2nd SEM. 2017/2018

UNIVERSITY OF SWAZILAND

FINAL EXAMINATION PAPER

PROGRAMME	:	**BACHELOR OF SCIENCE IN TEXTILE, APPAREL DESIGN AND MANAGEMENT and CONSUMER SCIENCE EDUCATION YEAR II**
COURSE CODE	:	**TAD202**
TITLE OF PAPER	:	**OPERATION AND MAINTENANCE OF SEWING MACHINES**
TIME ALLOWED	:	**TWO (2) HOURS**
INSTRUCTION	:	**ANSWER QUESTION ONE (1) AND ANY OTHER TWO (2) QUESTIONS**

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QUESTION 1(COMPULSORY)

a) Industrial sewing machines are specialized for specific functions to ensure efficient apparel production. Describe the specific applications for the following sewing machines.

i) Blind stitch machine

ii) Button hole machine

iii) Button sewing machine

iv) Bar tack machine

(8 Marks)

b) Clearly outline the stitch formation phases that occur in a:

i) Flat/Lockstitch machine – horizontal hook.

ii) Chain stitch machine – oscillating looper

(12 Marks)

c) Give the names of the following classes of stitches and elaborate on the features and applications of each.

i) 100

ii) 300

iii) 400

iv) 500

(4 X 5 = 20 Marks)

[TOTAL MARKS = 40]

QUESTION 2

a) In apparel mass production, appropriate settings and adjustments are made for each design or line. Fully explain when it would be necessary to do the following adjustments and expected consequences if the adjustment is not done.

i) Stitch length adjustment

ii) Feed timing

iii) Height of the feed dog

iv) Timing between the needle and rotating hook

(16 Marks)

b) Puckering is a result of particular sewing conditions. Clearly draw distinctions between puckering caused by the separate effects of the following:

i) Material feeding

ii) Fabric structure

iii) Thread tension

(12 Marks)

c) How is the bobbin thread tension of an electric domestic sewing machine adjusted?

(2 Marks)

[TOTAL MARKS = 30]

QUESTION 3

a) Suggest the most suitable sewing machine for the following customer needs. Justify your answer by highlighting what you had to consider.

i) Sewing school tunics for Swazi National students

ii) Patching worn out clothes

iii) Sewing handbags and shoes

iv) Sewing sports t-shirts for Primary schools in the Shiselweni region

v) Sewing fashionable garments for a local freelancing Fashion designer

(10 Marks)

b) Using the table format below, give **two (2)** possible causes and **two (2)** corrective measures for each of the following sewing faults

Sewing Faults	**Causes** *(two (2) for each fault)*	**Corrective Measure**
i) Thread break		
ii) Needle break		
iii) Irregular seam		
iv) Poor fabric feed		
v) Missed stitches		

(4 X 5 = 20 Marks)

[TOTAL MARKS = 30]

QUESTION 4

a) Industrial sewing machines are driven by electric motors. Describe the **four (4)** most commonly used driving arrangements.

(16 Marks)

b) To achieve the following feed timing, clearly outline the steps you would observe to set the right timing.

i) Standard timing

ii) Advanced timing

iii) Delayed timing

(6 Marks)

c) Convert 10 electrical horsepower (10 hp) to watts in accordance with the units used in Swaziland.

(3 Marks)

d) Which needle system is used for the following machines?

i) Three and five thread overlocker

ii) Single needle lock stitch machine

iii) Blind stitch machine

iv) Lock stitch or button stitch machine

v) Button hole machine

(5 Marks)

[TOTAL MARKS = 30]