



MACHAKOS UNIVERSITY

University Examinations 2023/2024 Academic Year

SCHOOL OF HUMANITIES AND SOCIAL SCIENCES

DEPARTMENT OF FASHION DESIGN AND MARKETING

FIRST YEAR FIRST SEMESTER EXAMINATION FOR

BACHELOR OF SCIENCE (FASHION DESIGN AND MARKETING)

ADF 100: INTRODUCTION TO FIBRES, YARNS AND FABRICS

DATE:

TIME:

INSTRUCTIONS

- i) This paper consists of **five questions**.
- ii) Answer **Question 1** and any other **two** questions.
- iii) Question 1=30 marks
- iv) Question 2 to 5=20 marks each

QUESTION ONE (COMPULSORY) (30 MARKS)

- a) Define the following terms used in this course.
 - i. A textile fibre. (2 marks)
 - ii. Regenerated fibres. (2 marks)
 - iii. Scutching. (2 marks)

- b) State the difference between the following terms.
 - i. Bombyx Mori and Tussah. (2 marks)
 - ii. Shoddy wool and Mungo wool. (2 marks)
 - iii. Right-hand twill and Left- hand twill. (2 marks)
 - iv. Balanced yarns and unbalanced yarn. (2 marks)
 - v. Needle bonding and Stitch bonding. (2 marks)

- c) Highlight (8) eight qualities of good sewing thread. (4 marks)

- d) Explain four (4) characteristics of fabrics made through the following construction methods:
 - i. Plain weave. (2 marks)
 - ii. Felt. (2 marks)

iii. Twill Weave. (2 marks)

e) List eight (8) properties of the spandex fibre which make it popular for use in home furnishings and apparel fabrics. (4 marks)

QUESTION TWO (20 MARKS)

Explain why and how the following finishes are done on textiles.

- i. Singeing
- ii. De-sizing
- iii. Tentering
- iv. Mercerization
- v. Discharge Printing
- vi. Tie and Dye
- vii. Napping
- viii. Giggling
- ix. Sizing
- x. Heating Setting.

QUESTION THREE (20 MARKS)

Explain the production and processing of cotton.

QUESTION FOUR (20 MARKS)

Discuss four (4) ways in which each of the following fibres can be identified when subjected to the burning (thermal) test.

- a) Linen. (4 marks)
- b) Wool. (4 marks)
- c) Viscose rayon. (4 marks)
- d) Polyester. (4 marks)
- e) Nylon. (4 marks)

QUESTION FIVE (20 MARKS)

- a) Outline ten (10) positive properties of Acrylic that make it popular for use in general apparel and travel wear. (10 marks)
- b) The Twill weave is commonly used to make textile fabrics. Explain the different methods of naming the twill weave. (10 marks)