

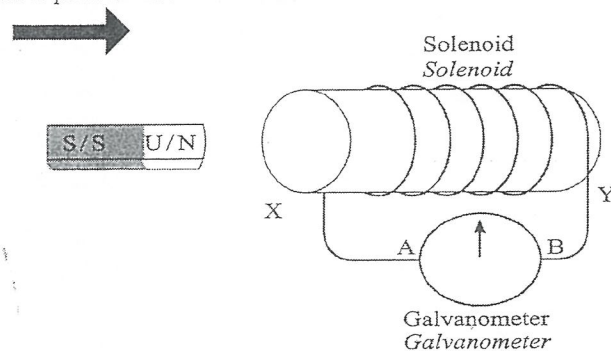
Bahagian B

[20 markah]

Bahagian ini mengandungi dua soalan. Jawab satu soalan.

- 9 Rajah 9.1 menunjukkan sebatang magnet bar digerakkan mendekati satu solenoid. Pesongan galvanometer dapat diterangkan berdasarkan konsep aruhan elektromagnet.
- Diagram 9.1 shows a bar magnet is moved closer to a solenoid. The deflection of galvanometer can be explained based on the concept of electromagnetic induction.

Magnet ditolak mendekati solenoid
Magnet is pushed closer to a solenoid



Rajah 9.1
Diagram 9.1

- (a) Apakah maksud aruhan elektromagnet?
What is meant by electromagnetic induction?

[1 markah]
[1 mark]

- (b) Berdasarkan Rajah 9.1,
Based on Diagram 9.1,

- (i) Nyatakan kekutuban di X dan Y
State the polarity at X and Y

[2 markah]
[2 marks]

- (ii) Tentukan arah arus yang mengalir melalui galvanometer dan nyatakan pesongan galvanometer.
Determine the direction of current that flows through galvanometer and state the deflection of the galvanometer.

[2 markah]
[2 marks]

- (iii) Terangkan jawapan anda untuk 9(b)(ii).
Explain your answer for 9(b)(ii).

[1 markah]
[1 mark]

- (c) Berdasarkan konsep aruhan elektromagnet, terangkan bagaimana arus aruhan boleh terhasil dalam solenoid.
Based on the concept of electromagnetic induction, explain how an induced current can be produced in a solenoid.

[4 markah]
[4 marks]

[Lihat halaman sebelah
SULIT

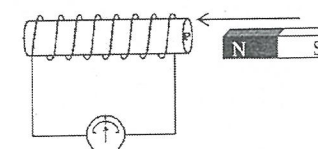
Soalan Pasti

100%
tepat

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"Bijak berusaha, pasti berjaya"

- c) Rajah 11.3 menunjukkan satu magnet bar digerakkan masuk ke dalam solenoid lalu menghasilkan arus aruhan.

Diagram 11.3 shows a magnet bar moved into a solenoid and produce induced current.



Rajah 11.2 / Diagram 11.2

Terangkan apa yang berlaku di hujung P, arah pesongan jarum galvanometer dan hukum fizik yang terlibat dalam menghasilkan arus aruhan.

Explain what happens at the end of P, the direction of deflection of the galvanometer needle and the laws of physics involved in generating the induced current.

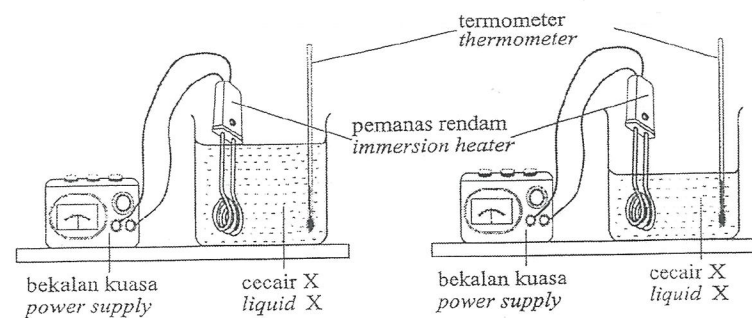
[3 markah / 3 marks]

Bahagian C

[20 markah]

Soalan ini mesti dijawab.

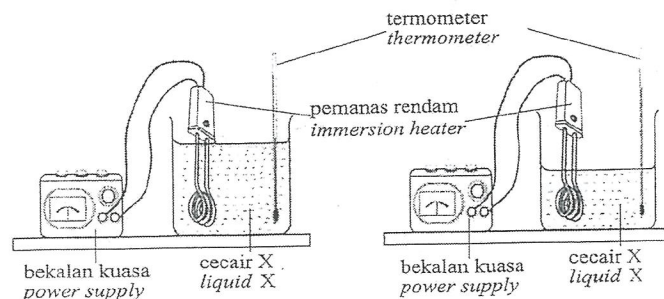
- 11 Rajah 11.1(a) dan Rajah 11.1(b) menunjukkan suhu awal cecair X sebelum dipanaskan oleh pemanas rendam yang sama.
Diagram 11.1(a) and Diagram 11.1(b) show the initial temperatures of liquid X before being heated by identical immersion heater.



Rajah 11.1(a)
Diagram 11.1(a)

Rajah 11.1(b)
Diagram 11.1(b)

- Rajah 11.2(a) dan Rajah 11.2(b) menunjukkan suhu akhir cecair X selepas dipanaskan selama 10 minit.
Diagram 11.2(a) and Diagram 11.2(b) show the final temperatures of liquid X after being heated for 10 minutes.



Rajah 11.2(a)
Diagram 11.2(a)

Rajah 11.2(b)
Diagram 11.2(b)

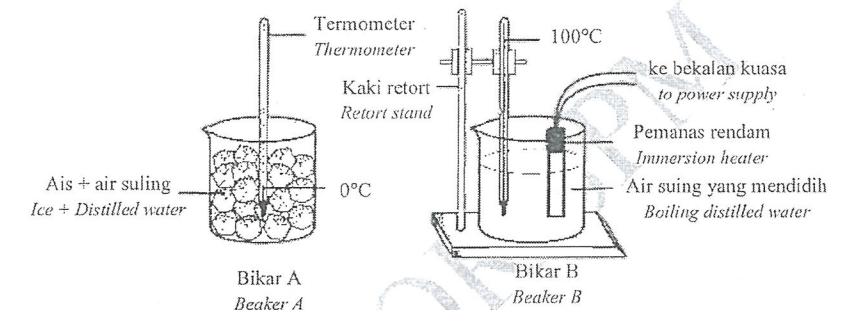
- (a) Apakah yang dimaksudkan dengan suhu?
What is the meaning of temperature? [1 markah] [1 marks]
- (b) (i) Berdasarkan Rajah 11.1(a) dan Rajah 11.1(b), bandingkan suhu awal dan jisim cecair X sebelum dipanaskan.
Based on Diagram 11.1(a) and Diagram 11.1(b), compare the initial temperatures and masses of liquid X before being heated.
- (ii) Berdasarkan Rajah 11.2(a) dan Rajah 11.2(b), bandingkan kenaikan suhu cecair X selepas pemanasan.
Based on Diagram 11.2(a) and Diagram 11.2(b) compare the rise in temperatures of liquid X after heating.
- (iii) Hubungkan jisim dengan kenaikan suhu. Nyatakan kuantiti fizik yang mesti dimalarkan bagi mendeduksikan hubungan antara jisim dengan kenaikan suhu.
Relate the mass and rise in the temperature. State the physical quantity that must be kept constant to deduce the relationship between the mass and the rise in temperature.

[5 markah]
[5 marks]

Konsep sama

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"Bijak berusaha, pasti berjaya"

5. a) Rajah 5.1 menunjukkan proses penentu ukuran pada termometer yang akan digunakan untuk mengukur suhu air panas.
Diagram 5.1 shows a process to calibrate a thermometer which will be used to measure the temperature of hot water.



Rajah 5.1 / Diagram 5.1

- i) Nyatakan unit S.I bagi suhu.
State the S.I unit for temperature.

[1 markah / 1 mark]