

3.7 HOME SCIENCE (441)

The year 2013 Home science examination tested mastery and application of knowledge and skills as specified in the syllabus. This year's report analyses the performance of candidates both in the theory and practical paper. It concentrates on the poorly performed items.

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

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 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 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 CANDIDATES GENERAL PERFORMANCE

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

Table 14: Candidates' Performance in the last four years

Year	Paper	Candidature	Maximum Score	Mean Score	Standard Deviation
2010	1	12,322	100	54.76	11.43
	2		70	38.36	9.22
	overall		170	93.08	18.60
2011	1	12,995	100	53.27	12.47
	2		70	24.88	7.54
	Overall		170	78.15	17.79
2012	1	13,463	100	57.98	11.35
	2		45	24.92	7.98
	3		25	14.26	2.60
	Overall		170	96.84	19.16
2013	1	13,299	100	59.15	13.70
	2		45	24.93	8.65
	3		25	14.52	2.98
	Overall		170	98.57	22.24

Candidates overall performance in Home Science in the years 2010, 2011, 2012 and 2013

Observations from the above table:

- (i) For computation of this year's final score, all papers were graded separately and then combined to give a final grade for the subject.
- (ii) The mean was comparable with a very slight increase of 0.02% in 2013 indicating a slightly better performance.

Analysis of the poorly performed questions

3.7.2 Home Science Paper 1 (441/1)

SECTION A

Question 2

Name two types of beriberi (1mark)

Requirement

To name types of beriberi.

Weaknesses

Most candidates guessed while others did not attempt the question

Expected responses

- Wet Beriberi
- Dry Beriberi
- Infantile Beriberi

Advice to teachers

Put emphasis on all types of nutritional disorders, their causes, symptoms and treatment.

Question 15

State two limitations of dry cleaning in laundry work. (2marks)

Requirement

To state limitations of dry cleaning in laundry work. (2marks)

Weaknesses

Some candidates did not know what dry cleaning is and consequently could not give the limitations of this method

Expected responses

- It is expensive
- Solvents are volatile
- Solvents are highly inflammable
- Solvents are poisonous
- It requires skill.

Advice to teachers

Put more emphasis on all special treatments in laundry work. It is also important to carry out practical lessons to enhance mastery of these skills. Students can also be exposed to these processes through an educational tour.

Question 17

Give two uses of facings in clothing construction (2marks)

Requirement

To give uses of facings in clothing construction

Weaknesses

Some candidates confused facings with interfacings

Expected responses

- To neaten raw edges
- To decorate the garment
- To provide enough thickness for attaching fasteners
- To shape and give body where applied
- To bring out a style feature.

Advice to teachers

Practical sessions should be encouraged so that learners acquire competencies in the various processes in garment construction. Retention rate of a competence especially in garment construction is higher when a learner has actually carried out a particular process as they can visualize.

Question 18

Name four areas in a garment where diagonal tacking can be used. (2marks)

Requirement

To name areas in a garment where diagonal tacking can be used.

Weaknesses

Majority of the candidates did not attempt the question. It was clear from those who attempted this question that majority did not understand what diagonal tacking is.

Expected responses

- Hems
- Pleats
- Collar
- Waist band
- Cuff
- Facing
- Faced slit opening
- Yoke lining
- Fly opening
- Pocket

Advice to teachers

The different types of stitches should be emphasized. Encourage the making of stitch samples for good comprehension.

Question 19

State two points to observe when taking body measurements

(2marks)

Requirement

To state points to observe when taking body measurements

Weaknesses

This is a basic skill in garment construction which is very crucial as it determines the suitability of the garment made to the wearer. Only a few candidates were able to give the correct responses, an indication that the practical session of taking body measurements is not taught in detail.

Expected responses

- Have a proper tape measure
- Tie a tape measure around the waist as this is the focal point of all other measurements
- Always put two fingers between the tape measure and the body/not tight
- Record the measurements.
- Person being measured should stand straight.

Advice to teachers

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

Question 20

Give one reason why acetone is not a suitable stain remover on acetate fabrics. (2marks)

Requirement

To give reasons why acetone is not suitable for removing stains on acetate fabrics.

Weaknesses

To most of the candidates the terms acetone and acetate were not familiar and could therefore not get the correct response.

Expected responses

- is that acetate will dissolve in acetone.
- damages/weakens fabrics

Advice to teachers

Expose the learners to the different types and classification of stain removers. Discuss the suitability of various stain removers on fabrics.

Question 21

Identify the correct direction to press the following darts during garment construction:

- (i) front shoulder dart;
- (ii) bust dart;
- (iii) elbow dart;
- (iv) back waist dart.

(2 marks)

Requirement

To give the correct directions of pressing darts during garment construction

Weaknesses

Very few candidates got the correct responses to this question. This is a clear indication that the details of making different types of darts are not taught.

Expected responses

Front shoulder dart	-	centre front
Bust dart	-	downwards / towards the waist
Elbow dart	-	downwards / towards the wrist
Back waist dart	-	centre back

Advice to teachers

Teach and practice the making of the different types of darts in detail so that learners can apply this knowledge to different situations.

Question 22 (a)

Your parents are away for the weekend and have asked you to clean the house thoroughly.

- (a) Describe how you would clean an oil painted wall in the sitting room. (8 marks)

Requirement

To describe the cleaning of an oil painted wall

Weaknesses

Some of the candidates concentrated on the removal of stains at the expense of the other steps involved in the cleaning of the wall.

Expected responses

- Collect equipment and materials ($\frac{1}{2}$)
- Dust using a dry cloth ($\frac{1}{2}$) to remove loose dirt
- Wipe ($\frac{1}{2}$) using a clean cloth ($\frac{1}{2}$) wrung from warm ($\frac{1}{2}$) soapy ($\frac{1}{2}$) water
- Work from low ($\frac{1}{2}$) levels going upwards ($\frac{1}{2}$) to avoid tear marks / trickling stains
- Clean a portion ($\frac{1}{2}$) at a time slightly overlapping ($\frac{1}{2}$) the parts
- Rinse immediately by wiping with a cloth ($\frac{1}{2}$) wrung out of clean ($\frac{1}{2}$) water
- Start from top ($\frac{1}{2}$) coming downwards ($\frac{1}{2}$)
- Dry with a dry soft non fluffy cloth ($\frac{1}{2}$)
- Clean equipment, materials and store ($\frac{1}{2}$)

Advice to teachers

Teach the learners to respond to questions by taking ample time to read and understand the questions.

Question 22(b)

- (b) Outline the procedure for laundering a loose coloured cotton T-shirt. (7 $\frac{1}{2}$ marks)

Requirement

Outlining the procedure for laundering a loose coloured cotton T-shirt

Weaknesses

Some of the candidates could not give the correct temperatures of washing water and ironing to be used during laundering

Expected responses

- Collect equipment and materials ($\frac{1}{2}$)
- Wash in lukewarm ($\frac{1}{2}$) soapy water using kneading and squeezing ($\frac{1}{2}$);
- Wash quickly ($\frac{1}{2}$) to minimise colour loss;
- Rinse ($\frac{1}{2}$) in lukewarm ($\frac{1}{2}$) water to remove soap and dirt;
- Final rinse in cold ($\frac{1}{2}$) water with salt ($\frac{1}{2}$) and vinegar;

- Squeeze out excess water ($\frac{1}{2}$) ;
- Dry flat ($\frac{1}{2}$) on a clean surface under a shade ($\frac{1}{2}$)
- Press ($\frac{1}{2}$) with a warm ($\frac{1}{2}$) iron on W.S .($\frac{1}{2}$) avoiding the ribbing;
- Air ($\frac{1}{2}$) and fold.

Advice to teachers

Engage in more practical sessions with the learners for better knowledge retention.

Question 23(a)

Giving a reason in each case, state **four** advantages of using a refrigerator in the home. (8 marks)

Requirement

To give the advantages of using a refrigerator

Weaknesses

Candidates confused the refrigerator with cookers, cupboards and therefore could not adequately give the advantages of using a refrigerator

Expected responses

- Can facilitate service of cold dishes and beverages in hot weather when they are most refreshing;
- Wastage is reduced as cooked food can be kept longer;
- Perishables keep longer;
- Meals can be planned in advance as shopping can be done early and food stored;
- It is economical as it saves time and energy by reducing trips to the market;
- Food remains safe to eat over varying periods of time as bacterial growth is inhibited;
- Can take advantage of foods in season and preserve them.

Advice to teachers

Teach more on the various uses of kitchen equipment and where possible conduct practical sessions.

Question 23(b)

Explain **four** points to consider when planning meals for an invalid who is bedridden. (8 marks)

Requirement

To explain the points to consider when planning meals for an invalid

Weaknesses

Most candidates gave general points to consider in planning meals without reference to the specific needs of an invalid

Expected responses

- Meals should be balanced to provide the invalid with the required nutrients for recovery;
- Meals should be served punctually/at regular intervals so as to allow the digestive system time to work.
- Meals should be prepared and served in a hygienic manner - this safeguards the patient from further infection;
- Meals should be soft/easy to digest as the digestive system is delicate/weak/sick;
- Meals should be served in small quantities as the invalid may not eat and retain much food;
- Meals should not have strong flavours and smells as this can make the invalid's appetite go down;
- Meals should have less energy foods as they require less calories;
- Follow doctors instructions.

Advice to teachers

Emphasize the meal planning for the different groups of people since they have different requirements

Question 23(c)

Giving a relevant example in each case, differentiate between **substitute** and **complimentary** products. (4 marks)

Requirement

Differentiating between substitute and complimentary products

Weaknesses

Candidates could not properly give the differences of these two types of products. They also confused the relevant examples for each category.

Expected responses

- substitute products are products that have the same use as others available in the market such as butter and margarine; while
- complementary products are the products that one needs to use together with other products such as a car and petrol, the need for one product creates the need for the other or one cannot be used without the other.

Advice to teachers

Advise the candidates to read the questions properly

Question 25(c)

Explain **four** factors to consider when selecting a baby's clothes. (8 marks)

Requirement

Explaining factors to consider when selecting baby's clothes

Weaknesses

Candidates gave general points on the choice of clothes. They did not give the specific considerations in the choice of baby's clothes

Expected responses

- the clothes must be warm as the heat regulating mechanism of a young baby does not function properly in the first few months;
- the fabric used must be soft and nonstick to prevent soreness and irritation;
- the fabrics used must be light in weight as the heavy ones make the baby uncomfortable;
- clothes should be large enough to allow for some growth and free movement of the baby;
- clothes should be of simple style and pattern for easier wearing and washing;
- light, warm or bright colours are best as they look cheerful and attractive;
- clothes should be easy to wash since they get dirty quickly and need constant laundering;
- clothes should be easy to put on and remove;
- clothes should be non-flammable to keep baby safe from fire;
- should be strong to withstand frequent washing.

Advice to teachers

Learners need to understand the clothing requirements of the different groups of people since their needs vary. They could hold discussions and have class presentations to make the topic more interesting.

GENERAL COMMENTS ON PAPER 441/1- HOME SCIENCE THEORY

This paper tests all areas in the syllabus. It is evident that some of the units in the syllabus are not given the attention they deserve.

Most candidates did not perform well in the following areas;

- ☐ Clothing and Textiles
- ☐ Kitchen equipment
- ☐ Laundry
- ☐ Consumer Education

In section A the unpopular questions were those testing on clothing and textiles. In section C where candidates are required to choose questions most of them avoided the clothing and textiles question. However it is good to note that those who attempted the clothing and textile questions performed very well in the questions. This is a clear indication that candidates ignore the clothing and textiles topics. There is need to balance the teaching 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 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.

CHILD'S BLOUSE

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

MATERIALS PROVIDED

- 1 Pattern pieces
 - A. Blouse front
 - B. Blouse back
 - C. Sleeve
 - D. Sleeve band
 - E. Front neck facing
 - F. Back neck facing
- 2 Plain light weight cotton fabric 60 cm long by 91 cm wide.
- 3 Sewing thread to match.
- 4 One large envelope.

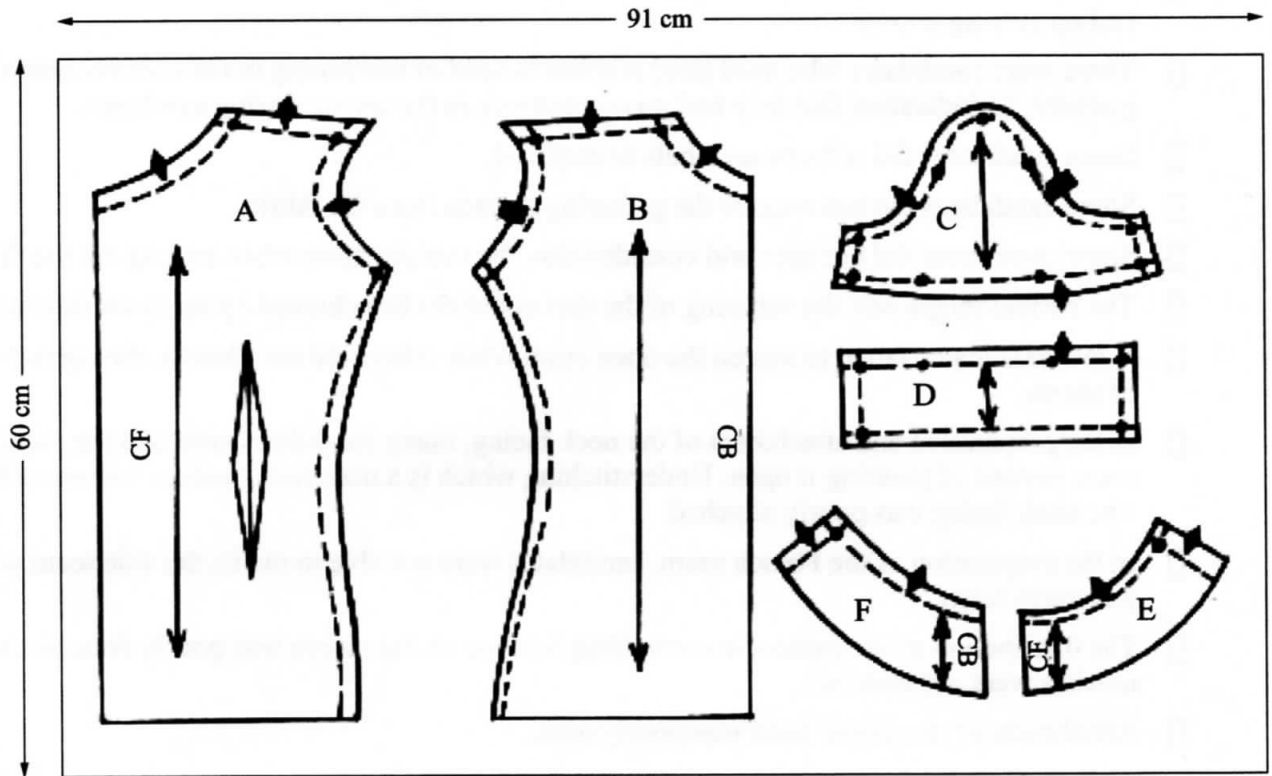
THE TEST

Using the materials provided, cut out and make the **RIGHT HALF** of the child's blouse to show the following processes:

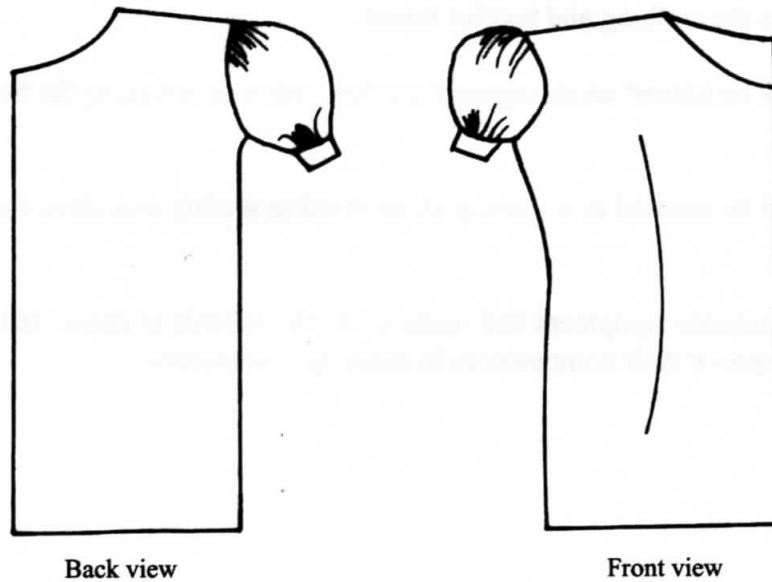
- (a) making of the double pointed dart.
- (b) making of the shoulder seam using an open seam.
- (c) making of the side seam using a french seam
- (d) preparation of the sleeve to include: (i) french seam (ii) hemming the band half way.
- (e) attaching of the sleeve. **Do not neaten the seam.**
- (f) joining the front and back facing.
- (g) attaching the facing to finish the neckline and neatening the free edge.

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.**

THE LAYOUT (not drawn to scale)



THE SKETCH



Weaknesses

- ☐ Most candidates utilize their time poorly and therefore do not finish the tasks on the tests. They end up scoring poorly.
- ☐ There were candidates who used hand stitches instead of machining in the construction of the garment, an indication that they had no competence in the use of sewing machines.
- ☐ Some candidates did not sew on labels as required.
- ☐ Some candidates did not remove the gathering threads from the fabric.
- ☐ Some candidates did not take into consideration the straight grain when cutting out the fabric.
- ☐ The correct length and the snipping of the dart could not be achieved by many candidates.
- ☐ A few candidates failed to neaten the open seam while others did not observe the correct width of seams.
- ☐ In the preparation and attachment of the neck facing, many candidates neaten the joining seam instead of pressing it open. Understitching which is a necessary process was not achieved. The neck facing was poorly attached.
- ☐ In the preparation of the French seam, candidates were not able to match the side seam with the underarm seam.
- ☐ The distribution of the gathers in controlling fullness on the sleeve was poorly done as the notches were not matched.
- ☐ Attachment of the sleeve band was poorly done.

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.

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

Learners should be assisted in acquiring skills in using sewing machines and avoid using hand stitches inappropriately.

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