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UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER II
SESSION 2013/2014**

COURSE NAME : KNITTING PRODUCTION
TECHNOLOGY I
COURSE CODE : BNH 20303
PROGRAMME : 2 BNH
EXAMINATION DATE : JUNE 2014
DURATION : 3 HOURS
INSTRUCTION : SECTION A) : ANSWER ALL
QUESTIONS
SECTION B) : ANSWER **THREE**
(3) QUESTIONS ONLY

THIS QUESTION PAPER CONSISTS OF **FOUR (4)** PAGES

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SECTION A

Q1 Differentiate the following, and illustrate with diagram when necessary.

- (i) Face loop and reverse loop
- (ii) Weft knitting and warp knitting
- (iii) Wales and courses
- (iv) Technical front and technical back
- (v) Flat machine and circular machine

(10 marks)

Q2 (a) Write the definition of needle gauge. Explain the effect of needle gauge on the characteristic of a knit fabric.

(4 marks)

(b) Assuming the same yarn is used to produce rib fabric on a two different machines, 7G machine and 12G machine, which machine will produce the tighter fabric? Justify your answer.

(6 marks)

Q3 (a) With the aid of a labelled diagram, state the function of clearing cam, raising cam and stitch/lowering cam in a cam system of a flat knitting machine.

(5 marks)

(b) Illustrate the cam and needle arrangement for the production of interlock structure.

(5 marks)

Q4 (a) You are required to produce a knitted fabric with the following details;

Fabric structure : interlock
Machine : double jersey circular knitting machine
Fabric design : three colours stripe
Height of stripe : 5 courses

Sketch the yarn feeding system to produce this fabric by showing the feeder number and threading plan, cam setting and the needle gaiting.

(6 marks)

- (b) Compare the knitted fleecy fabrics with knitted plush/pile structures. (4 marks)

SECTION B

- Q1** (a) Draw and label a bearded needle. State the function of each part of the needle. (5 marks)

- (b) With the aid of schematic diagram(s), show the formation of a knit stitch on a bearded needle. Describe briefly each phase of the operation. (10 marks)

- (c) Illustrate and explain the working principle of a sinker in the formation of a stitch on a latch needle. (5 marks)

- Q2** There are four primary weft knit structures known in textile industry.

- (a) By using appropriate diagrams, identify these four structures by comparing **THREE (3)** of their general characteristics. (16 marks)

- (b) Describe briefly the formation of these structures. (4 marks)

- Q3** With the aid of an illustration, explain the main parts of a modern circular knitting machine. Predict the effect to the knitting production if the maintenance for each of these parts is neglected. (20 marks)

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- Q4** Knitted structure is undoubtedly popular among textile users as well as manufacturers due to its characteristic which are hardly found in other textile structures and the simplicity in production.

- (a) Discuss **THREE (3)** advantages and **TWO (2)** disadvantages of weft knitted structure in comparison with woven structure. (15 marks)
- (b) From your point of view, analyse the reasons of simplicity in knitting production. (5 marks)

- END OF QUESTION -

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