

NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

DEPARTMENT OF TECHNICAL TEACHER EDUCATION

END OF SECOND SEMESTER EXAMINATIONS - May 2011

TBE 1292 - TESTING OF YARNS, FABRICS AND PRODUCTS

TIME: 3 HOURS

INSTRUCTIONS

1. Answer **Question 1** and **2** and **ANY OTHER TWO** questions. Each question carries **25 marks**.
2. The first fifteen minutes should be spent reading the question paper and making notes.
3. Do not open your answer sheet until told to do so.
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Marks will be awarded for skill in appreciating the scope of questions, clarity of argument and conciseness of presentation as well as for the knowledge displayed by the candidate.

QUESTION 1

Outline the procedure you would follow to organise the Quality Control Department in a textile factory. **(25)**

QUESTION 2

- (a). The thermal transmittance of a fabric is of considerable importance in determining its suitability for use in fabricating cold weather protective gear and clothing. List five (5) factors which contribute to thermal properties fabrics **(5)**
- (b). With the aid of a diagram describe the Spray Test **(10)**
- (c). Fabric pilling is a serious problem for the apparel industry. Discuss. **(10)**

QUESTION 3

- (a). State the reasons for the determination of cotton fibre properties and discuss how the raw material characterization data can be utilized in a spinning mill. **(20)**

- (b).List fibre properties that can be determined using the High Volume Fibre Instrument (HVI). (5)

QUESTION 4

- (a). What are the causes and effects of yarn hairiness? (13)
- (b). Give the advantages of the new hairiness test methods and how does test speed affect the results. (7)
- (c). More than 70 methods tried/experimented to measure hairiness since 1953 but only a few of them are still used –List five (5) test methods you know. (5)

QUESTION 5

- (a). What is the function of twist in yarns? State what precautions must be taken during twist determination to ensure that reliable results are obtained. (15)
- (b). What factors affect the abrasion resistance of yarns? (5)
- (c). With the aid of a line diagram describe the principle of operation of the Uster Evenness tester. (5)

END OF EXAMINATION QUESTION PAPER