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) Yarn can be classified into various grounds; one of them is the spinning technique. Name **THREE (3)** types of spinning techniques in producing yarn.
*Yarn dikelaskan mengikut pelbagai cara, salah satu satunya adalah mengikut teknik spinning. Namakan **TIGA (3)** jenis teknik spinning dalam penghasilan yarn.*

[3 marks]
[3 *markah*]

CLO1
C1

(b) Spun yarn and filament yarn have different properties. State the difference in the properties of the two yarns in terms of lustre, hairiness, bulkiness, and pilling resistance.
Spun yarn dan filament yarn mempunyai sifat yang berbeza. Bezakan sifat kedua-dua yarn tersebut dari segi kilauan, sifat berbulu, kegebuan dan rintangan terhadap bintilan.

[8 marks]
[8 *markah*]

CLO1
C2

(c) Staple length and fineness of fibre affect yarn quality. Explain how the two factors affect yarn quality.
Panjang serat dan kehalusan serat mempengaruhi kualiti yarn. Terangkan bagaimana kedua-dua faktor tersebut mempengaruhi kualiti yarn.

[5 marks]
[5 *markah*]

CLO1
C2

(d) Irregularities of yarn can affect the quality of yarn in terms of linear density, twist, and colour. Explain how these factors affect yarn quality.
Ketidakseragaman yarn mempengaruhi kualiti yarn dari segi ketumpatan linear, pintalan dan warna. Terangkan bagaimana factor-faktor tersebut mempengaruhi kualiti yarn.

[9 marks]
[9 *markah*]

QUESTION
SOALAN 2

CLO1
C1

(a) Combing preparation process is essential before combing. Indicate the importance of doing the preparation.
Proses persediaan combing penting sebelum combing. Nyatakan kepentingan melakukan proses persediaan.

[4 marks]
[4 *markah*]

CLO1
C1

(b) Briefly describe these terms:
Terangkan secara ringkas istilah berikut:

i. Drafting

ii. Twisting

[4 marks]
[4 *markah*]

CLO1
C1

(c) Explain the process of winding and construction of cop in ring spinning machine.
Terangkan proses belitan dan pembentukkan cop di mesin ring spinning.

[4 marks]
[4 *markah*]

CLO1
C2

(d) The blending process is done to get the product's suitable properties and control the production cost without sacrificing the yarn quality. As a manufacturer, explain the factors you should consider before doing the blending process.

Proses percampuran dilakukan bagi mendapatkan ciri-ciri yang sesuai bagi sesuatu produk akhir juga bagi mengawal kos pengeluaran tanpa mengorbankan kualiti sesuatu yarn. Sebagai seorang pengeluar, terangkan apakah faktor yang perlu diambil kira sebelum melakukan proses percampuran.

[7 marks]
[7 *markah*]

CLO1
C2

(e) Discuss the **THREE (3)** mechanisms in combing operations.

*Bincangkan **TIGA (3)** mekanisma di dalam operasi combing.*

[6 marks]
[6 *markah*]

QUESTION 3
SOALAN 3

CLO1
C1

(a) Referring to diagram 1(a), explain the process involved and the reason of doing it.

Merujuk kepada rajah 1(a), terangkan proses yang terlibat dan sebab melakukannya.

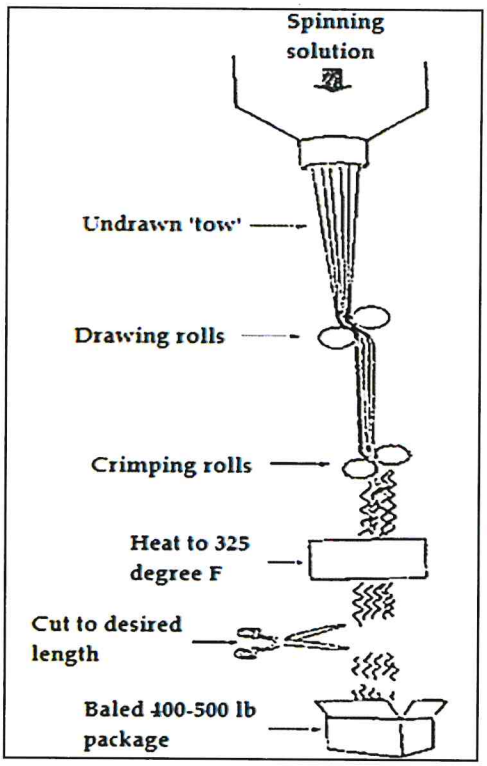

Diagram 1 / *Rajah 1*

[9 marks]
[9 *markah*]

CLO1
C2

(b) False twist is one of the techniques in yarn texturing. Describe the method with an appropriate diagram to support your answer.

False twist merupakan salah satu teknik di dalam penteksturan yarn. Terangkan teknik ini dengan gambarajah yang sesuai untuk menyokong jawapan anda.

[5 marks]
[5 *markah*]

CLO1
C2

(c) Referring to diagram 2, describe the process.

Merujuk kepada rajah 2, terangkan proses tersebut.

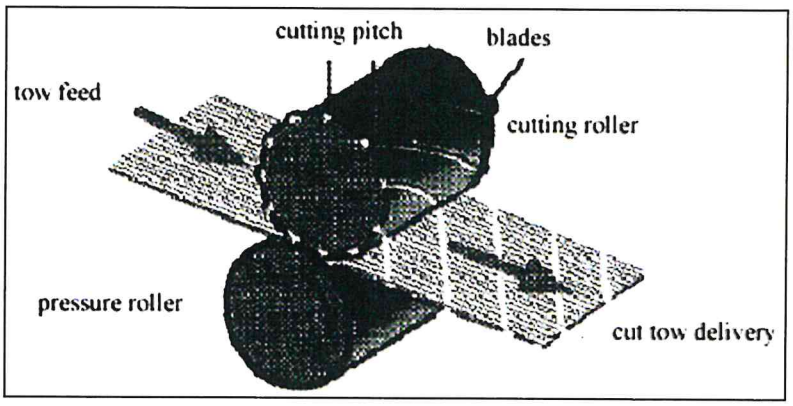

Diagram 2 / *Rajah 2*

[5 marks]
[5 *markah*]

CLO1
C2

(d) Elaborate on how dry spinning process is done. Support your answer with a related diagram.

Huraikan bagaimana proses perspinan kering dilakukan. Sokong jawapan anda dengan gambarajah yang berkaitan.

[6 marks]
[6 *markah*]

QUESTION 4
SOALAN 4

CLO2
C2

(a) If an output of a combing machine is 500grain/6 yard, calculate the output in oz/yard.

Sekiranya output sebuah mesin combing ialah 500grain/6ela, kira output dalam unit auns/ela.

[4 marks]
[4 *markah*]

CLO2
C3

(b) Calculate 20's in denier unit.

Kirakan 20's dalam unit denier.

[8 marks]
[8 *markah*]

CLO2
C3

(c) Referring to diagram 3, calculate the total draft when using the method of delivery roller revolution for each revolution of feed roller and its respective diameter.

Merujuk rajah 3, kirakan jumlah draft menggunakan kaedah pusingan roller hantaran bagi setiap pusingan roller suapan dan diameter berkaitan.

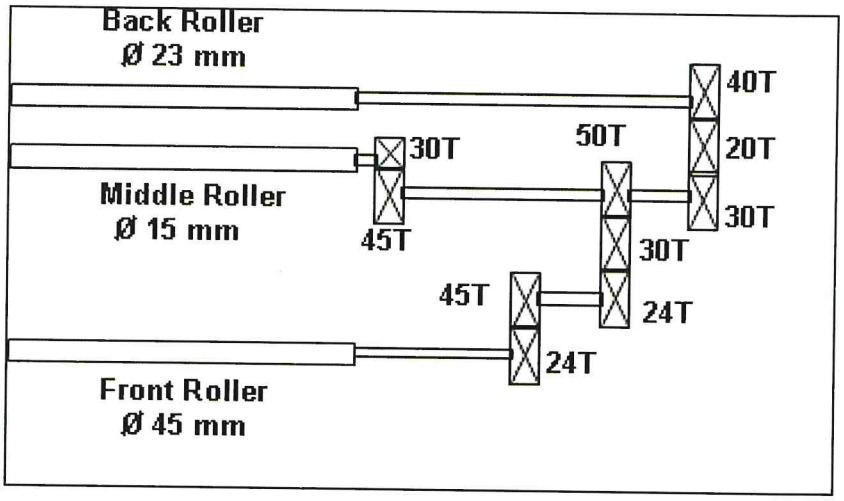

Diagram 3 / *Rajah 3*

[5 marks]
[5 *markah*]

CLO2
C3

(d) A drawing machine specification are as follows:

Machine output / *Output mesin*: 700 gram / 7meter

Efficiency / *Kecekapan*: 90%

Calendar roller diameter / *Diameter calendar roller*: 50mm

Speed of calendar roller / *Kelajuan calendar roller*: 50000rpm

Delivery for each machine / *Hantaran bagi setiap mesin*: 2

Calculate the production for this machine in pound for 24 hours production.

Kira pengeluaran bagi mesin ini dalam paun untuk 24 jam pengeluaran

[8 marks]
[8 *markah*]

SOALAN TAMAT