THE OPEN UNIVERSITY OF SRI LANKA

DEPARTMENT OF TEXTILE AND APPAREL TECHNOLOGY

BACHELOR OF TECHNOLOGY HONOURS IN ENGINEERING/

BACHELOR OF INDUSTRIAL STUDIES HONOURS

TTX3239/TTI3239 - GARMENT ANALYSIS AND SEWING MACHINERY

FINAL EXAMINATION - 2015/2016

DURATION: 03 HOURS

Date: 01st December 2016   **Time: 0930 -1230 hrs**

Total number of questions = 08

Number of questions to be answered = 06

Answer <u>question one (Q1)</u>, which is compulsory and <u>five (05) other</u> questions

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

Compulsory Question

(Q1) (a) List three (03) aspects of product positioning strategy of garments. (03 marks)

(b) Write down three (03) factors, you should consider when selecting seams.

(03 marks)

(c) State two (02) places of a shirt, where "French seam" can be used. (02 marks)

(d) What is the most suitable stitch type for sewing a hem of a T-shirt.   (02 marks)

(e) Give two (02) applications of covering chain stitch sewing machines.

(02 marks)

(f) Write down three (03) factors, which affect the seam appearance. (03 marks)

(g) State three (03) types of semi automatic sewing machines.   (03 marks)

(h) State three (03) types of finishes, which can be used to finish the surface

of needles.   (03 marks)

(I) Give two (02) reasons for thread breakages during sewing process. (02 marks)

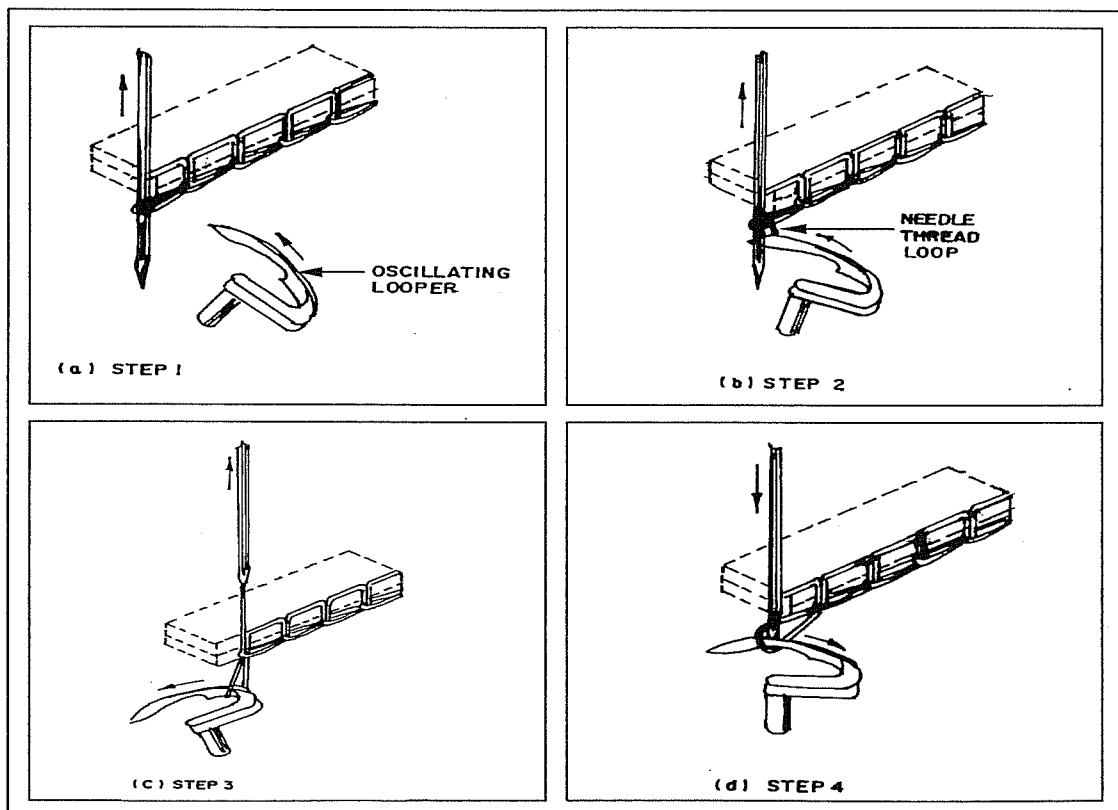(j) Write down the main function of the "Long groove" of a needle.   (02 points)

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

(Q2) (a) Draw a suitable chart to illustrate the process of product development.

(03 marks)

(b) Describe in detail, the four (04) major steps of the process of product

·development.   (12 marks)

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(Q3) (a) Briefly explain goals of professional garment analysis. (06 marks)

(b) Describe in detail, the three (03) major methods of garment analysis used in apparel industry. (09 marks)

(Q4) (a) Write a short note on the seam neatening methods, which are widely used in garment manufacturing. (06 marks)

(b) Describe the three (03) major factors, which affect the performance of the seams. (09 marks)

(Q5) The following diagram illustrates four (4) major steps of formation of stitch type 101. By using the given steps, describe the formation of stitch type 101.

(15 marks)

(a) STEP 1 — OSCILLATING LOOPER

(b) STEP 2 — NEEDLE THREAD LOOP

(c) STEP 3

(d) STEP 4

(Q6) (a) Briefly explain the tasks of "Tensioning devices", "Stitch regulator", "Bobbin", "Sewing hook" , " Take up lever" and "Feed dog" of a lock stitch sewing machine. (06 marks)

(b) Briefly explain three (03) widely used stitch types of stitch class 300. You should include the construction details, properties, characteristics and applications separately for each of the stitch type in your answer. (09 marks)

(Q7) (a) Giving examples, write a short note on the different types of presser feet used sewing machines. (05 marks)

  (b) With the aid of suitable diagrams, describe the mechanisms of "Differential drop feed system" and "Unison feed system". Give their applications separately. (10 marks)

(Q8) (a) "Automation devices have been developed to improve the performance of the sewing machines". Giving suitable examples justify the given statement. (08 marks)

  (b) Discuss the problem of occurring seam pucker due to structural jamming and explain what can be done to avoid/minimise this problem. (07 marks)