

THE OPEN UNIVERSITY OF SRI LANKA
FACULTY OF ENGINEERING TECHNOLOGY
DEPARTMENT OF TEXTILE AND APPAREL TECHNOLOGY



Study Programme : Bachelor of Technology Honours in Engineering/
Bachelor of Industrial Studies Honours
Name of the Examination : Final Examination
Course Code and Title : TAX6366/TAX6561
Yarn Manufacture II
Academic Year : 2020/21
Date : 27th January 2022
Time : 0930 -1230 hrs
Duration : **3 hours**

General Instructions

1. Read all instructions carefully before answering the questions.
 2. This question paper consists of **Eight (08)** questions in **Four (04)** pages.
 3. Answer question **One (01)**, which is compulsory, and **Five (05)** additional questions.
 4. Total number of questions to be answered is **Six (06)**.
 5. Question One (01) carries thirty (30) marks and question Two (02) to Eight (08) carry fourteen (14) marks each.
 6. Answer for each question should commence from new page.
 7. Answers should be in clear handwriting.
 8. Do not use red color pens.
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01. Compulsory Question

- a) What is the purpose of wool carbonizing? (02 marks)
- b) State two (02) advantages of “Batch wool blending system” compared to “Stack wool blending system”. (04 marks)
- c) Differentiate between “Single thrown” and “Double thrown” silk yarns. (02 marks)
- d) Draw the anatomy of the flax stem and name main four (04) parts of it. (04 marks)
- e) State three (03) objectives of drawing of jute. (03 marks)
- f) What is the importance of “Weighting” in the process of silk spinning? (02 marks)
- g) “Cutting method” is one of the commonly used tow conversion techniques. Write four (04) advantages of that method. (02 marks)
- h) Write four (04) advantages of using “Continuous false twist method” to produce textured yarns. (04 marks)
- i) Write two (02) distinctive features of the appearance of a “snarl yarn”. (02 marks)
- j) A single yarn of 30 Ne is doubled with the following details. Find whether the doubled yarn is balanced or not. (05 marks)
- a. Contraction of doubling - 3%
 - b. Twist factor - 4

End of the compulsory question**02.**

- a) Briefly explain the importance of wool fibre blending. (04 marks)
- b) Distinguish between woolen yarns and worsted yarns. (04 marks)
- c) Briefly explain why worsted carding machine length is shorter than woolen carding machine length. (06 marks)

03.

- a) Briefly explain the four (04) types of waste silk. (04 marks)
- b) Briefly describe the first three (03) stages of raw silk yarn manufacturing mentioned below. (04 marks)
- i. Sorting
 - ii. Softening
 - iii. Reeling

- c) "Though both jute and flax yarns are bast fibres, carding operation is only carried out in jute yarn manufacturing". Giving reasons, briefly explain the above statement. (06 marks)

04.

- a) Giving reasons, briefly explain why continuous filament yarns are texturized. (06 marks)
- b) With the aid of suitable diagrams, briefly describe the "Edge Crimping" method. (05 marks)
- c) Distinguish between "Air jet textured yarn" and "Stuffer box textured yarn" considering their properties. (03 marks)

05.

- a) Briefly explain main two (02) reasons for yarn folding. (04 marks)
- b) Briefly explain the four (04) basic processing steps in yarn folding. (04 marks)
- c) With the aid of a suitable diagram, briefly explain the operating principle of "Doubler Winder". (06 marks)

06.

- a) Illustrate the material path of a rotor spinning machine indicating important main parts of the machine. (06 marks)
- b) Explain how the yarn is formed by rotor spinning. (06 marks)
- c) Briefly explain the process of trash removal in rotor spinning machine. (02 marks)

07.

- a) Write a short note on the method of "Bobtex Spinning". (06 marks)
- b) Briefly describe three (03) reasons for lubricating filament fibres. (03 marks)
- c) Complete the following table related to the causes for yarn faults. (05 marks)

Fault type	Causes
Slubs	
Fishes	
Spun-in-Fly	
Balls	
Neps	

08. Write short notes on the following topics.

a) Classification of synthetic sewing threads

(07 marks)

b) Classification of textured yarns

(07 marks)

-End of the question paper-