* 100 cm^3 *air dan kacau air tersebut.*
3. Measure the initial temperature of the water.
Ukur suhu awal air tersebut.
4. Switch on the heater and simultaneously start the stop watch.
Hidupkan suis pemanas dan serentak tekan jam randik.
5. After 10 minutes of healing switch off the heater.
Selepas 10 *minit pemanasan matikan suis pemanas.*
6 Measure and record the final temperature of the water.
Ukur dan catatkan suhu akhir air tersebut.

7. Calculate the temperature change of the water.
   Hitungkan perubahan suhu tersebut.
8. Repeat the experiment with 4 different mass of salt powder that are 100 g, 150 g, 200 g and 250 g that pour into the 100 cm^3 of water.
   Ulang eksperimen untuk 4 jisim serbuk garam berbeza iantu 100g, 150g, 200g dan 250g yang dituang ke dalam bikar yang berisi 100 cm^3 air.
9. Plot a graph of temperature change against mass of salt powder.
   Lukiskan graf perubahan suhu melawan jisim serbuk garam.

(vi)

Tabulation of data:
Penjadualan data:

Mass, m (g) *Jisim, m (g)*	**Initial temperature, T_1 (°C)** *Suhu awal, T_1 (°C)*	**Final temperature, T_2 (°C)** *Suhu awal, T_2 (°C)*	**Temperature change, $\theta = T_2 - T_1$ (°C)** *Perubahan suhu, $\theta = T_2 - T_1$ (°C)*
50			
100			
150			
200			
250			

QUESTION 4

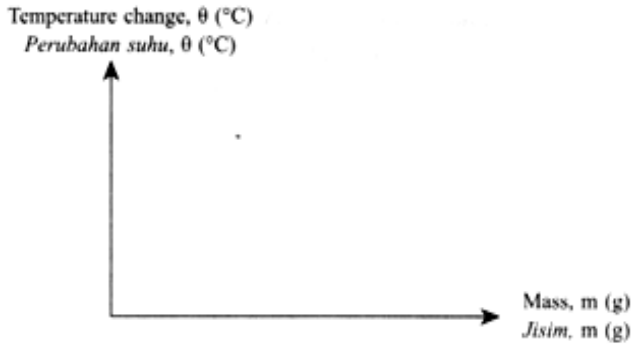
(a)

Type of activity *Jenis aktiviti*	Length of air column (cm) *Panjang turus udara (cm)*	
	Before treatment *Sebe'um rawatan*	After treatment *Selepas rawatan*
A	6.4	6.2
B	6.4	6.0
C	6.4	5.7

(b) (i) 1. For activity A the length of air column after treatment with potassium hydroxide is 6.2 cm.
Bagi aktiviti A, panjang turus udara selepas rawatan dengan kalium hidroksida ialah 6.2 cm.

(vii)

Analysing data:
Menganalisis data:



2. For activity C the length of air column after treatment with potassium hydroxide is 5.7 cm.
Bagi aktiviti C, panjang turus udara selepas rawatan dengan kalium hidroksida ialah 5.7 cm.

(ii) 1. The length of air column for activity A is the longest because it contains the least carbon dioxide.
Panjang turus udara bagi aktiviti A *adalah paling panjang kerana ia mengandungi paling sedikit karbon dioksida.*

2. The length of air column for activity C is the shortest because it contains the most carbon dioxide.
Panjang turus udara bagi aktiviti C adalah paling *pendek kerana ia mengandungi paling banyak karbon dioksida.* -

(c)

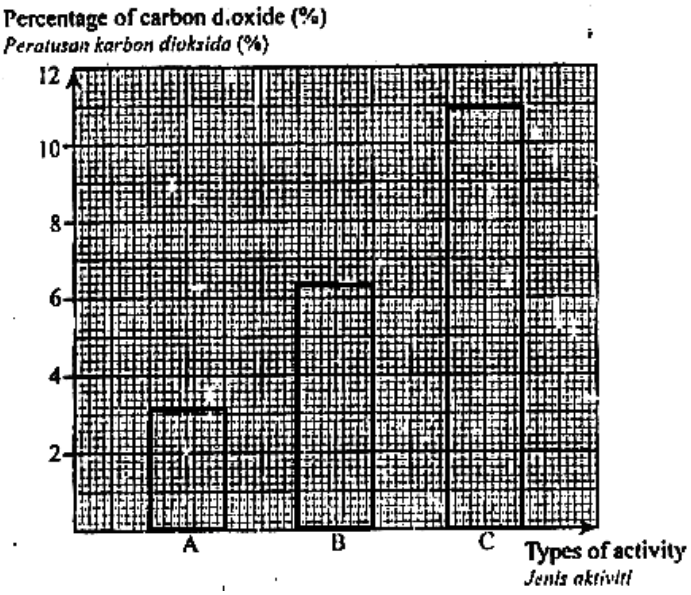
Variable *Pembolehubah*	**Method to handle the variable** *Cara mengendali pembolehubah*
Manipulated variable *Pembolehubah dimanipulasikan* Type of activity *Jenis aktiviti*	Change the type of activity *Menukar jenis aktiviti*
Responding variable *Pembolehubah bergerak balas* Final length of air column *Panjang akhir turus udara*	Measure and record the length of air column using the (scales) on the J-tube *Ukur dan rekod panjang turus udara menggunakan skala pada tiub-J*
Constant variable *Pembolehubah dimalarkan* Duration of activity *Tempoh aktiviti*	Fix duration of activity for 30 minutes *Menetapkan tempoh aktiviti selama 30 minit.*

(d) The more vigorous the activity, the shorter the air column after treatment with potassium hydroxide, the more carbon dioxide is produced.
Semakin cergas sesuatu aktiviti, semakin pendek turus udara selepas rawatan dengan kalium hidroksida, lebih banyak karbon dioksida dihasilkan.

(e) (i)

Type of activity *Jenis aktiviti*	**Change in length of air column (cm)** *Perubahan panjang turus udara* (cm)	**Percentage of carbon dioxide (%)** *Peratus karbon dioksida* (%)
A	0.2	3.13
B	0.4	6.25
C	0.7	10.94

(ii)



(f) When the activity is more vigorous, the higher the percentage of carbon dioxide produced because the respiration rate / metabolic rate is higher and more glucose is oxidized.
Apabila aktiviti bertambah cergas, semakin tinggi kepekatan karbon dioksida yang dihasilkan kerana kadar respirasi/ kadar metabolisme lebih tinggi dan lebih banyak glukosa dioksidakan.

(g) The air column is shorter, less than 6.2 cm because more carbon dioxide is produced due to the increase in respiration rate.
Turus udara menjadi lebih pendek, kurang dari 6.2 cm ***kerana lebih banyak karbon dioksida dihasilkan akibat peningkatan kadar respirasi.***

(h) Exhaled air contains carbon dioxide. The amount of carbon dioxide produced caused the length of air column to change after treatment with potassium hydroxide. More carbon dioxide is produced with more vigorous activity.
Udara hembusan mengandungi karbon dioksida. Jumlah karbon dioksida terhasil menyebabkan panjang turus udara berubah selepas rawatan dengan kalium hidroksida. Lebih banyak karbon dioksida dihasilkan melalui aktiviti yang lebih cergas.

(i)

Type of activity *Jenis aktiviti*	**Rate of respiration** *Kadar respirasi*
A	Low *Rendah*
B	Medium *Sederhana*
C	High *Tinggi*

(a) The output voltage from a transformer is affected by the number of turns of wire in the secondary.
Voltan output daripada sebuah transformer dipengaruhi oleh bilangan lilitan dawai dalam gegelung sekunder.
[1]

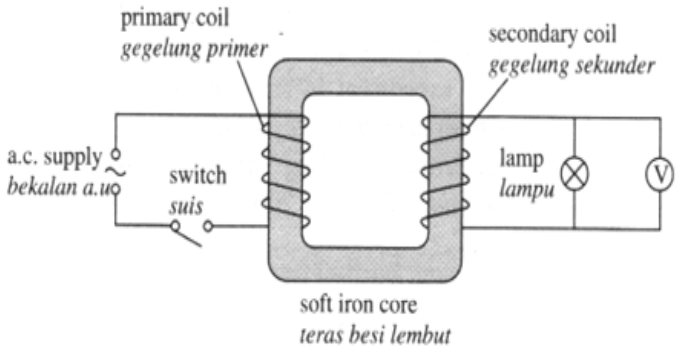
(b) The output voltage increases as the number of turns of wire in the secondary coil increases. / The greater the number of turns of wire in the secondary coil, the greater is the output voltage.
Voltan output benambah sambil bilangan lililan dawai dalam gegelung sekunder bertambah. / Semakin besar bilangan lilitan dawai dalam gegelung sekunder, semakin besarnya voltan output.
[1]

(c) (i) Investigate the relationship between the number of turns of wire in the secondary coil and the output voltage
Untuk menyiasat hubungan antara bilangan lilitan output.
[1m]

(ii) - Manipulated variable: The number of turns of wire in the secondary coil, *N*
dawai dalam gegelung sekunder, N
- Responding variable: Output voltage, V_o
Pemboleh ubah bergerak balas: Voltan Output, V_o
- Constant variable: The number of turns of wire in
Pemboleh ubah dimalarkan: Bilangan lililan dawai

(iii) A.c. power supply, switch, two C-shaped soft iron core with clip, copper wire with PVC coating, connecting wires, lamp and voltmeter
Bekalan kuasa a.u. suis, dua teras besi lembut berbentuk-C dengan klip, dawai kuprum bersalut PVC, dawai penyambung; lampu dan voltmeter.

(iv)



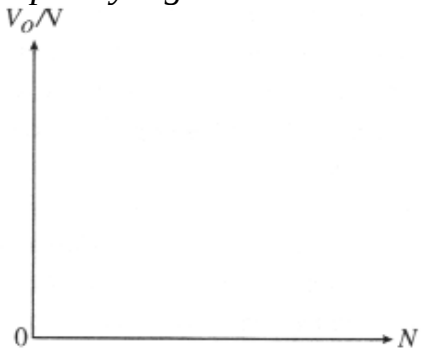
(v)
1. The apparatus is *set* up as shown above.
Alat radas disusun seperti rajah di atas.
2. 100 turns of wire are wound on the soft iron core as the secondary coil.
100 lilitan dawai dililit pada teras besi iembut.
3. The switch is turned on and the output voltage, V_0 is measured using a voltmeter.
Suis ditutup dan voltan output, V_0 diukurkan dengan menggunakan voltmeter.
4. The experiment is repeated by increasing the number of turns of wire to *N* = 200, 300, 400 dan 500.
Eksperimen diulang dengan menambahkan bilangan lilitan dawai kepada N = 200, 300, 400 dan 500. [3m]

(vi) The results obtained are tabulated in the table below.
Keputusan diperoleh dijadualkan dalam jadual berikut.

Number of turns of wire in the secondary coil, *N* *Bilangan lilitan dawai dalam gegelung sekunder, N*	**Output voltage, V_0/V** *Voltan output, V_0/V*
100	
200	
300	
400	
500	

[1m]

(vii)A graph of the output voltage, V_0 against number of turns of wire, N is plotted as shown below.
Satu graf voltan output, melawan bilangan lilitan dawai, N, diplotkan seperti yang berikut.



[1*m*]

.