

4.13 HOME SCIENCE (441)

4.13.1 Home Science Paper 1 (441/1)

SECTION A: 40 MARKS

1. Functions of proteins in the body are:

- for the growth and repair of damaged tissues.
- is a major component of body muscle, brain, haemoglobin, hormones, antibodies.
- provides heat and energy when carbohydrates are absent or insufficient.
- prevents kwashiorkor.

Any 2 x 1 = 2 marks

2. Advantages of using a wooden spoon for cooking.

Does not;

- scratch cooking utensils.
- make noise while stirring.
- conduct heat.
- rust.
- bend while in use.

Any 4 x $\frac{1}{2}$ = 2 marks

3. Reasons for blanching vegetables.

- stops the action of enzymes.
- kills bacteria.
- retains nutrients.
- retains colour.
- reduces bulk.

Any 4 x $\frac{1}{2}$ = 2 marks

4. Ways of minimizing fatigue while working in the kitchen.

- Using a trolley/tray to carry dishes/ingredients.
- Using a hatch between the dining room and the kitchen.
- Using the correct equipment for the task being done.
- Placing ingredients and utensils within reach.
- Using surface of comfortable height.
- Using labour saving equipment.
- Using a time plan.
- Working in a well lit area.
- Dovetailing.

Any 4 x $\frac{1}{2}$ = 2 marks

5. Distinguish between garnishing and decoration.

- Garnishing is adding colourful raw or cooked food items to a savoury dish to make it look attractive and appetising while decorating is adding raw or cooked food items to a sweet dish to make it look attractive and appetising.

Well differentiated

2 marks

6. Definition of ventilation

- A process of introducing fresh air into a room and getting rid of stale air from the room.

1 mark

7. Advantages of using gas as a fuel in the home.

It is;

- Clean in use.
- Relatively cheap.
- Convenient to use.
- Easy to control/regulate.
- Portable.

Any 3 x 1 = 3 marks

8. Disadvantages of concealed drainage system.

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

Any 2 x 1 = 2 marks

9. Sources of consumer information.

- Mass media.
- Manufacturers.
- Consumers.
- Government bodies.
- Internet.
- Exhibition/trade fairs.

Any 2 x $\frac{1}{2}$ = 1 mark

10. Meaning of counterfeit.

It is an imitation of what is a genuine item (1) with an intention to deceive/defraud. (1)

2 marks

11. Vaccines a child should be given by age of nine months.

- BCG(Bacillus Calmette Guerrin)
- OPV (Oral Polio Vaccine)
- DPT (Diptheria, Pertusis/whooping cough, Tetanus)
- Hepatitis B, haemophilus Influenza Type B
- Pneumococcal vaccine (PCV10)
- Measles
- Yellow fever
- Vitamin A

Any 4 x $\frac{1}{2}$ = 2 marks

12. Uses of the following items in first aid

(i) Safety pin

- removing foreign object arising from injury
- securing bandages
- piercing

Any 2 x $\frac{1}{2}$ = 1 mark

(ii) Cotton swabs

- controlling bleeding
- cleaning a wound
- applying ointment

Any 2 x $\frac{1}{2}$ = 1 mark

13. Points on the care given to a child with fever at home.

- Dress with light clothes.
- Give plenty of fluids.
- Sponge with a cloth wrung out of warm water.
- Give medication to lower the fever.

Any 3 x 1 = 3 marks

**14. Points to consider when sorting clothes for washing.
According to ;**

- Use/purpose.
- Colour.
- Degree of soiling.
- Age.
- Type of fabric.
- State of health.

4 x $\frac{1}{2}$ = 2 marks

15. Points to observe when hanging clothes in the wardrobe.

- 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.

Any 2 x 1 = 2 marks

16. Factors that determine the width of a hem on a garment.

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

Any 1 x 1 = 1 mark

17. Reasons for using machine fell seam on children's garments.
It is;

- Strong.
- Flat.
- Comfortable to the wearer.
- Decorative.

2 x 1 = 2 marks

18. Uses of interfacing in garment construction.

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

3 x 1 = 3 marks

19. Differentiate between a fibre and a fabric.

- 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.

2 marks

20. Pattern symbols



place on fold of fabric

1 mark



Single notch/balance mark

1 mark

SECTION B (20 marks)

21. (a) Factors to consider when setting a table for invited guests.

- The number of guests.
- The number of courses.
- The cutlery and crockery required.
- The menu.
- The occasion

Any 3 x 1 = 3 marks

(b) 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 $\left(\frac{1}{2}\right)$ place the tallest stem $\left(\frac{1}{2}\right)$ of foliage and then fill in with shorter stems $\left(\frac{1}{2}\right)$

depending on the desired shape. $\left(\frac{1}{2}\right)$

- Avoid using a lot of short stemmed flowers tucked in around the rim $\left(\frac{1}{2}\right)$
- Check if the flower arrangement is in order. $\left(\frac{1}{2}\right)$
- Adjust appropriately. $\left(\frac{1}{2}\right)$
- Avoid overcrowding the flowers. $\left(\frac{1}{2}\right)$

9 marks

(c) Procedure of cleaning a canvas bag.

- Collect equipment and materials $\left(\frac{1}{2}\right)$
- Empty the bag $\left(\frac{1}{2}\right)$.
- Shake $\left(\frac{1}{2}\right)$ to remove loose dirt.
- Soak in cold water. $\left(\frac{1}{2}\right)$
- Wash in warm $\left(\frac{1}{2}\right)$ soapy water, $\left(\frac{1}{2}\right)$ scrub, $\left(\frac{1}{2}\right)$ using a soft $\left(\frac{1}{2}\right)$ brush / maize cob, use circular movement. $\left(\frac{1}{2}\right)$
- Rinse $\left(\frac{1}{2}\right)$ in warm $\left(\frac{1}{2}\right)$ water, final rinse $\left(\frac{1}{2}\right)$ in cold $\left(\frac{1}{2}\right)$ water.
- Shake $\left(\frac{1}{2}\right)$ to remove excess water and to straighten the fibre.
- Dry $\left(\frac{1}{2}\right)$ on a cloth line.
- Store $\left(\frac{1}{2}\right)$.

8 marks

SECTION C: 40 MARKS

22. (a) Details found on bread wrapping.

- Weight.
- Manufacturer.
- Ingredients.
- Best before date / sell by date/expiry date.
- Contacts of manufacturer.
- Conditions for storage.
- Brand name.
- Quality assurance mark.

$6 \times \frac{1}{2} = 3$ marks

(b) (i) Advantages of budgeting the family income:

- Acts as a guide to wise buying / helps to avoid impulse buying.
- Assists planning / provides a basis for analysing the needs of the family.
- Gives room for saving.
- Assists family to live within their means.
- Enables the family to give priority to essential items.
- Gives psychological satisfaction.

$3 \times 1 = 3$ marks

(ii) Problems faced by consumers in Kenya today.

- Lack of money / low financial ability - many consumers may not afford basic needs due to lack of money.
- Counterfeit goods - some goods in the market are not original therefore low quality.
- Inflation - leads to price increase therefore consumers spend more on less.
- Lack of information - consumer lacking information concerning available goods and services.
- Lack of awareness of consumer rights - many consumers do not know their rights, thus leading to exploitation.
- Scarcity of goods/services eg. have money but no goods available.

2 x 2 = 4 marks

(c) (i) Principles of food preservation.

- Application of heat.
- Removal of water / moisture / dehydration.
- Exclusion of air / oxygen.
- Reduction of temperature.
- Application of preservatives / chemicals.

Any 2 x 1 = 2 marks

(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.

Any 2 x 2 = 4 marks

(d) Process of making yeast mixtures.

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

Well arranged 8 x $\frac{1}{2}$ = 4 marks

23. (a) (i) Materials suitable for finishing floors in a living room.

- Ceramic tiles / PVC tiles.
- Cement.
- Wood.
- Linoleum.
- Thermoplastic.
- Marble.

Any 4 x $\frac{1}{2}$ = 2 marks

(ii) Activities that take place in a living room.

- Reading / studying.
- Listening to music.
- Watching television.
- Taking meals.
- Entertaining visitors.
- Relaxing.
- Playing indoor games.
- Holding meetings.

Any $6 \times \frac{1}{2} = 3$ marks

(b) Functions of each of the following in relation to pregnancy.

(i) Placenta

- Provision of oxygen to the foetus.
- Provision of nutrients to the foetus.
- Assists in excretion.
- Filters harmful substances.

$2 \times 1 = 2$ marks

(ii) Amniotic fluid

- Helps the foetus to move.
- Acts as a shock absorber.
- Lubricates body parts.
- Helps foetus lungs to develop.
- Keeps the foetus warm.

$2 \times 1 = 2$ marks

(c) Procedure of caring for a household duster after use.

- Shake $\left(\frac{1}{2}\right)$ outside after use/remove any unwanted material.
- Soak $\left(\frac{1}{2}\right)$ in cold water.
- Wash $\left(\frac{1}{2}\right)$ thoroughly in warm $\left(\frac{1}{2}\right)$ soapy water.
- Rinse $\left(\frac{1}{2}\right)$ in warm water $\left(\frac{1}{2}\right)$ and finally in cold $\left(\frac{1}{2}\right)$ water to refreshen $\left(\frac{1}{2}\right)$ the fabric.
- Dry in the open $\left(\frac{1}{2}\right)$ air.
- Store $\left(\frac{1}{2}\right)$ in a dry well ventilated $\left(\frac{1}{2}\right)$ place.

$12 \times \frac{1}{2} = 6$ marks

(d) Ways of enhancing personal health.

- Eat a balanced diet.
- Get adequate sleep and rest.
- Exercise regularly.
- Take plenty of water.

- Have regular medical check up.
- Maintain positive mental attitude.
- Well fitting clothes/shoes.

Any 5 x 1 = 5 marks

24. (a) Methods of softening temporary hard water for laundry work.
By:

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

Any 4 x 1 = 4 marks

(b) Points to observe when working hand stitches:

- 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.

4 x 1 = 4 marks

(c) Qualities of a well made patch on a pillow case.

- 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

4 x 1 = 4 marks

(d) Properties of linen that make it suitable for bedsheets.

- 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.

4 x 2 = 8 marks

4.13.2 Home Science Paper 2 (441/2)

	DESCRIPTION	MAXIMUM SCORE	ACTUAL SCORE	REMARKS
1.	PRESENTATION			
(a)	Work well pressed (1) and folded ($\frac{1}{2}$)	$1\frac{1}{2}$		
(b)	Label ($\frac{1}{2}$) firmly fixed (1) without concealing details ($\frac{1}{2}$) and on a single fabric ($\frac{1}{2}$)	$2\frac{1}{2}$		
(c)	Pins/needles ($\frac{1}{2}$) and unnecessary tacking threads ($\frac{1}{2}$) and hanging threads($\frac{1}{2}$) removed.	$1\frac{1}{2}$		
(d)	Made up for the left half (1)	1		
	Sub-total	$6\frac{1}{2}$		
2.	CUTTING OUT			
(a)	All ten pieces cut out ($10 \times \frac{1}{2}$)	5		
(b)	Smooth cutting of the skirt at CF (1) on straight grain(1) within 2 mm	2		
(c)	Smooth cutting of the skirt at CB(1) on straight grain(1) within 2 mm.	2		
(d)	Lower edge of frill (1)and lower edge of skirt (1) smoothly cut.	2		
(e)	Waistband CB smoothly cut ($\frac{1}{2} \times 2$) on straight grain ($\frac{1}{2} \times 2$)	2		
(f)	Waistband CF smoothly cut ($\frac{1}{2} \times 2$) on straight grain ($\frac{1}{2} \times 2$)	2		
(g)	Smooth cutting of yoke (1) and on straight grain (1).	2		
(h)	Smooth cutting of frill CF ($\frac{1}{2}$) on grain ($\frac{1}{2}$)	1		
	Sub-total	18		
3.	DART			
(a)	Straight stitchery (1) tapering to a point ($\frac{1}{2}$)	$1\frac{1}{2}$		
(b)	Thread ends well fastened at the point	1		
(c)	Correct length of the dart 8 cm to within 2 mm (7.8 cm - 8.2 cm)	1		
(d)	Correct width of dart 1 cm to within 2 mm (0.8 cm -1.2 cm)	1		
(e)	Dart pressed ($\frac{1}{2}$) towards C.B ($\frac{1}{2}$)	1		
(f)	Flatness of dart on R.S ($\frac{1}{2}$) and W.S ($\frac{1}{2}$)(NO pockets formed)	1		
	Sub-total	$6\frac{1}{2}$		

	DESCRIPTION	MAXIMUM SCORE	ACTUAL SCORE	REMARKS
4.	YOKE (If not overlaid seam award zero)			
(a)	Front yoke folded on seamline	1		
(b)	Placed on fitting line of lower skirt front	1		
(c)	Notches matching	1		
(d)	Straight stitchery (1) at the edge of the fold to within 2 mm (1)	2		
(e)	Overlaid seam turning facing up towards waist ($\frac{1}{2}$) and even ($\frac{1}{2}$)	1		
(f)	Seam allowance 1.5 cm from fitting line to within 2 mm (1.3 cm - 1.7 cm)	1		
(g)	Flatness of yoke on R.S	1		
	Sub-total	8		
5.	NEATING OF THE OVERLAID SEAM (If not loopstitches award zero).			
(a)	Loop stitches evenly spaced (1) and even in length (1).	2		
(b)	Seam halfway neaten (1) and stitches securely fastened on ($\frac{1}{2}$) and off ($\frac{1}{2}$).	2		
	Sub-total	4		
6.	FRILL			
(a)	Two rows of gathering stitches above (1) and below (1) the stitching line	2		
(b)	Gathers evenly distributed (no pleats or clusters)	2		
(c)	Frill attached with straight stitchery	2		
(d)	Notches matching	1		
(e)	Correct size of seam allowance (1) 1.5 cm to within 2 mm (1.3 cm - 1.7 cm) and evenness (1) of the seam allowance	2		
(f)	Seam allowance pressed flat ($\frac{1}{2}$) facing upwards ($\frac{1}{2}$)	1		
(g)	Gathering stitches not removed ($\frac{1}{2}$ x 2)	1		
	Sub-total	11		
7.	OPEN SEAM (If not open seam award zero)			
(a)	Seam joined with straight stitchery ($1\frac{1}{2}$) and well secured at the yoke or hemline band($\frac{1}{2}$).	2		
(b)	Seam appropriately neaten (1 x 2)	2		
(c)	Evenness of seam allowance ($\frac{1}{2}$ x 2)	1		
(d)	Correct width 1 cm to within 2 mm on either side (0.8 cm - 1.2 cm) ($\frac{1}{2}$ x 2)	1		
(e)	Seam turnings folded ($\frac{1}{2}$) and flat ($\frac{1}{2}$).	1		
	Sub-total	7		

	DESCRIPTION	MAXIMUM SCORE	ACTUAL SCORE	REMARKS
8.	WAISTBAND			
(a)	Waistband joined with straight stitchery (mark by impression)	2		
(b)	Seam trimmed (2) snipped (1) with sharp points ($\frac{1}{2} \times 2$)	4		
(c)	Waistband well knife edged ($\frac{1}{2} \times 2$)	1		
(d)	Back waistband extension 3 cm to within 5 mm (2.5 cm - 3.5 cm)	1		
(e)	Waistband correctly attached with straight stitchery (1 x 2) and trimmed ($\frac{1}{2} \times 2$)	3		
(f)	Raw edges of waistband well tucked under (1 x 2)	2		
(g)	Flatness of waistband on R.S (1) and W.S (1)	2		
(h)	Evenness of waistband R.S.	1		
(i)	Correct width of waistband 3 cm to within 3 mm (2.7 cm - 3.3 cm)	1		
(j)	Waistband edges flash with CF ($\frac{1}{2}$) and CB ($\frac{1}{2}$)	1		
(k)	Tacking stitches even ($\frac{1}{2}$) and straight ($\frac{1}{2}$). firm ($\frac{1}{2}$) made using single thread ($\frac{1}{2}$)	2		
	Sub-total	20		
9.	WORKED BUTTON HOLE (ONE ROUND END) (If not buttonhole stitch award zero from C to F).			
(a)	Correct position ($\frac{1}{2}$) and size ($\frac{1}{2}$) of buttonhole (mark by impression)	1		
(b)	Buttonhole cut straight ($\frac{1}{2}$) and worked with single thread ($\frac{1}{2}$)	1		
(c)	Buttonhole worked with even (1) and well distributed (1) buttonhole stitches.	2		
(d)	Round end worked with well distributed (1) overcasting stitches (1).	2		
(e)	Square end completed with a bar (1) worked with even buttonhole stitches (1)	2		
(f)	Raw edges ($\frac{1}{2} \times 2$) concealed by the buttonhole stitches on the right side.	1		
	Sub-total	9		
	TOTAL	90		
	Final mark = $\frac{\text{Actual score}}{2}$	45		