

STRUCTURED: 100 MARKS
STRUKTUR: 100 MARKAH

INSTRUCTION:

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

ARAHAN:

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

QUESTION 1
SOALAN 1

CLO1
C1

- (a) Describe the function of coupling in machines and list **THREE (3)** types of coupling.

Terangkan fungsi gandingan dalam mesin dan senaraikan TIGA (3) jenis gandingan.

[5 marks]
[5 markah]

CLO1
C1

- (b) State the objective of warping and give examples of **TWO (2)** types of the industrial warping process.

Nyatakan objektif bagi proses 'warping' dan berikan DUA (2) jenis proses 'warping di industri'.

[5 marks]
[5 markah]

CLO1
C2

- (c) i. Based on diagram 1c (i) below, explain **TWO (2)** functions of this coupling and its applications.

Berdasarkan gambar rajah 1c (i) di bawah, terangkan DUA (2) fungsi gandingan ini dan aplikasinya.

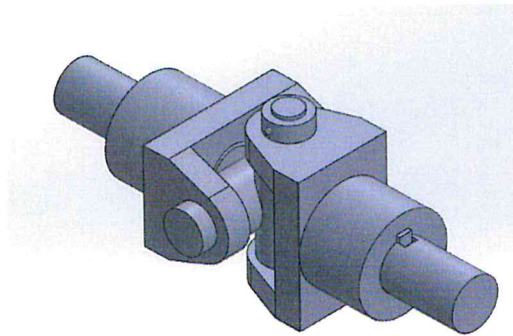


Diagram 1c (i) / Gambar rajah 1c (i)

[5 marks]
[5 markah]

CLO1
C2

- (c) ii. Compare sectional warping and beam warping in terms of:
Bandingkan di antara 'sectional warping' dan 'beam warping' dari segi :
- i. Production method / *Kaedah pengeluaran*
 - ii. Number of beams / *Bilangan 'beam'*
 - iii. Production stage / *Peringkat pengeluaran*
 - iv. End-uses / *Kegunaan*
 - v. Production speed / *Kelajuan pengeluaran*

[10 marks]
[10 markah]

QUESTION
SOALAN 2

CLO1
C1

- (a) Describe **THREE (3)** operation principles in conventional and modern method weaving.

Huraikan TIGA (3) prinsip operasi dalam tenunan kaedah konvensional dan kaedah moden.

[6 marks]

[6 markah]

CLO1
C2

- (b) i. Based on diagram 2(b) i, detail the flow process of a loom machine.
Merujuk Gambar rajah 2(b) i, kenal perincikan proses aliran bagi mesin tenun.

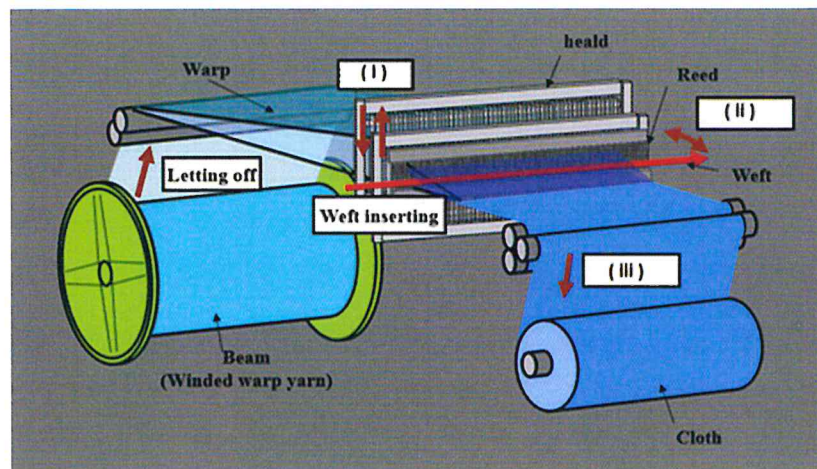


Diagram 2b (i) / Gambar rajah 2b (i)

[3 marks]

[3 markah]

CLO1
C2

- (b) ii. Weaving is the process of interlacing two strands of yarn at right angles to each other. Compare warp yarn and weft yarn.

Tenunan ialah satu proses persilangan dua yarn pada sudut tepat di antara satu sama lain. Bandingkan antara 'warp yarn' dan 'weft yarn'.

[4 marks]

[4 markah]

CLO2
C3

- (c) Draw the weaving structure below:
Lukiskan struktur tenunan di bawah:
- i. Twill weave / *Tenunan 'twill'*
 - ii. Satin weave / *Tenunan 'satin'*

[4 marks]
[4 markah]

CLO2
C3

- (d) Demonstrate the working principle of Keighley Dobby by using a diagram.
Tunjukkan prinsip kerja 'keighley doobby' dengan menggunakan gambar rajah.

[8 marks]
[8 markah]

QUESTION 3
SOALAN 3

CLO1
C1

- (a) Define the knitting terminology below:
Nyatakan terminolgi mengait di bawah:
- i. Weft knitting / *Kaitan pakan*
 - ii. Warp knitting / *Kaitan lungsing*
 - iii. Loops / *'Loops'*

[6 marks]
[6 markah]

CLO1
C2

- (b) Elaborate the characteristics of the knitting structure below:
Huraikan ciri-ciri struktur mengait di bawah:
- i. Plain knit / *Kaitan 'plain'*
 - ii. Rib knit / *Kaitan 'rib'*

[6 marks]
[6 markah]

CLO2
C3

- (c) i. Using a diagram, show the technical face and technical back of a knitted fabric.

Menggunakan gambarajah, tunjukkan 'technical face' dan 'technical back' bagi fabric kait.

[5 marks]
[5 markah]

CLO2
C3

- ii. Draw the knitting structure below:

Lukis struktur tenunan di bawah:

- i. Plain knit / *Kaitan 'plain'*
- ii. Purl knit / *Kaitan 'purl'*
- iii. Rib knit / *Kaitan 'rib'*
- iv. Interlock knit / *Kaitan 'interlock'*

[8 marks]
[8 markah]

QUESTION 4 SOALAN 4

CLO1
C1

- (a) State **THREE (3)** categories of fabric defects classification and define the severity of the defect.

*Nyatakan **TIGA (3)** kategori klasifikasi kecacatan fabrik dan tentukan keterukan kecacatan tersebut.*

[6 marks]
[6 markah]

CLO1
C2

- (b) Based on the examples of fabric defects given below, classify the defects in either knitting defects, weaving defects or yarn defects.

Berdasarkan contoh kecacatan fabrik yang diberikan di bawah, klasifikasikan kecacatan tersebut sama ada kecacatan mengait, kecacatan tenunan atau kecacatan benang.

barre	thin place	neps
missing end	slub	sinker lines
yarn streaks	broken picks	
drop stitches	broken end	

[5 marks]

[5 markah]

CLO2
C3

- (c) i. Spun laid and melt blown are two methods that are frequently used together. Draw the melt blown non-woven diagram and show the web forming process.
- ‘Spun laid’ dan ‘melt blown’ adalah dua kaedah yang sering digunakan bersama. Lukis gambarajah ‘melt blown non-woven’ dan tunjukkan proses pembentukan web.

[7 marks]

[7 markah]

CLO2
C3

- ii. Needle punching is a type of mechanical bonding. Using a diagram, show how needle punching technique is done.
- ‘Needle punching’ adalah sejenis kaedah pengikatan mekanikal. Menggunakan gambar rajah, tunjukkan bagaimana teknik ‘needle punching’ ini dilakukan.

[7 marks]

[7 markah]

SOALAN TAMAT