

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	: TAX3331 Garment Analysis and Sewing Machinery
Academic Year	: 2020/2021
Date	: 01 st February 2022
Time	: 0930 - 1230hrs

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. **Number of questions to be answered = 06**
 4. Answer **Question one (Q1)**; which is compulsory and **Five (05) more** questions.
 5. Question one (Q1) carries 25 marks and questions two (Q2) to eight (Q8) carry fifteen (15) marks each.
 6. Answer for each question should commence from a new page.
 7. Answers should be in clear hand writing.
 8. Do not use red colour pens.
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Compulsory Question

- (Q1) (a) Differentiate the terms "Pattern adoption" and "Preparation of production patterns" considered during the product development process in clothing industry. (02 marks)
- (b) Briefly explain the two (02) major classes under fashionable garment category. (04 marks)
- (c) Write down four (04) factors, which ensure the consistency of seam and stitch formation. (04 marks)
- (d) What do you understand by the terms "Staggered stitching" and "Yarn severance" related to seam defects? (04 marks)
- (e) Briefly describe the two (02) types of tucking attachments used in industrial sewing machines. (04 marks)
- (f) Explain the main function of the "Long groove" of a sewing machine needle. (02 marks)
- (g) Write down three (03) characteristics of the stitch type 406. (03 marks)
- (h) List the two (02) looper types which can be used for the formation of stitch-type 101. (02 marks)

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

- (Q2) (a) Describe the "Method of application" criteria used for garment analysis based on material selection. (02 marks)
- (b) Giving suitable examples, briefly explain the following criteria used for garment analysis.
- (i) Garment fit
 - (ii) Silhouette
 - (iii) Fullness (09 marks)
- (c) List four (04) criteria used to analyze the effectiveness of labels and tickets attached to a garment. (04 marks)

- (Q3) (a) Write short descriptions on the "Stitch formation techniques", "Features" and "Applications" of the given three (03) stitch types. Notations of the stitches are given as in British Standard 3870.
- (i) Stitch type 103
 - (ii) Stitch type 402
 - (iii) Stitch type 602 (09 marks)
- (b) Using suitable diagrams, briefly explain the four (04) steps of two thread chain stitch formation (Stitch type 401). (06 marks)
- (Q4) (a) Differentiate between the "Single turned hem" and "Bound seam with fraying binding material" based on seam construction and applications. You may use suitable sketches if necessary. Names of the seam types are given as in British Standard. (06 marks)
- (b) Briefly explain the reasons for seam neatening and write down two (02) methods of seam neatening. (05 marks)
- (c) Write short notes on the following terms related to the elasticity of a seam.
- (i) Elongation (02 marks)
 - (ii) Recovery (02 marks)
- (Q5) (a) Compare the "Unison feed system" and "Upper and under feed system" based on the working principle and applications. Use suitable sketches if necessary. (06 marks)
- (b) Differentiate between the "Hemming foot" and "Top stitching foot". (04 marks)
- (c) Write down the two (02) main types of needle points. (02 marks)
- (d) Write down the three (03) different types of feed dog teeth used in sewing machines and give the applications for each type. (03 marks)
- (Q6) (a) Write short notes on the two (02) categories given under the seam defect "Fabric damage along the stitch line". Clearly indicate the reasons and solutions to minimize each category. (06 marks)
- (b) Give the functions of following three (03) automation devices used in the clothing industry.
- (i) Pneumatic Hemming guide
 - (ii) Wiper
 - (iii) Metering devices (03 marks)

- (c) Describe the three (03) main effects that cause seam puckering. (06 marks)
- (Q7) (a) Discuss the feeding motions of the feed dog in relation to other parts of the lockstitch machine. (06 marks)
- (b) Briefly describe the main functions of following sewing machine parts.
- (i) Needle bar
 - (ii) Presser bar
 - (iii) Presser foot (03 marks)
- (c) Discuss the driving mechanism of the take up lever (crank type) during lock stitch formation. You may use suitable sketches if necessary. (04 marks)
- (d) Briefly explain the classification of sewing machines based on the degree of automation. (02 marks)
- (Q8) (a) Briefly explain the six (06) steps of lockstitch formation using oscillating shuttle. (06 marks)
- (b) Briefly describe the automatic positioners used as positioning attachments in sewing machines. (05 marks)
- (c) Write down four (04) types of machine beds used in industrial sewing machines. (04 marks)