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Universiti Tun Hussein Onn Malaysia

**UNIVERSITI TUN HUSSEIN ONN MALAYSIA**

**FINAL EXAMINATION  
SEMESTER II  
SESSION 2017/2018**

COURSE NAME : KNITTING PRODUCTION  
TECHNOLOGY I

COURSE CODE : BNH 20303

PROGRAMME CODE : BNH

EXAMINATION DATE : JUNE / JULY 2018

DURATION : 3 HOURS

INSTRUCTION : ANSWERS ALL QUESTIONS

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THIS QUESTION PAPER CONSISTS OF FIVE (5) PAGES

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- Q1** (a) Differentiate the following, and illustrate with diagram when necessary.
- (i) Wales and course
  - (ii) Weft knitting and warp knitting
  - (iii) Weaving and Knitting
  - (iv) Needle loop and sinker loop
  - (v) Technical face and technical back
- (10 marks)
- (b) (i) Label the parts on the needle in **Figure Q1 (b) (i)** and describe the function of each parts.
- (4 marks)
- (ii) With the aid of schematic diagram, show the loop formation for the needle shown in **Figure Q1 (b) (i)**.
- (6 marks)
- Q2** (a) Define needle gauge. Compare the fabrics with higher and lower gauge in terms of fabric density and number of needles per inch.
- (5 marks)
- (b) Assuming the same yarn is used to design 3x3 rib and 2x2 rib, select the suitable design that would produce a thicker fabric. Justify your answer.
- (5 marks)
- (c) Create a point paper for Interlock construction. Draw the same repeat on six courses, with the first four courses knitting two effective Interlock courses while the fifth course knits loops only on the front bed. Whereas the sixth one knits loops only on the back bed.
- (10 marks)

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- Q3** There are four primary structures in weft knitting that denote the basic structures of a weft knitted fabric.
- (a) By using schematic diagrams or symbolic notations, identify these four structures. (8 marks)
  - (b) Compare the **FOUR (4)** primary structures identified in **Q3 (a)** in terms of their appearance, extensibility, and curling tendency. (12 marks)
- Q4** (a) You are a designer for a sportswear and active clothing retailer, for a new range of sportswear products including tops, shirts and inner garment. You have been given two sets of fabric samples; knitted and woven.
- (i) Name the type of fabric sample that you will choose and justify your answer. (5 marks)
  - (ii) Point out the required fabric properties for a functional and comfortable sportswear product? (4 marks)
- (b) Dimensional stability due to laundry is a test used to measure the linear dimensional change and appearance of fabrics resulting from exposure to laundry. Explain **THREE (3)** importance of performing dimensional stability testing. (3 marks)
- (c) Positive yarn feeding system has influence to the quality of fabric. In yarn supply system of circular knitting machine, quality adjustment pulley or variable diameter pulley is one of an important part to drive the positive feeding system.
- (i) Explain the function of pulley and the significance of positive yarn feeding to the fabric quality. (4 marks)
  - (ii) Plot a graph to show the relationship of pulley diameter to the value of grams per square meter (GSM). (4 marks)

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- Q5** (a) With the aid of a diagram, illustrate the symbol of cam profile of knit, tuck and miss. Analyse the differences among all the cams. (6 marks)
- (b) In knitting, apart from stitches for surface interest and other functional purposes, there are other techniques that could be employed to produce designs in coloured stitches. State the **FOUR (4)** primary techniques to produce designed in coloured stitches. (4 marks)
- (c) Compare the knitted structure of fleece fabrics and plush/pile fabrics. (4 marks)
- (d) Weft knitting machines can be classified into several types based on several factors. Assume you are in charge of selecting weft knitting machines in your company. Prepare **THREE (3)** criteria that contribute to the classifications of weft knitting machines in order to choose a suitable machine to fit the needs of the company. (6 marks)

**-END OF QUESTIONS-**

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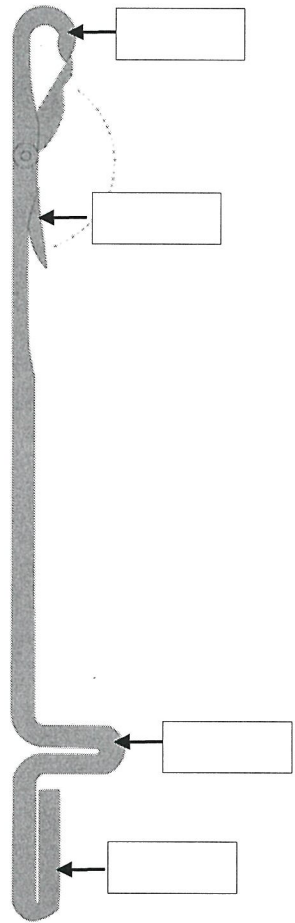


Figure Q1 (b) (i)

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