

The Open University of Sri Lanka
Faculty of Engineering Technology
Department of Textile and Apparel Technology



Study Programme	: Bachelor of Science Honours in Engineering / Bachelor of Industrial Studies Honours
Name of the Examination	: Final Examination
Course Code and Title	: TAX4539 Quality Assurance for Textile and Clothing
Academic Year	: 2024/25
Date	: 24 th January 2026
Time	: 1330-1630hours
Duration	: 3 hours

General instructions

1. Read all instructions carefully before answering the questions.
 2. This question paper consists of **Eight (8)** questions in **Three (3)** pages.
 3. Answer **compulsory question one (Q1)** and **additional Five (05) questions**.
 4. Question 01 (Q1) carries twenty five (25) marks and question two (Q2) to eight (Q8) carry fifteen (15) marks each.
 5. Answer for each question should commence from a new page.
 6. This is a Closed Book Test (CBT).
-

Compulsory Question

(Q1) (a) Give two (02) functional quality characteristics of **each** of the following items. (06 marks)

- (i) Curtain Material
- (ii) Bedsheet Material
- (iii) Swimwear Fabric

(b) List five (05) characteristics of buttons that are checked before they are used in garments. (05 marks)

(c) Briefly explain why wool fabrics are subjected to 'Felting shrinkage'. (04 marks)

(d) Define the following terms which are used in a force – elongation curve of a textile material. (06 marks)

- (i) Tenacity
- (ii) Modulus
- (iii) Yield Point

(e) Briefly explain how cotton fibres can be identified using microscopic examination of their longitudinal and cross-sectional views. (04 marks)

Answer any five (05) questions from the following seven (07) questions

(Q2) (a) Explain the concept of quality from the **customer's viewpoint** and the **product viewpoint**. Use suitable textile or apparel-related examples to justify your explanation. (07 marks)

(b) Discuss two (02) different categories of quality costs, giving two (02) examples for **each** category. (08 marks)

(Q3) (a) Explain the following inspection methods used during garment manufacturing. In your answer, briefly describe three (03) main features of each method and state one (01) advantage and one disadvantage (01) of each method. (10 marks)

- (i) In-process inspection
- (ii) Centralized inspection

(b) Explain the importance of twist in sewing threads and its effect on seam quality. (05 marks)

(Q4) (a) A fabric roll was inspected for its quality and found to have the following defects.

Length of the fabric roll = 200 yards, Width of the fabric roll = 45 inches

Defects of 3 inches long or lesser	= 3
Defects of over 3 inches long but less than 6 inches	= 2
Defects of over 6 inches long but less than 9 inches	= 1
Defects over 9 inches	= 3
Holes over 1 inch	= 1

Using the four point system, determine whether the fabric roll is up to the quality standards or not. Use the threshold limit for the acceptance as **28** points per 100 yards².
(09 marks)

(b) Briefly explain three (03) quality points that should be checked on a **Dart** of a garment.
(06 marks)

(Q5) (a) Briefly explain the following woven fabric defects and the causes for **each** of them.
(06 marks)

- (i) Double ends
- (ii) Miss draws
- (iii) Thin place

(b) Describe the process of measuring the drapability of a fabric sample in the laboratory.
(09 marks)

(Q6) (a) Briefly explain the test principle for measuring the water resistance of a fabric sample in water permeability test.
(06 marks)

(b) With the aid of a suitable diagram, briefly explain the cantilever method of measuring the stiffness of a fabric sample in a testing laboratory. (09 marks)

(Q7) (a) Explain the importance of yarn quality in textile production. In your answer, discuss three (03) key yarn quality parameters that are commonly tested and explain how each parameter influences fabric and garment quality. (09 marks)

(b) Discuss the role of cotton fibre properties in determining yarn evenness.
(06 marks)

(Q8) (a) Cotton fibre length can be described in several ways. Explain the terms staple length, effective length, and span length.
(06 marks)

(b) With the aid of a suitable diagram, explain the procedure of measuring the fibre fineness by airflow method.
(09 marks)