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Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER I
SESSION 2015/2016**

COURSE NAME : TECHNICAL TEXTILES
COURSE CODE : BNH 40503
PROGRAMME : 4 BNH
EXAMINATION DATE : DECEMBER 2015/JANUARY 2016
DURATION : 2 HOURS 30 MINUTES
INSTRUCTION : ANSWER ALL QUESTIONS

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

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- Q1**
- (a) Define technical textiles and explain the major differences between industrial and non-industrial textiles. (5 marks)
 - (b) Discuss briefly about :-
 - i. Carbon Fiber
 - ii. Metal Fiber
 - iii. Aramid Fiber(3 marks)
 - (c) Discuss briefly the various applications of technical textiles. (6 marks)
 - (d) What are the advantages and disadvantages of woven and nonwoven fabrics structures for filtration. (6 marks)
- Q2**
- (a) What are the major test methods to measure the efficiency of filters. (2 marks)
 - (b) Point out various factors to be considered while designing a filter fabric. (6marks)
 - (c) State and explain the criteria for selection of fibres and fabrics for different geotextiles applications. (7 marks)
 - (d) Discuss the application of geotextile as reinforcement in soil. (5 marks)

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- Q3**
- (a) Classify medical textiles on the basis of fibres used in their production. State and explain the applications of some of the important fibres in medical textiles.
(7 marks)
 - (b) What are biodegradability and bioabsorbability and point out the major characteristics of these types of materials.
(5 marks)
 - (c) What are implantable materials? Analyze, in detail, some of the important implantable materials, with the help of diagrams, wherever necessary.
(6 marks)
 - (d) Define a clean room textile and explain what kind of fabrics are used for clean room.
(2 marks)
- Q4**
- (a) State some of the applications of protective textiles. Explain in detail about the raw materials, characteristics and requirements of bullet-proof jackets.
(5 marks)
 - (b) What are the requirements for camouflage fabrics for different climate and landscape condition.
(2 marks)
 - (c) What are the two ways to achieve flame resistance in textile materials. Propose the advantages and disadvantages of both method.
(6 marks)
 - (d) State the most preferred fibre used for the manufacturing of air-bag and justify the same, in detail, with the help of proper reasoning.
(7 marks)

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- Q5**
- (a) What are the main fibers and fabrics used in marine product. (2 marks)
 - (b) State the requirements for textiles used for automotive applications and hence categorize some of the most important areas of applications of automotive textiles. (8 marks)
 - (c) Explain the function and property requirements of tyre cord. (5 marks)
 - (d) Explain the advantages that textile offer in electronics. (5 marks)

- END OF QUESTION -