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	**: TAX7368/TAX6563 Specialty Fabrics**
Academic Year	: 2020/21
Date	: 02nd February 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.

01. Compulsory question

a) State two (02) fabric properties that influence the comfort property of clothing.

(02 marks)

b) List the typical construction of traditional drill fabric. (02 marks)

c) List two (02) distinctive features about the appearance of the corduroy fabric. (02 marks)

d) State three (03) advantages of Axminster carpet weaving in comparison to Wilton carpet weaving. (03 marks)

e) Define the term "Bottom douping". (02 marks)

f) List four (04) advantages of using double needle bar warp knitting machines to produce spacer fabrics. (04 marks)

g) Briefly explain how tubular fabrics are produced using a two-needle bar warp knitting machine. (04 marks)

h) State the four (04) steps involved in inserting of an inlay yarn into a warp knitted structure. (04 marks)

i) List two (02) advantages of double fabric weaving compared to weaving over wires.

(02 marks)

j) Name the four (04) basic processing steps of making hydro-entangled non-woven fabrics.

(02 marks)

k) List three (03) advantages of synthetic needle punched paper felts. (03 Marks)

-End of the compulsory question-

02.

a) Briefly discuss two (02) style characteristics of clothing. (06 marks)

b) Write short notes on the following parameters of clothing fabrics. (08 marks)
   i. Fabric weight and thickness
   ii. Fabric width

03.

a) List five (05) advantages of "Loop Dyeing" method used for dyeing and sizing of denim warps. (05 marks)

b) Write short notes on the suitability of following machine types for denim weaving.

(09 marks)

   i. Rapier looms

    ii.   Projectile looms

    iii.   Air Jet looms

04.

    a) State five (05) differences between corduroy weaving and standard weaving. (05 marks)

    b) Write short notes on the following aspects related to design of corduroy weaving.

                                                         (09 marks)

        i.   Design of pile weave

        ii.   Design of ground weave

        iii.   Length of weft float

05.

    a) Briefly describe the difference between 3-pick terry weave and 5-pick terry weave in relation to the degree of anchorage of pile yarns with the ground structure.   (04 marks)

    b) State three (03) methods of modifying conventional weaving machines to be suitable for terry weaving.   (06 marks)

    c) Describe the properties of fibre materials used for terry fabric production.   (04 marks)

06.

    a) Briefly explain the following four (04) Axminster carpet types.   (08 marks)

        i.   Spool Axminster

        ii.   Gripper Axminster

        iii.   Spool-gripper Axminster

        iv.   Chenille Axminster

    b) Describe the specialty of shedding mechanism employed in wire looms with the aid of suitable diagrams.   (06 marks)

07.

    a) What is a "Fleecy knitted structure"? Briefly explain reasons of producing fleecy knitted fabrics.   (06 marks)

    b) Discuss the two (02) manufacturing methods of weft knitted plated structures with the aid of suitable diagrams.   (08 marks)

08.

    a) Discuss the operating principle of patterning of needle punched carpets with the aid of suitable diagrams.   (08 marks)

    b) Write short notes on any three (03) applications of non–woven fabrics.   (06 marks)

-End of the question paper-