



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:

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)