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UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER II
SESSION 2018/2019**

COURSE NAME : STRUCTURE AND PROPERTIES OF FIBRES
COURSE CODE : BNH 20102
PROGRAMME CODE : BNH
EXAMINATION DATE : JUNE /JULY 2019
DURATION : 2 HOURS
INSTRUCTION : ANSWER **FOUR (4)** QUESTIONS **ONLY**

THIS QUESTION PAPER CONSISTS OF **THREE (3)** PAGES

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- Q1**
- (a) Define man-made fibres. Illustrate the classification of man-made fibres to support your answer. (9 marks)
 - (b) Compare natural and man-made fibres. (10 marks)
 - (c) Discuss **THREE (3)** desirable qualities of fibres for textile purposes. (6 marks)
- Q2**
- (a) Describe the properties of long staple cotton. (6 marks)
 - (b) Choose and explain **ONE (1)** of the characteristics of rayon fibers and products. (4 marks)
 - (c) Discuss the importance of morphological studies on fibres. Suggest and describe a suitable test for the above properties. (9 marks)
 - (d) Sketch and describe the microscopic appearance of wool. (6 marks)
- Q3**
- (a) Silk is an animal protein fibre produced by certain insects to build their cocoons and webs. Explain in detail the **TWO (2)** types of silk. (5 marks)
 - (b) With an aided schematic diagram, explain in detail the process of obtaining cotton ball from cotton plant. (10 marks)
 - (c) Illustrate a schematic flowchart of viscose rayon manufacturing process. (10 marks)
- Q4**
- (a) Briefly discuss **THREE (3)** suitable tests to characterize the properties of fibres. (9 marks)
 - (b) As an industrial textile technologist, you are required to identify **TWO (2)** types of fibres coded as Fibre A and Fibre B. The only given clues that they are coming from animal and vegetables source. By using solvent method, discuss on how to identify the source of these two fibres. (10 marks)

- (c) Describe **TWO (2)** characteristics of polyester fibre. In your opinion, discuss the effect of polyester fibre when treated with a strong heat. (6 marks)

Q5 (a) Natural fibres absorb moisture better than man-made fibres. Suggest **ONE (1)** natural fibre that is suitable for clothing purposes. Discuss your answer. (10 marks)

- (b) Analyze rayon fibres including its uses for non-clothing textiles. (6 marks)

- (c) Explain fibre blend and discuss **FIVE (5)** benefit of using fibre blends in the textile industry. (9 marks)

-END OF QUESTIONS-