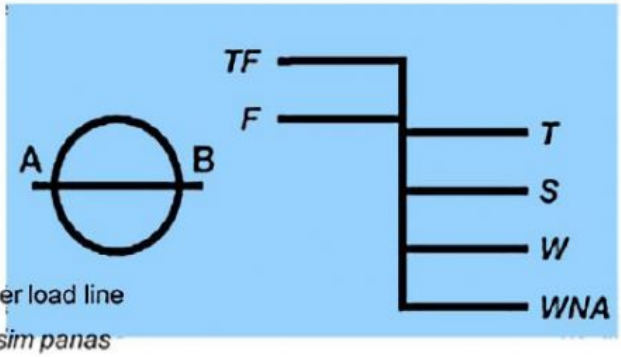
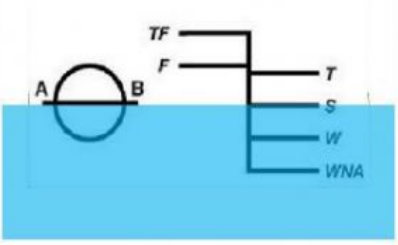
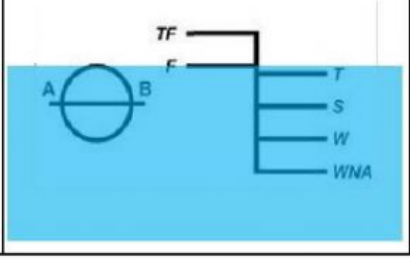
(b) Rajah 10.2 menunjukkan garis plimsoll.
Diagram 10.2 shows plimsoll line.

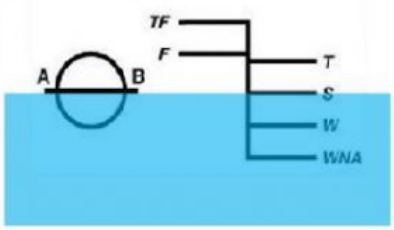
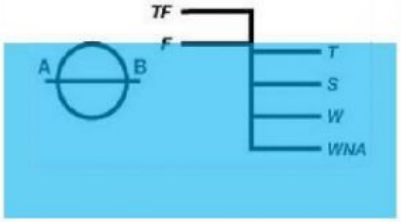
TF – Tropical freshwater load line
Garis beban air tawar tropika
F – Freshwater load line
Garis beban air tawar
T – Tropical seawater load line
Garis beban air laut tropika
S – Summer temperature seawater load line
Garis beban air laut suhu musim panas
W – Winter temperature seawater load line
Garis beban air laut suhu musim sejuk
WNA – Winter North Atlantic load line
Garis beban musim sejuk Atlantik Utara



Rajah 10.2
Diagram 10.2

Jadual 10 menunjukkan ciri-ciri kapal kargo yang dimuatkan dengan barang di Amerika.
Table 10 shows the characteristics of a loaded cargo ship in America.

Kapal Kargo *Cargo ship*	**Garis Plimsoll** *Plimsoll Line*	**Isipadu** *Volume*	**Ketumpatan Bahan** *Density of Material*	**Bentuk** *Shape*
P		Besar *Large*	Rendah *Low*	Hidrodinamik *Hydrodynamic*
Q		Besar *Large*	Tinggi *High*	Aerodinamik *Aerodynamic*

R		Kecil *Small*	Rendah *Low*	Hidrodinamik *Hydrodynamic*
S		Kecil *Small*	Tinggi *High*	Aerodinamik *Aerodynamic*

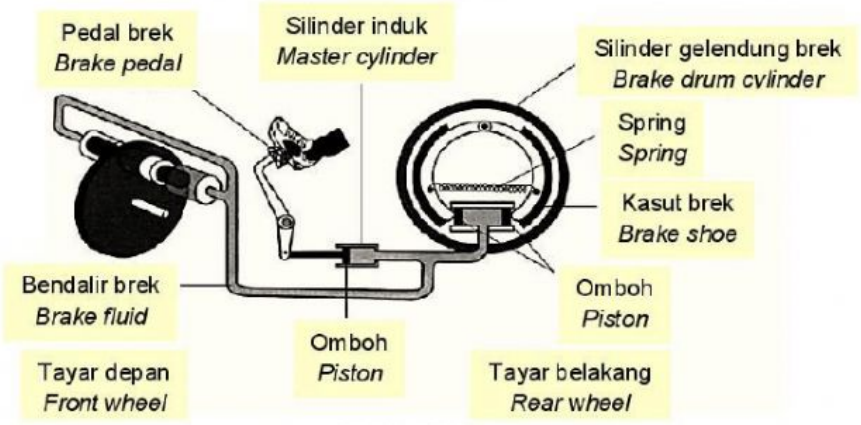
Jadual 10

Table 10

Terangkan kesesuaian setiap ciri kapal kargo yang telah dimuatkan barang.
Tentukan kapal kargo yang paling sesuai untuk mengangkat lebih beban pada satu masa dan berupaya bergerak dengan laju di air dari Amerika ke Selat Melaka.
Explain the suitability of each characteristic of the loaded cargo ship.
Determine the most suitable cargo ship which can carry more load at a time and is able to move quickly in water from America to the Strait of Malacca.

[10 markah]
[*10 marks*]

(c) Rajah 10.3 menunjukkan sistem brek hidraulik dalam sebuah kereta.
Diagram 10.3 shows a hydraulic brake system in a car.



Rajah 10.3
Diagram 10.3

Dalam suatu sistem brek hidraulik, luas keratan rentas omboh dalam silinder induk dan di tayar depan masing-masing adalah 25 cm^2 dan 110 cm^2. Daya 50 N dikenakan ke atas omboh dalam silinder induk.
In a hydraulic brake system, the cross-section area of the pistons in the master cylinder and the front wheel are 25 cm^2 and 110 cm^2 respectively. A force of 50 N is applied to the piston in the master cylinder.

Hitung :

Calculate :

(i) tekanan yang dipindahkan ke seluruh bendalir brek.
the pressure transmitted throughout the brake fluid.

[2 markah]
[*2 marks*]

(ii) daya yang dikenakan ke atas omboh tayar depan.
the force exerted on the piston of the front wheel.

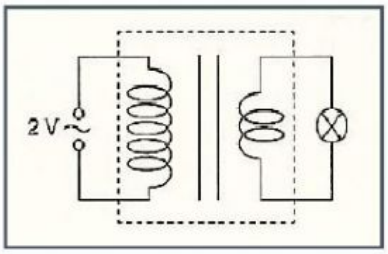
[3 markah]
[*3 marks*]

BAHAGIAN C [20 MARKAH]

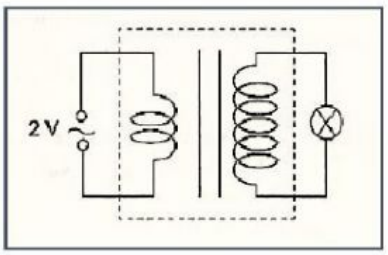
SECTION C [20 MARKS]

JAWAB **SEMUA** SOALAN.
*ANSWER **ALL** QUESTIONS.*

11 Rajah 11.1 dan Rajah 11.2 menunjukkan dua transformer, masing-masing disambungkan kepada satu mentol.
Diagram 11.1 and Diagram 11.2 show two transformers, each connected to a bulb.



Rajah 11.1
Diagram 11.1



Rajah 11.2
Diagram 11.2

(a) Nyatakan fungsi transformer.
State a function of the transformer.

[1 markah]
[*1 mark*]

(b) Perhatikan Rajah 11.1 dan Rajah 11.2. Bandingkan bilangan lilitan gegelung primer, bilangan lilitan gegelung sekunder dan kecerahan mentol.
Observe Diagram 11.1 and Diagram 11.2. Compare the number of turns of primary coil, the number of turns of secondary coil and the brightness of the bulb.

[3 markah]
[*3 marks*]

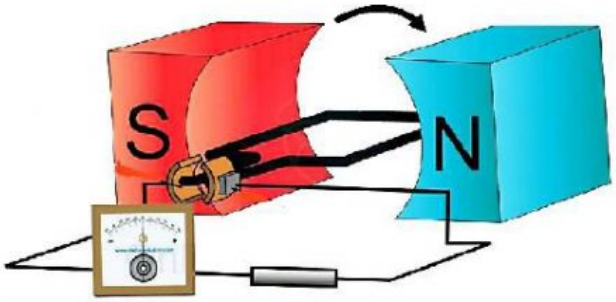
(c) Nyatakan hubungan antara
State the relationship between

(i) Bilangan lilitan gegelung sekunder dengan kecerahan mentol.
The number of turns of secondary coil and the brightness of the bulb.

(ii) Bilangan lilitan gegelung sekunder dengan jenis transformer.
The number of turns of secondary coil and the type of transformer.

[2 markah]
[*2 marks*]

(d) Rajah 11.3 menunjukkan satu penjana berputar dengan kelajuan yang tinggi.
Diagram 11.3 shows a generator rotates at a high speed.



Rajah 11.3
Diagram 11.3

Cadangkan dan terangkan dua pengubahsuaian bagaimana untuk meningkatkan sudut pesongan bagi penunjuk galvanometer itu.
Suggest and explain two modifications how to increase the angle of deflection of the galvanometer pointer.

[4 markah]
[*4 marks*]

(e) Semasa penghantaran tenaga elektrik, pilon-pilon seperti yang ditunjukkan dalam Rajah 11.4 memainkan peranan yang penting.
During transmission of electrical energy, pylons such as shown in Diagram 11.4 play an important role.

Rajah 11.4
Diagram 11.4

Menggunakan pengetahuan tentang penghantaran tenaga elektrik dan konsep fizik yang berkaitan, terangkan cadangan anda berdasarkan aspek-aspek berikut:

Using the knowledge on transmission of electrical energy and the related physics concept, explain your suggestions based on the following aspects:

(i) jenis bahan yang digunakan untuk membina pilon-pilon
the types of material used to build the pylons

(ii) reka bentuk pilon-pilon
the design of the pylons

(iii) diameter kabel penghantaran
the diameter of the transmission cable

(iv) bahan kabel
the material of the cable

(v) ciri tambahan yang membolehkan kabel tahan lama
additional feature that can make the cable long lasting

[10 markah]
[*10 marks*]

KERTAS SOALAN TAMAT