



NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

DEPARTMENT OF TECHNICAL TEACHER EDUCATION

END OF SECOND SEMESTER EXAMINATIONS - SEPTEMBER 2010

TBE 1292 TESTING OF YARNS, FABRICS AND PRODUCTS

TIME: 3 HOURS

INSTRUCTIONS

1. Answer **Question 1** and **5** 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) 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 3

- (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 4

- (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]

QUESTION 5

- (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]

END OF QUESTION PAPER