

2803/102
TEXTILE SCIENCE I AND CLOTHING
CONSTRUCTION I THEORY
Oct./Nov. 2021
Time: 3 hours



THE KENYA NATIONAL EXAMINATIONS COUNCIL

DIPLOMA IN FASHION DESIGN AND CLOTHING TECHNOLOGY

MODULE I

TEXTILE SCIENCE I AND CLOTHING CONSTRUCTION I THEORY

3 hours

INSTRUCTIONS TO CANDIDATES

This paper consists of TWO sections; A and B.

Answer any THREE questions from section A and any TWO questions from section B in the answer booklet provided.

Maximum marks for each part of a question are as indicated.

Candidates should answer the questions in English.

This paper consists of 3 printed pages.

Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.

SECTION A: TEXTILE SCIENCE I (60 marks)

Answer any **THREE** questions from this section.

1. (a) Identify **four** characteristics of combed cotton fibres. (4 marks)
- (b) Outline the procedure for fibre identification using a burning test. (5 marks)
- (c) Explain **two** objectives of each of the following:
- (i) sizing; (4 marks)
 - (ii) singeing. (4 marks)
- (d) Outline **three** properties of asbestos fibres. (3 marks)
2. (a) Define each of the following terms:
- (i) denier;
 - (ii) tex;
 - (iii) cotton count;
 - (iv) a blended yarn. (4 marks)
- (b) Explain **three** objectives of permanent finishes in fabrics. *Sustainability, Decoration* (6 marks)
- (c) Explain **five** factors that determine yarn end use. *Strength* (10 marks)
3. (a) Outline **six** characteristics of textile materials with low fabric count. (6 marks)
- (b) Explain **three** factors which contribute to the behaviour of wool fibres. (6 marks)
- (c) Describe each of the following processes citing **two** effects in each case:
- (i) calendering; (4 marks)
 - (ii) tentering. (4 marks)
4. (a) Explain **three** factors which may determine the retting method in linen fibre production. *- Moist - The burlap of linen should not be light
- Cross-berry - The ability of the fabric to absorb and decompose when immersed in water.
- The type of chemical used in the retting, sulphuric acid* (6 marks)
- (b) Explain **three** factors which can determine a yarn spinning method. (6 marks)
- (c) Outline **three** factors which influence the properties of denim fabrics. (6 marks)
- (d) Distinguish between 'woollen' and 'worsted' yarns. (2 marks)
- woollen - yarn from animals - sheep
worsted - yarn from plants.*

5. (a) Describe the term 'weighted silk', citing **two** of its characteristics. (4 marks)
*High absorbency
Bleachable.*
- (b) Explain **three** objectives of labelling textile products. (6 marks)
*- Guidance
Accuracy*
- (c) Explain **three** factors which can contribute to achieving better dyeability of cotton fabrics. (6 marks)
- (d) Outline **four** factors to observe in stain removal. (4 marks)

SECTION B: CLOTHING CONSTRUCTION I (40 marks)

Answer any TWO questions from this section.

6. (a) Outline **six** factors which can affect the quality of stitches in machine sewing. (6 marks)
- (b) Highlight **five** causes of sewing machine breakdown. (5 marks)
- (c) Outline the procedure for preparing and fixing a sailor's collar. (9 marks)
7. (a) Identify **five** ways of finishing a raw edge. (5 marks)
- (b) Highlight **four** reasons for keeping tools safely. (4 marks)
- (c) Outline **five** factors to consider when choosing a pleat type. (5 marks)
- (d) Explain **three** functions of a facing in garment making. (6 marks)
8. (a) Outline **three** advantages of velcro fastener. (3 marks)
- (b) Describe the procedure for constructing a blouse with the following details:
- faced neckline;
- single front yoke;
- lower front with pleats;
- short sleeves gathered into a band;
- machine hem. (15 marks)
- (c) Outline **two** ways of minimising injuries in a garment construction workshop. (2 marks)

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