

THE OPEN UNIVERSITY OF SRI LANKA  
DEPARTMENT OF TEXTILE AND APPAREL TECHNOLOGY  
DIPLOMA IN INDUSTRIAL STUDIES  
TTI3239 - GARMENT ANALYSIS AND SEWING MACHINERY  
FINAL EXAMINATION - 2009/2010  
DURATION: THREE (03) HOURS



DATE: 11<sup>th</sup> March 2010

TIME: 0930 TO 1230 HOURS

Total number of questions = 08

Number of questions to be answered = 06

Answer question one (Q1), which is compulsory and five (05) more questions.

Question one (Q1) carries 25 marks and questions two (Q2) to eight (Q8) carry fifteen (15) marks each.

**Compulsory Question**

- (Q1) (a) Write down the two (02) main functions of clothing. (02 marks)
- (b) State four (04) testing standards (standards test methods), which are widely used in the textile and apparel industry. (04 marks)
- (c) Define the term "Seam", according to the British Standards. (02 marks)
- (d) With the aid of suitable diagrams, give the main construction steps of the "French Seam". (04 marks)
- (e) Chain stitch sewing machines are equipped with two (02) different types of loopers. What are they? (02 marks)
- (f) During the formation of a lock stitch, the needle loop must be enlarged and should be taken around the bobbin in a lock stitch machine. What are the two (02) elements commonly used to perform above mentioned functions. (02 marks)
- (g) Write down the functions of the "Needle", "Take up lever" and the "Presser foot" of a sewing machine. (03 marks)
- (h) Give the two (02) main types of needle points along with their applications. (04 marks)
- (i) What are the two (02) main objectives of the automation of the sewing machines? (02 marks)

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

- (Q2) (a) State three (03) sources, which provide information during the market research. (03 marks)
- (b) Briefly explain the four (04) main stages of the product development process. (12 marks)
- (Q3) Write short notes on **three (03)** of the followings.
- (a) Factors affecting the selection of seams (05 marks)
- (b) Seam dimensions (05 marks)
- (c) Seam neatening methods (05 marks)
- (d) Factors affecting the seam appearance (05 marks)
- (Q4) (a) Briefly explain the three (03) methods of joining the loops of threads, during the stitch formation process. (05 marks)
- (b) Write a short description about the importance of the thread tension during the stitch formation process. (05 marks)
- (c) Write a short note on characteristics and applications of lock stitch type 301. (05 marks)
- (Q5) With the aid of clear diagrams, briefly explain the stitch formation process of the stitch type 101, when the sewing machine is equipped with an oscillatory looper. (15 marks)
- (Q6) Write short notes on the followings.
- (a) Driving mechanism of feed dogs (05 marks)
- (b) Classification of sewing machines according to the bed types (05 marks)
- (c) Classification of sewing machines according to the degree of automation (05 marks)
- (Q7) (a) Classify the feeding systems into three (03) main categories, which are used in sewing machines. Give two (02) examples for each category. (06 marks)
- (b) Briefly explain why different types of feeding systems as well as presser feet are used in sewing machines instead of one particular type for all sewing machines. (09 marks)

- (Q8) (a) State and briefly explain the functions of five (05) automation devices of a sewing machine. (05 marks)
- (b) List five (05) different types of seam pucker, which could occur during garment manufacture. Give possible cause/s and minimising/ avoiding techniques of such seam pucker types. (10 marks)