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.

<div align="right">Any 2 x 1 = 2 marks</div>

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.

<div align="right">Any 4 x $\frac{1}{2}$ = 2 marks</div>

3.   Reasons for blanching vegetables.

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

<div align="right">Any 4 x $\frac{1}{2}$ = 2 marks</div>

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

  • Using a trolley/tray to carry dishes/ingredients.
  • Using a hatch between the dinning 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.
  • Dovetailling.

<div align="right">Any 4 x $\frac{1}{2}$ = 2 marks</div>

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.

<div align="right">Well differentiated   2 marks</div>

6. Definition of ventilation

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

<div align="right">1 mark</div>

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.

<div align="right">Any 3 x 1 = 3 marks</div>

8. Disadvantages of concealed drainage system.

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

<div align="right">Any 2 x 1 = 2 marks</div>

9. Sources of consumer information.

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

<div align="right">Any 2 x $\frac{1}{2}$ = 1 mark</div>

10. Meaning of counterfeit.

It is an imitation of what is a genuine item $\textcircled{1}$ with an intention to deceive/defraud.$\textcircled{1}$

<div align="right">2 marks</div>

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, haemophillus Influenza Type B
- Pneumococcal vaccine (PCV10)
- Measles
- Yellow fever
- Vitamin A

<div align="right">Any 4 x $\frac{1}{2}$ = 2 marks</div>

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

(a)   place on fold of fabric   1 mark

(b)   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). $\left(1\right)$
- Take the wire mesh or pin holder and place in the flower vase. $\left(1\right)$
- Fill the vase three quarter full of water. $\left(1\right)$
- First $\left(\frac{1}{2}\right)$ place the tallest stem $\left(\frac{1}{2}\right)$ of foliage and then fill in with shorter stems $\left(\frac{1}{2}\right)$

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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

9 marks

(c)   Procedure of cleaning a canvas bag.

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

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

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

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

12 x $\frac{1}{2}$ = 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

	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 x $\frac{1}{2}$)	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 ($\frac{1}{2}$ x 2) on straight grain ($\frac{1}{2}$ x 2)	2		
(f)	Waistband CF smoothly cut ($\frac{1}{2}$ x 2) on straight grain ($\frac{1}{2}$ x 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 neatened (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 neatened (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 ($\frac{1}{2}$ x 2)	4		
(c)	Waistband well knife edged ($\frac{1}{2}$ x 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 ($\frac{1}{2}$ x 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 ($\frac{1}{2}$ x 2) concealed by the buttonhole stitches on the right side.	1		
	Sub-total	**9**		
	TOTAL	**90**		
	Final mark = $\frac{\text{Actual score}}{2}$	**45**		