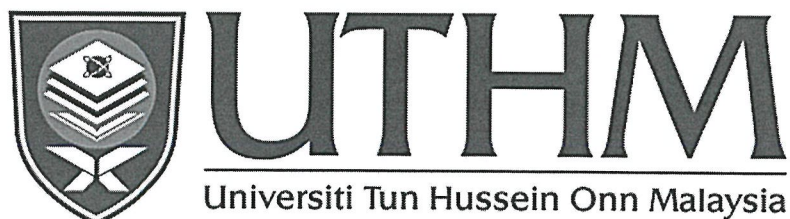


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UNIVERSITI TUN HUSSEIN ONN MALAYSIA

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

COURSE NAME : STRUCTURE AND PROPERTIES OF FIBRES
COURSE CODE : BNH 20102
PROGRAMME CODE : BNH
EXAMINATION DATE : JUNE / JULY 2018
DURATION : 2 HOURS
INSTRUCTION : ANSWERS **FOUR (4)** QUESTIONS ONLY

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

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- Q1** (a) Discuss **THREE (3)** desirable qualities of fibres for textile purposes. (6 marks)
- (b) Compare natural and man-made fibres. (10 marks)
- (c) Define man-made fibres. Illustrate the classification of man-made fibres to support your answer. (9 marks)
- Q2** (a) Define resiliency and give **TWO (2)** examples of fibres with which have high resiliency. (6 marks)
- (b) Based from **Figure Q2(b)**, relate **FOUR (4)** mechanical properties which can be obtained from a stress-strain curve. (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 the degumming process in silk production. (5 marks)
- (b) With an aided schematic diagram, describe the process of obtaining wool from sheep. (10 marks)
- (c) Illustrate a schematic flowchart of viscose rayon manufacturing process. (10 marks)
- TERBUKA**
- 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, what will happen when this fibre is 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) Explain fibre blend and discuss **FIVE (5)** benefit of using fibre blends in the textile industry.

(9 marks)

- (c) Analyze rayon fibres including its uses for non-clothing textiles.

(6 marks)

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-END OF QUESTIONS-

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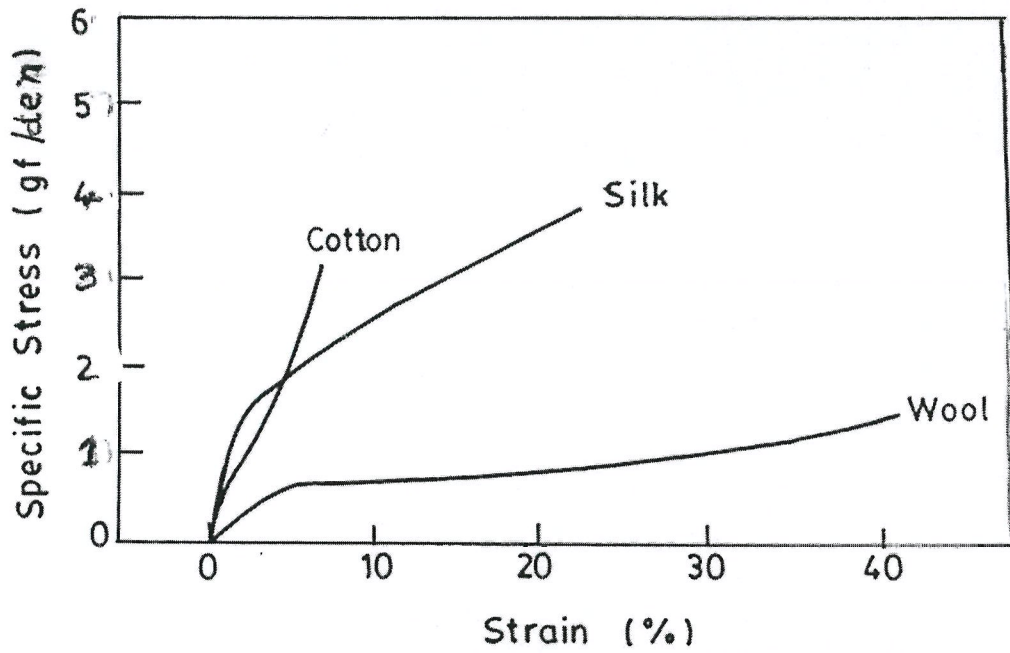


Figure Q2(b)

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