

### 3.7 HOME SCIENCE (441)

The year 2014 Home science examination tested mastery and application of knowledge and skills as specified in the syllabus. This year's report gives an analysis of the performance of candidates both in the theory and clothing construction practical paper. It concentrates on the items that were not well performed.

The report gives the expected responses and the weaknesses of the candidates in the poorly performed items. It goes further to give recommendations to the teachers on how to improve the teaching/learning processes for future learning and assessment.

#### **Paper 1 (441/1) Home Science Theory**

This is a theory paper which comprises three sections worth 100 marks as follows:

**Section A:** consists of short structured questions worth 40 marks.

**Section B:** consists of one compulsory application question worth 20 marks.

**Section C:** consists of three essay questions worth 20 marks each. Candidates are required to answer any two out of the three questions.

#### **Paper 2 (441/2) Clothing Construction**

This is a practical paper which tested the candidates on the application of skills in clothing construction. The paper is worth 45 marks.

#### **Paper 3 (441/3) Foods and Nutrition**

This is a practical paper which tested on skills in Foods and Nutrition. The paper is worth 25 marks. Candidates were required to prepare and serve a meal. It is considered a project paper and is assessed by the teachers at the school.

#### **3.7.1 GENERAL PERFORMANCE OF THE CANDIDATES**

The table below shows the candidature and the overall performance in the KCSE Home science examination in the last four years.

**Table 15: Candidates' Performance in the last four years**

Year	Paper	Candidature	Maximum Score	Mean Score	Standard Deviation
2011	1	12,995	100	53.27	12.47
	2		70	24.88	7.54
	Overall		<b>170</b>	<b>78.15</b>	<b>17.79</b>
2012	1	13,463	100	57.98	11.35
	2		45	24.92	7.98
	3		25	14.26	2.60
	Overall		<b>170</b>	<b>96.84</b>	<b>19.16</b>
2013	1	13,299	100	59.15	13.70
	2		45	24.93	8.65
	3		25	14.52	2.98
	Overall		<b>170</b>	98.57	22.24
2014	1	13,474	100	54.57	11.69
	2		45	26.55	7.04
	3		25	13.36	2.56
	Overall		170	94.38	18.55

## Analysis of the poorly performed questions

### 3.7.2 Home Science Paper 1 (441/1)

#### SECTION A

##### Question 8

State **two** disadvantages of concealed drainage system.

(2 marks)

##### Requirement

To state advantages of concealed drainage system.

##### Weaknesses

Some candidates did not interpret the question well; most of them gave responses for drainage in general not specifying the concealed drainage system.

##### Expected responses

- Expensive to install.
- Suitable where there is piped water.
- Needs experts to unblock therefore expensive to repair.

##### Advice to teachers

Put emphasis on the answering of questions by paying attention to key terms in the question. It is also important to carry out demonstrations and expose students through field trips to enhance mastery of these skills.

##### Question 15

State **two** points to observe when hanging clothes in the wardrobe.

(2 marks)

##### Requirement

To state points to observe when hanging clothes in the wardrobe.

##### Weaknesses

Some candidates did not to give relevant responses.

##### Expected responses

- Fasten the garment to retain shape and avoid slipping off / secure skirts and garments with wide necklines on hooks on the hangers with tapes.
- Hang garments straight.
- Hang each garment on its own hanger.
- Hang similar clothes together for neatness and easy retrieval.

**Advice to teachers**

Cover all areas of the syllabus and also encourage the students to practice the life skills as this will increase the retention rates and make it easy to answer from their practical experiences.

**Question 16**

State **one** factor that determines the width of a hem on a garment.

(1 mark)

**Requirement**

To state factors that determine the width of a hem

**Weaknesses**

Majority of the candidates did not attempt the question. It was clear from those who attempted this question that majority did not understand the factors that determine the width of a hem.

**Expected responses**

- Shape of the edge.
- Weight of the fabric.
- Style/ design

**Advice to teachers**

The different types of hems should be emphasized during teaching. Encourage the making of different types of hems for easier comprehension.

**Question 18**

State **three** uses of interfacing in garment construction.

(3 marks)

**Requirement**

To state the uses of interfacing in garment construction

**Weaknesses**

This is an essential skill in garment construction as it is frequently used in making of most garments. Only a few candidates were able to give the correct responses, an indication that the practical session of using interfacings is not really emphasized. Some candidates confused interfacings with facings and interlinings. Practical experiences would be very important in answering this type of question.

**Expected responses**

- Stiffening to add firmness.
- Preventing stretching or sagging.
- Giving body or shape.
- Increasing crease resistance.
- Giving a crisp tailored look to the applied area.
- Obtaining a good knife edge.

**Advice to teachers**

Teach the topic in detail to ensure the applicability of this skill in the practical sessions.

### Question 19

Differentiate between a fibre and a fabric.

(2 marks)

#### Requirement

To differentiate between a fibre and a fabric

#### Weaknesses

Most candidates could not differentiate these terms well.

#### Expected responses

- A fibre is a hairlike unit of raw material from which cloths are made while a fabric is a cloth that is woven or knitted from a yarn/thread.

#### Advice to teachers

Demonstration lessons would be very helpful as they would be able to use their experiences to respond to this question. Exposure to samples of different fibres and fabrics is essential.

### Question 21 (b)

(b) Outline the procedure to follow when arranging flowers for the party.

(9 marks)

#### Requirement

To outline the procedure for arranging flowers

#### Weaknesses

Candidates found it difficult to write the correct procedure for arranging flowers despite the fact that it is a skill they always demonstrate during their practical sessions in Home Science paper three (3).

#### Expected responses

Procedure to follow when arranging flowers for the party.

- Ensure the flowers are fresh (not withered). (1)
- Take the wire mesh or pin holder and place in the flower vase. (1)
- Fill the vase three quarter full of water. (1)
- First  $\frac{1}{2}$  place the tallest stem  $\frac{1}{2}$  of foliage and then fill in with shorter stems  $\frac{1}{2}$  depending on the desired shape.  $\frac{1}{2}$
- Avoid using a lot of short stemmed flowers tucked in around the rim (1)
- Check if the flower arrangement is in order. (1)
- Adjust appropriately. (1)
- Avoid overcrowding the flowers. (1)

#### Advice to teachers

Teach and practice the different types of flower arrangements.

### Question 22 (c)

- (i) State **two** principles of food preservation. (2 marks)
- (ii) Explain **two** disadvantages of preserving food. (4 marks)

#### Requirement

To state the principles of food preservation.

#### Weaknesses

Candidates were not able to distinguish between the methods and principles of food preservation.

#### Expected responses

- (i) Principles of food preservation.
- Application of heat.
  - Removal of water / moisture / dehydration.
  - Exclusion of air / oxygen.
  - Reduction of temperature.
  - Application of preservatives / chemicals.
- (ii) Disadvantages of preserving food.
- May lead to destruction of some nutrients.
  - Food may change in taste/flavour and colour.
  - May lead to food poisoning if poorly preserved.
  - Some foods are rendered unsuitable to some groups of people.

#### Advice to teachers

Teach the learners to respond to questions by taking ample time to read and understand the key terms in the stem of the questions.

### Question 22 (d)

Arrange the following steps of making yeast mixtures in order:  
shaping, fermentation, second kneading, first proving, baking, mixing,  
first kneading, second proving.

(4 marks)

#### Requirement

To write the correct sequence for the making of yeast mixtures.

#### Weaknesses

Most candidates performed poorly in this question as they did not arrange the steps followed in the making of yeast mixtures sequentially.

### Expected responses

- (i) Fermentation.
- (ii) Mixing.
- (iii) First kneading.
- (iv) First proving.
- (v) Second kneading.
- (vi) Shaping.
- (vii) Second proving.
- (viii) Baking.

### Advice to teachers

Engage in more practical sessions with the learners for more knowledge retention. Give more emphasis on the content of yeast and yeast mixtures.

### Question 24 (a)

Identify **four** methods of softening temporary hard water for laundry work.

(4 marks)

### Requirement

To identify ways of softening hard water.

### Weaknesses

Some candidates gave the responses of purification of water instead of softening hard water.

### Expected responses

- Boiling.
- Addition of commercial water softeners.
- Use of sodium carbonate.
- Adding slaked lime (calcium hydroxide).

### Advice to teachers

Emphasize to the students on proper reading and comprehension of questions before responding.

### Question 24 (b)

State **four** points to observe when working hand stitches.

(4 marks)

### Requirement

To state factors to observe when working hand stitches

### Weaknesses

Most candidates gave general points in working of stitches without giving specific reference to the hand stitches.

### **Expected responses**

- Use correct size of needle and thread for the fabric.
- Use correct tension.
- Choose correct stitch for the intended purpose.
- Use colour of thread that matches that of fabric except when decorating.
- Use a thimble to push needle.
- Fasten on and off.

### **Advice to teachers**

Emphasize the making of different types of stitches in the practical sessions.

### **Question 24(c)**

Highlight **four** qualities of a well made patch on a pillow case. (4 marks)

### **Requirement**

To highlight the qualities of a well made patch.

### **Weaknesses**

Candidates did not exhibit mastery of skills in the topic of repairing clothes.

### **Expected responses**

- Should lie flat.
- Should be inconspicuous unless decorative.
- Should be of the correct weight in relation to the article.
- Should match in grain with the article.
- Stitching should be done close to the edge.
- The edges should be well tucked in

### **Advice to teachers**

Candidates to read widely in all topics.

### **Question 24 (d)**

Explain **four** properties of linen that make it suitable for bedsheets. (8 marks)

### **Requirement**

To justify the use of linen in the making of bed sheets.

### **Weaknesses**

Candidates gave general qualities of a good bed sheet. They did not give the specific properties of linen that make it suitable for making bed sheets.

### **Expected responses**

- Is a good conductor of heat so keeps the body cool when hot and warm when cold
- Is absorbent so it is comfortable.
- Is strong to withstand frequent laundering and strong detergents.
- Can withstand high temperature so it can be sterilized by boiling and ironing.
- Does not generate static electricity, so will not get dirty fast.
- Dyes easily making it possible to obtain variety in colours.
- Lustrous making it appealing to the eye.

### **Advice to teachers**

Learners need to understand textile fibres, their properties and their suitability for different purposes.

### **GENERAL COMMENTS ON PAPER 441/1- HOME SCIENCE THEORY**

This paper tests all areas in the syllabus. Some of the topics are not emphasized during teaching and this leads to the candidates being ill equipped in responding to some of the items in the examination.

There is need to teach learners how to apply the acquired knowledge in different situations.

Most candidates did not perform well in the following areas;

- Clothing and Textiles
- Laundry

There is need to balance the teaching/learning activities so as to emphasize all units in the syllabus in order to produce learners who have competencies in the subject and are able to progress with their careers in Home Science related subjects in future.

It is also important to advise learners to read the questions carefully so that they can respond appropriately.



### 3.7.3 Home Science Paper 2 (441/2) Clothing Construction

This is a practical paper conducted within the examination period where candidates are required to demonstrate their competence in clothing construction by making a sample of a garment as per the instructions. Patterns, sketches and a layout are provided for them to use in the examination.

#### GIRL'S SKIRT

A pattern of a girl's skirt is provided. You are advised to study the sketches, instructions and layout carefully before you begin the test.

#### MATERIALS PROVIDED

- 1 Pattern Pieces
  - A – Skirt back
  - B – Yoke (front)
  - C – Lower skirt (front)
  - D – Front waistband
  - E – Back waistband
  - F – Frill
- 2 Plain lightweight cotton fabric 56 cm long by 90 cm wide.
- 3 Sewing thread to match the fabric.
- 4 One large envelope.

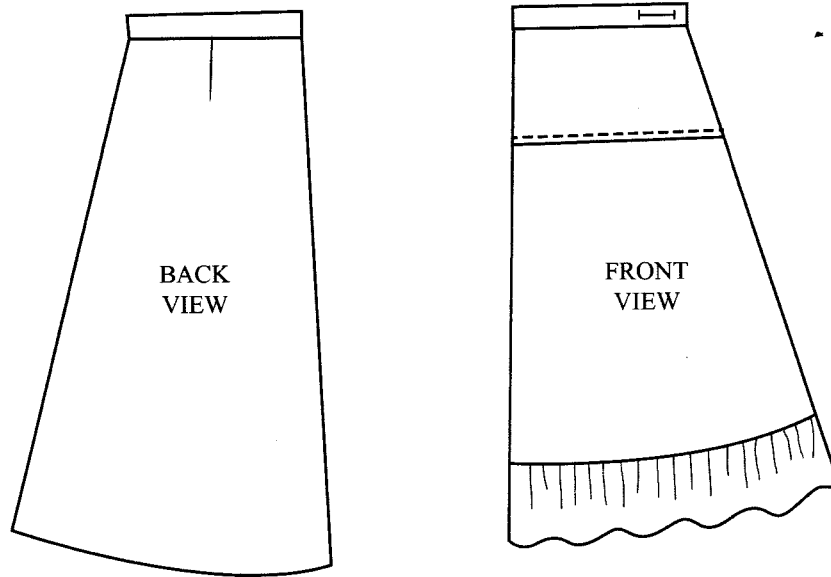
#### THE TEST

Using the materials provided, cut out and make the **left half** of the girl's skirt to show the following processes:

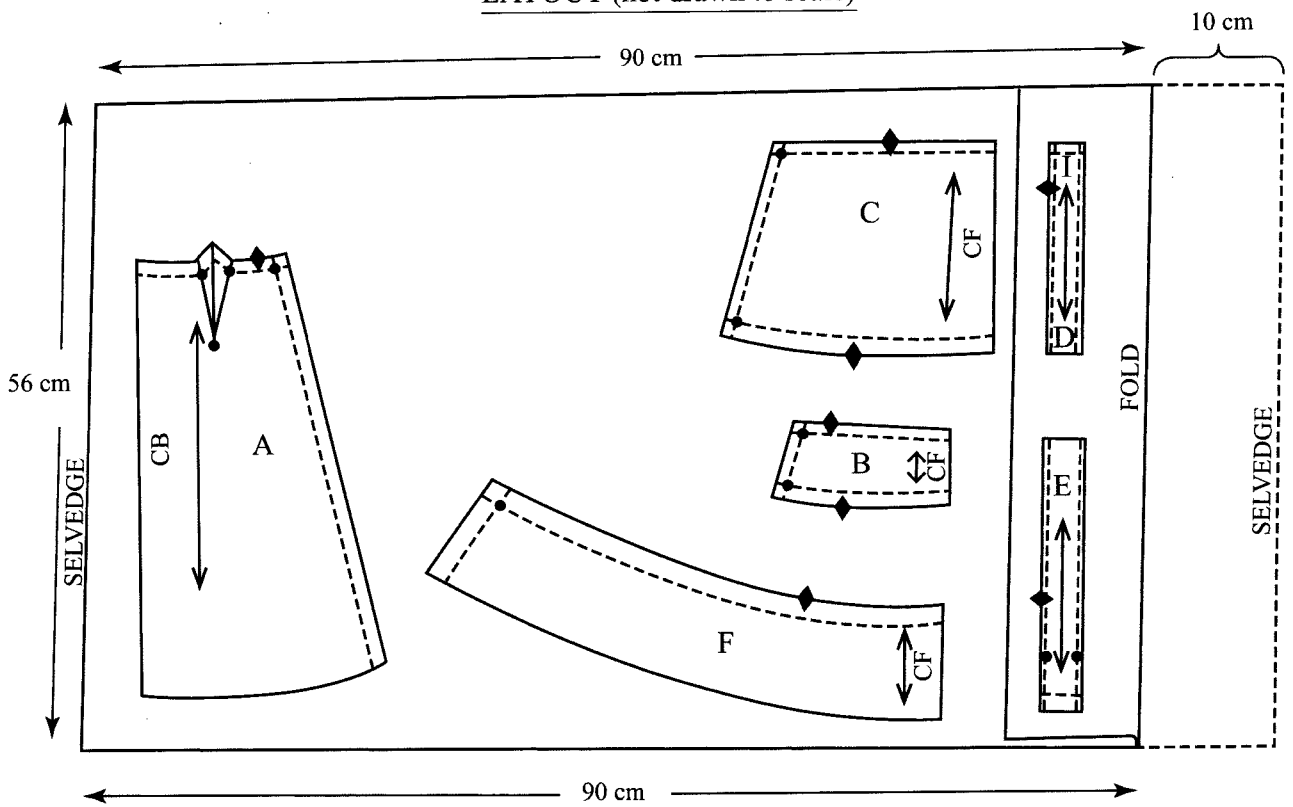
- (a) Cutting out. (14 marks)
- (b) Making of the dart at the back skirt. (6½ marks)
- (c) Joining of the yoke front to the lower skirt front using an overlaid seam. **Do not trim. Neaten half the seam using loop stitches.** (12 marks)
- (d) Attaching of the frill to the lower skirt front using a plain seam. **Leave the gathering stitches and do not trim the seam allowance.** (11 marks)
- (e) Making of the skirt side seam from the yoke to the hemline using an open seam. (7 marks)
- (f) Attaching of the front and back waistbands and holding them in place using tacking stitches. (21 marks)
- (g) Making of the worked buttonhole. (12 marks)
- (h) **OMIT**  
The management of the skirt hem.
- (i) Overall presentation. (6½ marks)

At the end of the examination, firmly sew onto your work, on a single fabric, a label bearing your name and index number. Remove the needle, pins and loose threads from your work. Fold your work neatly and place it in the envelope provided. **Do not put scraps of fabric in the envelope. Do not seal the envelope.**

SKIRT VIEWS



LAYOUT (not drawn to scale)



## **Weaknesses**

- Most candidates utilize their time poorly and therefore do not finish the tasks on the tests and end up scoring poorly.
- Some candidates did not sew on labels as required. They wrote their names on the garment.
- It is evident that some candidates are not able to achieve correct graining when cutting out the fabric.
- Some candidates neatened the overlaid seam with overcasting stitches instead of loop stitches.
- The quality of buttonhole stitches was poor. Some candidates were sewing the buttonhole stitches on a single material.

## **Advice to teachers**

More practice in clothing construction processes should be encouraged so that the learners acquire skills and confidence to perform tasks well.

The teachers and learners should develop a positive attitude towards the clothing and textiles topics and make it interesting.

Learners should be trained on managing their time when undertaking the test to avoid leaving so many tasks unfinished.

Advocate for adequate equipment and materials in the schools to ensure the learners have more practice and thus improve their competences in clothing construction.