

INSTRUCTION:

This section consists of **FOUR (4)** subjective questions. Answer **ALL** the questions.

ARAHAN :

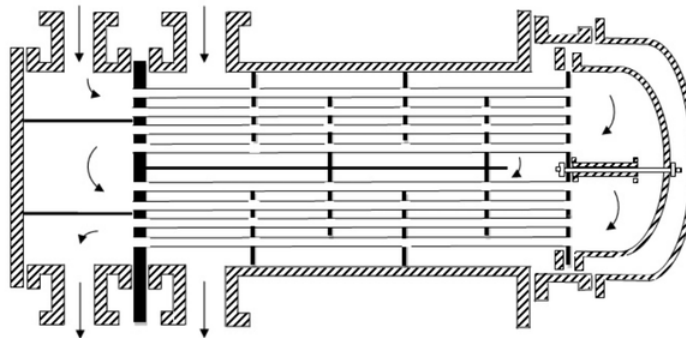
Bahagian ini mengandungi **EMPAT (4)** soalan struktur. Jawab **SEMUA** soalan.

QUESTION 1**SOALAN 1**

CLO1
C1

- (a) i. Pipe materials can be categorized into two main groups, metal and non-metal. One of the non-metal pipe materials is glass. State **FOUR (4)** advantages of glass pipe compared to other pipe.

*Bahan paip boleh dikelaskan kepada dua kumpulan utama iaitu jenis logam dan bukan logam. Nyatakan **EMPAT (4)** kelebihan yang dimiliki oleh paip kaca berbanding dengan paip jenis lain.*



[8 marks]
[8 markah]

Figure 1(a)
Rajah 1(a)

CLO1
C1

- ii. Identify the device in **Figure 1(a)** above. State the name and function of the device.

*Kenalpasti alatan dalam **Rajah 1(a)** diatas. Nyatakan nama dan fungsi alat tersebut.*

[3 marks]
[3 markah]

CLO1
C1

- iii. Explain **TWO (2)** advantages of using Electric to power up Furnace.

*Terangkan **DUA (2)** kelebihan menggunakan Elektrik untuk menghidupkan Relau.*

[4 marks]
[4 markah]

CLO2
C2

- (b) i. Describe the purpose of using Seal in industries.

Huraikan tujuan penggunaan Kedapan di dalam industri

[4 marks]
[4 markah]

CLO1
C2

- ii. Briefly explain the differences between baffles and header.

Secara ringkas, terangkan perbezaan diantara “baffles” dan “header”.

[6 marks]
[6 markah]

QUESTION 2

SOALAN 2

- (a) Compressors are classified into Physical and Operational Arrangements.

Pemampat boleh diklasifikasikan mengikut Aturan Fizikal dan Operasi.

CLO1
C1

- i. Clarify the purpose of having these two arrangements above.

Nyatakan tujuan diwujudkan pengkelasan diatas.

[4 marks]
[4 markah]

CLO1
C1

- ii. List **TWO (2)** examples of compressor for each of the arrangements.

*Senaraikan **DUA (2)** contoh pemampat bagi setiap aturan diatas.*

[4 marks]
[4 markah]

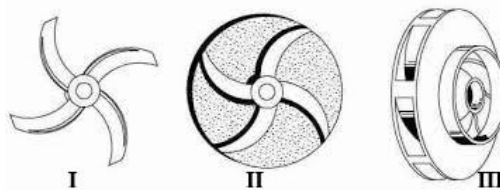


Figure 2(a)

The device in **Figure 2(a)** comes in various sizes & types.

*Alatan dalam **Rajah 2(a)** wujud dalam berbagai bentuk dan saiz.*

CLO1
C1

- iii. Explain why does this device come in different shapes as shown in **Figure 2(a)**?

*Terangkan kenapa alat ini hadir dengan bentuk yang berbeza seperti **Rajah 2(a)**?*

[4 marks]
[4 markah]

CLO2
C2(b) i. Briefly clarify the differences between item I and III in **Figure 2(a)**.*Secara ringkas terangkan perbezaan diantara item I dan III dalam **Rajah 2(a)**.*

[6 marks]

[6 markah]

**Figure 2(b)**CLO2
C2ii. Identify the exact name for the component shown in **Figure 2(b)** above and describe how it works.*Kenalpasti nama yang tepat bagi komponen ditunjukkan dalam **Rajah 2(b)** diatas dan terangkan bagaimanakah ianya berfungsi.*

[7 marks]

[7 markah]

QUESTION 3**SOALAN 3**CLO1
C1

(a) i. Define steam turbine.

Definisikan turbin stim.

[2 marks]

[2 markah]

CLO1
C1

ii. State the function of steam turbine.

Nyatakan fungsi turbin stim.

[2 marks]

[2 markah]

CLO1
C1iii. State **TWO (2)** types of gas turbine.*Nyatakan **DUA (2)** jenis turbin gas.*

[2 marks]

[2 markah]

CLO1
C1iv. State **TWO (2)** major parts and describe their functions.*Nyatakan **DUA (2)** komponen utama dan terangkan fungsinya.*

[6 marks]

[6 markah]

CLO2
C2

- (b) i. Describe the main difference between reaction and impulse steam turbine.

Terangkan perbezaan utama diantara "reaction turbine" dan "steam turbine".

[8 marks]

[8 markah]

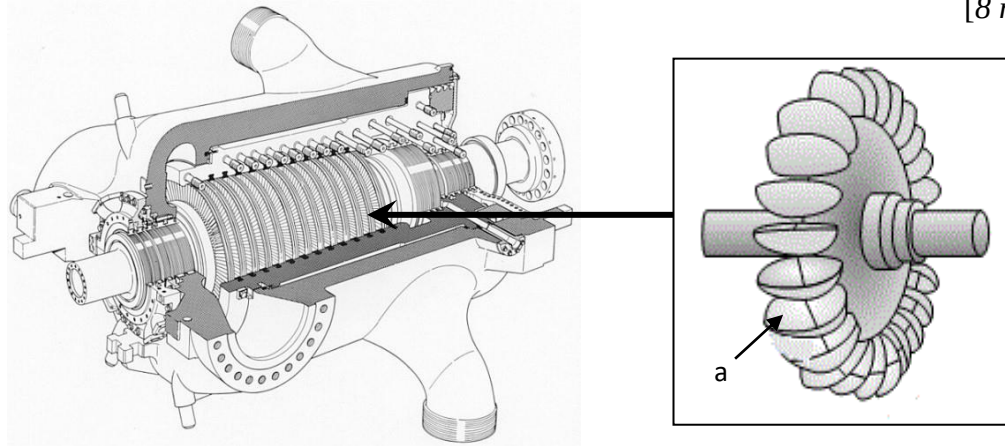


Figure 3(b)

- i. Identify the device labelled "a" in the **Figure 3(b)** above. Specify the name and its functions.

*Kenalpasti alat berlabel "a" di dalam **Rajah 3(b)** diatas. Nyatakan nama dan fungsinya.*

[5 marks]

[5 markah]

QUESTION 4

SOALAN 4

CLO1
C1

- (a)i. Identify the differences between Internal and External Combustion Engine.

Kenalpasti perbezaan diantara Enjin Pembakaran Luar dan Dalam.

[4 marks]

[4 markah]

CLO1
C1

- ii. Lubrication system plays a vital role in the engine system. Please explain the importance of the lubrication system.

Sistem pelinciran memainkan peranan penting dalam sistem enjin. Sila jelaskan kepentingan sistem pelinciran.

[8 marks]
[8 markah]



Figure 4(a)
Rajah 4(a)

CLO1
C1

- iii. Name the device in **Figure 4(a)**.

*Namakan alatan di dalam **Rajah 4(a)**.*

[1 mark]
[1 markah]

CLO1
C1

- iv. State the function of the device in **Figure 4(a)**.

*Nyatakan fungsi alatan di dalam **Rajah 4(a)**.*

[2 marks]
[2 markah]

CLO2
C2

- (b) i. Briefly explain the principle of operation for the device in **Figure 4(a)**.

*Terangkan secara ringkas prinsip pengoperasian alatan di dalam **Rajah 4(a)**.*

[8 marks]
[8 markah]

CLO2
C2

- ii. Explain why diesel engine do not have spark plug despite being classified as internal combustion engine.

Terangkan mengapa enjin diesel tidak mempunyai palam pencucuh walaupun dikelaskan sebagai enjin pembakaran dalam.

[2 marks]
[2 markah]

SOALAN TAMAT