

2803/102

TEXTILE SCIENCE I AND
CLOTHING CONSTRUCTION I

June/July 2016

Time: 3 hours



THE KENYA NATIONAL EXAMINATIONS COUNCIL

DIPLOMA IN FASHION DESIGN AND CLOTHING TECHNOLOGY

MODULE I

TEXTILE SCIENCE I AND CLOTHING CONSTRUCTION I

3 hours

INSTRUCTIONS TO CANDIDATES

You should have an answer booklet for this examination paper.

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 shown.

Candidates should answer the questions in English.

This paper consists of 4 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** the part of the plant from which each of the following fibres are obtained:
- (i) linen; - *burd / long* (1 mark)
 - (ii) hemp; - *leaf* (1 mark)
 - (iii) coir; - *fruit* (1 mark)
 - (iv) cotton. - *seed* (1 mark)
- (b) Outline **three** industrial uses of each of the following fibres:
- (i) sisal; (3 marks)
 - (ii) linen. (3 marks)
- (c) Explain **five** desirable qualities of sewing threads. (10 marks)
2. (a) State **seven** advantages of linen fibres. (7 marks)
- (b) Distinguish between 'warp yarn' and 'weft yarn'. (4 marks)
- (c) Explain the following cotton fibre production processes citing the resulting product in each case:
- (i) ginning; (3 marks)
 - (ii) carding; (3 marks)
 - (iii) drawing. (3 marks)
3. (a) Describe each of the following yarn types:
- (i) ply; (1 mark)
 - (ii) cable. (1 mark)
- (b) Explain **four** precautions to observe when conducting a chemical test for fibre identification. (8 marks)
- (c) (i) With the aid of clear illustrations, distinguish between the appearance of a ' $\frac{3}{1}$ left hand' and ' $\frac{3}{1}$ right hand' twill. (6 marks)
- (ii) State **four** characteristics of twill fabrics with long floats. (4 marks)
4. (a) Describe each of the following fabric finishes:
- (i) glazing; - *Applied to cloth with starch or resin, which is set by heat* (2 marks)
 - (ii) embossing; - *Process where surface given a 3D effect by heat & pressure* (2 marks)
 - (iii) fulling. - *Process where fabric is treated with moisture, heat & pressure to shrink & felt* (2 marks)

- (b) (i) Explain **two** reasons for colouring fabrics. ^{Permanence} ^{Penetration} (4 marks)
- (ii) Identify **two** situations that may necessitate fabric dyeing rather than printing. ^{Texture} ^{Make} (2 marks)
- (c) (i) Outline **four** advantages of starching fabrics. ^{starching} (4 marks)
- (ii) State **four** limitations of napped fabrics. (4 marks)
5. (a) Explain the following wool fibre terms:
- (i) shoddy wool; ^{strong wool} (2 marks)
- (ii) virgin wool; ^{Not used} (2 marks)
- (iii) garnetting. ^{Finest wool from wool} ^{recycled wool fibre obtained by reducing the use of unused} (2 marks)
- (b) Explain the following fabric colouration terms:
- (i) off shade; (2 marks)
- (ii) tender spot; (2 marks)
- (iii) reactive dyes. (2 marks)
- (c) Illustrate the longitudinal microscopic appearance of each of the following:
- (i) wool; ^{Tender microscopic} (2 marks)
- (ii) linen. (2 marks)
- (d) Explain each of the following in relation to weft knitted fabrics:
- (i) laddering; (2 marks)
- (ii) dimensional stability. (2 marks)

SECTION B: CLOTHING CONSTRUCTION I (40 marks)

Answer any TWO questions from this section.

6. (a) Highlight **six** characteristics of well made lockstitches in a seam. (6 marks)
- (b) With the aid of illustrations, explain the procedure for applying a facing on a neckline. (14 marks)

7. (a) Highlight **four** care procedures for each of the following:
- (i) cutting shears; *do not fold sharp* (4 marks)
 - (ii) electric iron. *placed in dry place
- switched off when done
- not made for water use* (4 marks)
- (b) State the functions of each of the following parts of a sewing machine:
- (i) balance wheel; *- start and stop machine* (1 mark)
 - (ii) spool pin; *- hold in position on the main thread* (1 mark)
 - (iii) feed dog. *- feed material to the machine.* (1 mark)
- (c) With the aid of illustrations, explain the procedure for inserting a raglan sleeve. (9 marks)
8. (a) Highlight the use of each of the following:
- (i) tailor's ham; (1 ½ marks)
 - (ii) sleeve board. (1 ½ marks)
- (b) Outline **four** measures one should take to prevent an electric shock. (4 marks)
- (c) (i) Outline the procedure for making an in-seam pocket. (7 marks)
- (ii) Identify **six** sewing machine attachments. (6 marks)
- pressure foot
pressure foot lever
pressure foot
Needle clamp - screw
Feed dog
Spool pin*
- cut a pocket section
Tack*

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