



MACHAKOS UNIVERSITY

University Examinations 2017/2018

SCHOOL OF HUMANITIES AND SOCIAL SCIENCES

DEPARTMENT OF FASHION DESIGN AND MARKETING

FIRST YEAR FIRST SEMESTER EXAMINATION FOR BACHELOR OF
SCIENCE IN FASHION DESIGN AND MARKETING

HFM 100: INTRODUCTION TO TEXTILES

DATE: 13/12/2017

TIME: 11:00 – 1:00 PM

INSTRUCTIONS:

This paper consists of **five** questions.

Answer Question 1 and any other **two** questions

Question 1 carries 30 marks

Question 2-5 carry 20 marks each

QUESTION ONE (COMPULSORY) (30 MARKS)

- (a) (i) State the two main fiber classifications of fibers based on fiber length (2 marks)
- (ii) List two types of vegetable fibers found in Kenya (2 marks)
- (iii) Name two types of animal fibers found in Kenya (2 marks)
- (iv) State the minimum length to breadth ratio for a material to be considered as a textile fiber (1 mark)
- (b) Identify the fibers represented by the following longitudinal morphology (2 marks)



(c) Fill the table below

Property	Rayon	Polyester	Silk
Flammability	burns rapidly	(i)	burns with feather like smell
Luster	High	Bright or dull	(ii)
Specific Gravity (compared to cotton)	(iii)	lower	(iv)
Microscopic Appearance	Striations	(v)	circular
Elasticity	low	Fair to good	Moderate
Property	Rayon	Polyester	Silk

(d) With special reference to appearance of textile materials;

- (i) Describe the difference between dyeing and printing (4 marks)
- (ii) Explain the purpose of using delusterants in textile fibers (2 marks)
- (iii) List two metallic salts used as delusterant (2 marks)
- (e) (i) Highlight the three types of basic weaves (3 marks)
- (ii) Explain the main differences between woven and knitted fabrics (5 marks)

QUESTION TWO (20 MARKS)

Discuss the following textile fiber properties;

- (a) High length to width ratio (6 marks)
- (b) Tenacity (5 marks)
- (c) Flexibility (2 marks)
- (d) Uniformity (2 marks)
- (e) Cohesiveness or spinning quality (5 marks)
- (f) Chemical reactivity and resistance (3 marks)

QUESTION THREE (20 MARKS)

Describe to university students on a study tour of your firm how the following woven fabric properties can be determined;

- (a) Ends per cm (4 marks)
- (b) Picks per cm (4 marks)
- (c) Count of yarns in a woven fabric (12 marks)

QUESTION FOUR (20 MARKS)

Explain the purpose of the following processes in textile processing;

- (a) Sizing (3 marks)
- (b) Scouring (3 marks)
- (c) Bleaching (3 marks)
- (d) Coloration (5 marks)
- (e) Anti-shrink finish (2 marks)
- (f) Desizing (4 marks)

QUESTION FIVE (20 MARKS)

Describe the following processes in wool production;

- (a) Shearing (4 marks)
- (b) Grading and sorting (4 marks)
- (c) Cleaning and scouring (6 marks)
- (d) Wet processing;
 - (i) Fulling (2 marks)
 - (ii) Crabbing (2 marks)
 - (iii) Decanting (2 marks)