**Term 2 - 2022**

**HOME SCIENCE (441/1)**

**PAPER 1**

**FORM FOUR (4)**

**Time: 2½ Hours**

**MARKING SCHEME**

**SECTION A**

1. Two examples of absorbers used in stain removal. **Any 2 x ½ mk = 1 mk**
* Salt
* Blotting paper
* French chalk
* Talcum powder
1. Two stains that can be removed by sunlight. **Any 2 x ½ mk = 1 mk**
* Mildew
* Rust
* Perspiration
1. Another name for the following nutrients. **4 marks x ½ = 2 mks** Vitamin A = **Retinol**

Tocopherol = **Vitamin E**

Vitamin C = **Ascorbic acid**

Phylloquinone = **Vitamin K**

1. Two qualities to look for when buying a kitchen knife. **Any 2 x 1 mk = 2 mks**
* Be sharp/easy to sharpen/maintains sharpens.
* Have firmly fixed handle.
* Be stainless/made of stainless metal/rust free.
* Have a comfortable/smooth for the user.
1. Four disadvantages of decayed teeth. **Any 4 x ½ mark = 2 mks**
* They may cause pain
* They cause bad breath
* Can cause public embarrassment
* Are expensive to treat/extract
* Affect chewing/digestion
1. Four uses of milk in food preparation. **Any 4 x ½ mark = 2 mks**
* To add moisture
* To improve texture
* To improve appearance
* To improve taste/flavour
* To add nutrients to the diet
1. Two signs and symptoms exhibited by a person suffering from goitre. **Any 2 x 1 mk = 2 mks**
* Enlarged thyroid gland
* Lacks energy and feels fatigued/tiredness
* Irritability
* Weight loss
* Change of eating habits
* Patient feels cold (hypothermia)
* The skin becomes dry and rough
1. Two reasons for using dried fruits in cake making. **Any 2 x 1 mk = 2 mks**
* To enrich the cake
* To preserve the cake
* To improve the texture
* To improve appearance
* To add flavour
1. Two advantages of using an ironing board instead of a table when ironing clothes.

 **Any 2 x 1 mk = 2 mks**

* Iron board is of adjustable height
* Ironing board has a detachable sleeve board
* Ironing has a pointed end making ironing easier
* Ironing board has a metallic pad for placing hot iron
* Ironing board is easily portable
* Ironing board has a loose cover to keep it clean
1. Four reasons why excessive weight gain during pregnancy is dangerous.

 **Any 4 x ½ mk = 2 mks**

* Causes varicose veins
* Can cause stretch marks which are unsightly
* Increases pressure on the heart and can cause complications
* Too big a baby can result in difficult childbirth
* One may find it hard to lose the weight after delivery
* Increases fatigue in an expectant mother
1. Two factors that affect the efficiency of a detergent. **Any 2 x 1 mk = 2 mks** - Temperature of the water

- Degree of soiling of the articles

- Washing time

- The type of builders added to the detergent

- Mechanised action/washing method used

1. Three benefits of breast feeding to a mother. **Any 3 x 1 mk = 3 mks**
* Reduces chances of getting premenopausal and ovarian cancer
* Reduced incidences of urinary tract infections
* Reduced risk of postpartum bleeding
* Reduced chances of pregnancy
* Saves time as it is ready all the time
* Helps in bonding
* Reduces breast problems/discomfort
* Helps the uterus to go back to normal
1. Two uses of facings in clothing construction. **Any 2 x 1 mk = 2 mks**
* 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
1. Differentiate between decorating food and garnishing food. **2 marks**
* **Garnishing** is adding colourful raw or cooked food items to a savoury dish to make it look attractive and appetising
* **Decorating** is adding raw or cooked food items to a sweet dish to make it look attractive and appetising
1. Four faults that may occur in cooking of mandazi.  **Any 2 x 1 mk = 2 mks**
* Dry texture
* Soggy/oily
* Excessive hollowness
* Burnt on the outside/inside not cooked
1. Two reasons for blending fibres. **Any 2 x 1 mk = 2 mks**
* Improve quality of fibres
* To make fabrics affordable
* To provide variety/
1. Two advantages of electricity as a form of lighting. **Any 2 x 1 mk = 2 mks**

- Clean

- Easy to use

- Convenient

1. Two disadvantages of réchauffé dishes. **Any 2 x 1 mk = 2 mks**
* Can easily get contaminated and may cause food poisoning
* Usually loses its original flavour therefore requiring strong flavouring which may have side effects
* Reheating may render some foods indigestible e.g. proteins toughen
* Loss of nutrients especially vitamins

1. Three considerations to make when choosing cleaning agents. **Any 3 x 1 mk = 3 mks**
* The safety of the user
* The dirt to be cleaned
* The type of surface to be cleaned/material to be cleaned
* The performance of the cleaning agent/cleansing power of the cleaning agent
1. Four qualities of well-made cuffs. **Any 4 x 1 mk = 4 mks**
* Both cuff and under cuff should be of the same size
* The cuff width should be even on both the cuff and the under cuff
* To cuff should be flat
* To cuff should have a good knife edge
* To cuff should be of the right proportion to the rest of the garment
* To cuff should fit the wearer well

**SECTION B**

21. (a) Six rules to observe when removing stains from clothes and household articles before doing

 family wash. **Any 6 x 1 mk = 6 marks**

 - Stains should be removed when still fresh as it is difficult to remove when they get fixed with

 time

 - If the stain is unidentified, use mild stain removers before progressing to stronger ones

 - Remove the stain before washing

 - Avoid using metal spoons

 - After the stain is removed, rinse the article to remove traces of the reagent

 - Remove the stain using a circular movement from the outside towards the inside to avoid

 spreading the stain

 - If possible use stain remover agents which are in solution as they are less harsh to the fabric

(b) Outline the procedure you would use to launder a blanket for a baby’s cot. **14 marks**

- Collect all the equipment and materials needed (**½**)

- Shake (**½**)

- Take measurements (**½**) and record (**½**) / draw outline

- Wash in warm soapy (**½**) water (**½**) using kneading and squeezing method (**1**)

- Wash quickly (**½**) under water (**½**)

- Squeeze out the washing water (**½**)

- Rinse thoroughly in warm (**½**) water

- Squeeze out excess water (**½**)

- Roll (**½**) on a dry (**½**) clean (**½**) towel

- Dry flat (**½**) under a shade (**½**) on a clean surface (**½**)

- Take measurements (**½**) and reshape (**½**)

- Press (**½**) using a warm (**½**) iron on the wrong side (**½**) away from the work (**½**)

- Air (**½**)

- Fold appropriately (**½**)

- Clean, dry and store the equipment and materials (**½**)

**SECTION C**

1. (a) Four practices undertaken to prevent loss of colour when laundering clothes.

 **Any 4 x 1 mk = 4 marks**

- Use a mild detergent

- Use kneading and squeezing method of washing

- Use moderate /low temperature during the washing, rinsing and ironing process

- Dry the clothes under the shade with wrong side out

- Use salt in the final rinsing water

(b) Four factors to consider when buying green leafy vegetables. **Any 4 x 2 mks = 8 marks**

- Cost: Buy vegetables according to your budget to avoid overspending/constraining

 financially

- Buy just enough to avoid wastage

- Buy vegetables in season because they are cheap and rich in nutrients

- Buy clean vegetables to avoid contamination

- Freshness: buy freshly plucked vegetables (not withered) to get maximum nutrients

- Insect infestation: the leaves should be free from insects/holes, for food safety/to avoid

 contamination

- Colour: vegetables should be green in colour and not yellow so as to obtain maximum

 nutrients

(c) Four points to consider when taking body measurements. **Any 4 x 1 mk = 4 marks**

- Use clearly well labelled equipment

- Obtain the natural waistline by tying a string around the waist

- The person whose measurement is being taken, he/she should wear simple

 outfit/foundation garments

- The person whose measurements are being taken should stand up straight or sit down

 straight

- For round body measurement, put two fingers between tape and the body

(d) Four factors that cause food prices to rise. **Any 4 x 1 mk = 4 marks**

- High demand and low supply

- Rise in the standards of living

- Increase in the cost of production

- Increase in transportation cost

- Hoarding of certain commodities by the suppliers

1. (a) Four ways of minimizing fatigue while working in the kitchen. **Any 4 x 1 mk = 4 marks**

- 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

- Ping lacing ingredients and utensils within reach

- Using a surface of a comfortable height

- Using labour saving devices/equipment

- Using a time plan

- Working in a well-lit area

- Dovetailing

(b) Four qualities of a well- made patch on a bed sheet **Any 4 x 1 mk = 4 marks**

- It should lie flat

- Is should be inconspicous unless decorative

- It should be of correct weight in relation to the article

- It should match in grain with the article

- The stitching should be done close to the edge

- The edges should be well tucked in

(c) Identify and explain three activities carried out in preparation for a family wash.

 **Any 3 x 2 mks = 6 marks**

- Shaking: to remove loose dirt

- Sorting: according to degree of dirt/colour of garment/article/uses/wearers

- Mending/repair: to avoid further damage or the tear/ darning, patching, repairing gaping

 seams etc.

- Emptying pockets: to avoid injuries from objects/destruction of documents that might have

 been accidentally left

- Soaking: This softens dirt thus making washing easier/leaving the garment in water for

 sometime

- Stain removal: to avoid spreading/fixing of the stain on the garment/removing

 discolouration using a stain remover

(d) Reasons for using sugar, salt and eggs in flour mixtures.

 **Sugar**: - sweetens the mixture **Any 2 x 1 mk = 2 marks**

 -softens the mixture

 - aids in the retention of moisture hence prolongs freshness

 **Salt Any 2 x 1 mk = 2 marks**

 - prevents the growth of undesirable bacteria during the raising stage of the dough

 - it flavours the products/adds taste

 - prevents the yeast from working too fast which produces a coarse texture

 **Eggs Any 2 x 1 mk = 2 marks**

 - improve the nutritive value of the mixture

 - aerate the mixture

 - improve colour of the product

1. (a) Two remedies for each of the following machine faults.

Needle breaking **Any 2 x 1 mk = 2 marks**

- Fix the needle in the correct position firmly

- Replace the needle as it may have been defective

- Check to ensure the size of the needle is appropriate for thickness and density of fabric

- Check to ensure that the presser foot is inserted correctly

- Avoid sewing over pins

Fabric puckering **Any 2 x 1 mk = 2 marks**

- Use sharp needle as it may be blunt

- Loosen the tension as it may be tight

- Use a thinner thread as it may be too thick for the fabric

- Readjust the feed dog

- Readjust the stitch length – the stitches may be too long for a fine fabric

- Use tissue paper underneath for very sheer fabric

(b) Describing three principles of food preservation. **Any 3 x 2 mks = 6 marks**

- **Application of heat**: This is heating food to a high temperature in order to kill

 microorganisms that would otherwise cause food spoilage. Bacteria, yeast, mould and

 natural enzymes are destroyed by heat.

- **Removal of water**: water in food is removed or reduced to inhibit or inactivate the

 enzymes and microorganisms which cause food spoilage. This is done through drying and

 dehydration.

- **Exclusion of oxygen**: Air is removed during bottling and canning. Microorganisms need air

 to grow and therefore with exclusion of air they are destroyed.

- **Freezing**: Low temperature inhibits/inactivates the growth of enzymes and microorganisms

 thus deterring any further spoilage.

- **Addition of sugar, salt, vinegar of chemical preservatives**: A high concentration of sugar,

 salt, acids and chemical preservatives inhibits the growth of microorganisms that are

 responsible for food deterioration and help food stay fresh longer.

(c) Four benefits of living in a well ventilated house. **Any 4 x 1 mk = 4 marks**

- The working atmosphere is good since all surplus heat from people and machinery is

 removed

- All odours are removed from the room

- Humidity is removed from the room making it fresh and thus improving people’s

 concentration

- Air pollutants are removed from the room

- Allows free circulation of air thus preventing any spread of airborne diseases such as

 tuberculosis, influenza etc.

(d) Three factors to consider when selecting a baby’s clothes. **Any 3 x 2 mks = 6 marks**

- Clothes must be warm as the heat regulating mechanism of a young baby does not function

 properly in the first few months

- The fabric use must be soft and non-stick to prevent soreness and irritation

- The fabric used must be light in weight as 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 attractive and cheerful

- Clothes should be easy to wash since they get dirty quickly and need constant laundering

- Close should be easy to put on and remove therefore should have the tapes

- Clothes should be made from non-flammable fabric to keep the baby safe from fires

- Clothes should be made from strong fabric to withstand frequent washing