



# MACHAKOS UNIVERSITY

University Examinations 2023/2024 Academic Year

SCHOOL OF HUMANITIES AND SOCIAL SCIENCES

DEPARTMENT OF FASHION DESIGN AND MARKETING

THIRD YEAR FIRST SEMESTER EXAMINATION FOR

BACHELOR OF SCIENCE (FASHION DESIGN AND MARKETING)

**HFM 308: TEXTILE PERFORMANCE TESTING**

**DATE:**

**TIME:**

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## INSTRUCTIONS

- i) *This paper consists of **five** questions.*
- ii) *Answer **Question 1** and any other **two** questions.*
- iii) *Question 1=20 marks*
- iv) *Question 2 to 5=15 marks each*

## QUESTION ONE (COMPULSORY) (30 MARKS)

- a) Define the following terminologies as used in textile performance testing.
  - i. Bursting strength. (1 mark)
  - ii. Abrasion. (1 mark)
  - iii. Fume fading. (1 mark)
  - iv. Moisture Regain. (1 mark)
  - v. Pilling. (1 mark)
  - vi. Hygroscopic fibres. (1 mark)
  
- b) Identify the four (4) test methods that are used to determine the tear strength of a fabric. (4 marks)
  
- c) Outline five physical features of a fibre that are affected by the amount of moisture the fibres absorb. (5 marks)
  
- d) Describe the oven method of measuring the moisture content and regain in textile fibres. (5 marks)

### **QUESTION TWO (15 MARKS)**

- a) Outline eight (8) key objectives of testing textiles. (8 marks)
- b) Discuss seven (7) flaws that could be detected in finished knitted fabrics. (7 marks)

### **QUESTION THREE (15 MARKS)**

With aid of a diagram explain how the warp reel method is used to measure long lengths of yarns.

### **QUESTION FOUR (15 MARKS)**

Explain at least five (5) fabric characteristics that will affect the burning degree of flammability of a fabric.

### **QUESTION FIVE (15 MARKS)**

Discuss the results of the following identification tests on the stated textile fibres.

- a) Burning test on:
- i) Cotton.
  - ii) Silk.
  - iii) Polyester.
  - iv) Acetate rayon.
  - v) Wool. (10 marks)
- b) Shirlastain test on:
- i) Wool
  - ii) Linen
  - iii) Viscose rayon
  - iv) Nylon
  - v) Jute. (5 marks)