

## 4.13 HOME SCIENCE (441)

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

#### SECTION A

1. Conditions that encourage the growth of micro-organisms are;

- Warmth
- Moisture
- Food
- Time/long time
- $P_H$ /alkalinity/acidity
- Light
- Air/oxygen

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

**2 marks**

2. Types of Beriberi;

- Wet Beriberi
- Dry Beriberi
- Infantile Beriberi

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

**1 mark**

3. Breakfast is considered the most important meal of the day because;

- It is taken after the previous day's food has been digested and absorbed leaving the stomach empty/breaks the fast after a long period.
- The body requires to be supplied with the basic nutrients for the day/provides energy for the day.

well explained

Any 1 x 1

**1 mark**

4. Reasons for covering food while cooking;

- to prevent loss of volatile nutrients
- to retain heat/to cook faster
- to prevent foreign material from entering the pan/pot
- to prevent loss of flavour.
- To prevent evaporation of water.
- To ensure even cooking.

Any 2 x 1

**2 marks**

5. Disadvantages of boiling food;

- Uses a lot of fuel
- Nutrients may be lost in boiling liquid
- Boiled foods are not so tasty
- Food may be damaged in form
- Fast boiling makes protein hard and indigestible.
- Takes long to cook.

Any 2 x 1

**2 marks**

6. The difference between perishable and non-perishable foods;
- Perishable foods deteriorate/rot/spoil fast while non-perishable foods last longer/do not spoil quickly.
- well explained                      2 marks
7. Advantages of advertising on a Billboard.  
It:
- is easily visible
  - is attractive
  - is relatively permanent
  - is entertaining
  - reaches many people
  - may contain more than one advertisement
  - may have messages in pictures or illustrations.
- Any 3 x 1                      3 marks
8. Benefits of breastfeeding to a mother:
- Reduced chances of getting premenopausal breast 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 uterus go back to normal.
- Any 3 x 1                      3 marks
9. Contents of a First Aid Kit are:
- Bandages
  - Razor blade / pair of scissors
  - Clip / safety pins / adhesive tape
  - Ointment
  - Pain killers.
- Any 4 x  $\frac{1}{2}$                       2 marks
10. Good grooming habits that help prevent skin diseases:
- Have regular baths with clean water and soap
  - Avoid sharing personal items
  - Wear clean ironed clothes
  - Eat well balanced meals
  - Disinfect items to be shared eg. basin/bucket
- Any 2 x 1                      2 marks

11. Factors that influence the frequency of cleaning a house:
- The season of the year/time
  - The location of the house
  - The nature of the occupants
  - The nature of the house
  - The time available for cleaning
  - The size of the house
  - The purpose of the room / house
  - The cleaning equipment and materials available
  - The number of occupants
  - The frequency of use.
- Any 2 x 1                      2 marks
12. Electricity is the best type of artificial light because it;
- is clean in use
  - is efficient
  - comes in different intensity bulbs/can be regulated
  - easy to use and maintain
  - readily available.
- Any 2 x 1                      2 marks
13. Factors to bear in mind when renting a house;
- Rent should be affordable
  - The house space should be enough for the family size
  - Should be near social amenities eg. schools, shops, hospitals
  - Tenancy conditions should not be harsh and should be well understood
  - The neighbourhood should be secure/safe/good.
  - Access to good infrastructure
  - Availability of services such as water, electricity.
- Any 2 x 1                      2 marks
14. Characteristics of a Plastic laundry basin are;
- strong/durable
  - convenient size
  - easy to lift/should have a broad rim
  - easy to clean
  - come in different colours/design
  - light in weight
- Any 2 x 1                      2 marks
15. Limitations of dry cleaning as a special treatment in laundry;
- It is expensive
  - Solvents are volatile
  - Solvents are highly inflammable
  - Solvents are poisonous
  - It requires skill.
- Any 2 x 1                      2 marks

16. Textile fibres of plant origin are;

- Cotton
- Linen
- Jute
- Sisal
- Banana.

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

**1 mark**

17. Uses of a Facing in clothing construction;

- 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.

Any 2 x 1

**2 marks**

18. Areas in a garment where diagonal tacking can be used are:

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

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

2 marks

19. Points to observe when taking body measurements:

- 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.

Any 2 x 1

2 marks

20. Reason why acetone is not a suitable stain remover on acetate fabrics.

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

1 mark

21. Correct direction to press the following darts:

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

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

2 marks

## SECTION B

22. (a) Cleaning an oil painted wall.

- 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 ( $\frac{1}{2}$ )

8 marks

(b) Procedure for laundering a loose coloured cotton T-shirt:

- Collect equipment and materials ( $\frac{1}{2}$ )
- Wash in lukewarm ( $\frac{1}{2}$ ) soapy ( $\frac{1}{2}$ ) 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.

$7\frac{1}{2}$  marks

(c) Cleaning a plain wooden chopping board.

- Collect equipment and materials ( $\frac{1}{2}$ )
- Clean with a soft/scouring ( $\frac{1}{2}$ ) brush and warm soapy ( $\frac{1}{2}$ ) water, a portion at a time scrubbing along the grain overlapping ( $\frac{1}{2}$ ) the portions;
- Rinse ( $\frac{1}{2}$ ) in warm ( $\frac{1}{2}$ ) water to remove soap and dirt;
- Final rinse in cold ( $\frac{1}{2}$ ) water to freshen;
- Dry ( $\frac{1}{2}$ ) with dry cloth/leave to dry
- Clean equipment and store ( $\frac{1}{2}$ ) .

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

## SECTION C

23. (a) Advantages of using a refrigerator in the home:-

- 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.

Any 4 x 2

**8 marks**

(b) Points to consider when planning meals for an invalid who is bedridden;

- 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.

Any 4 x 2

**8 marks**

(c) Difference between substitute products and complementary products;

- 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 sugar and tea, the need for one product creates the need for the other or one cannot be used without the other.

well differentiated

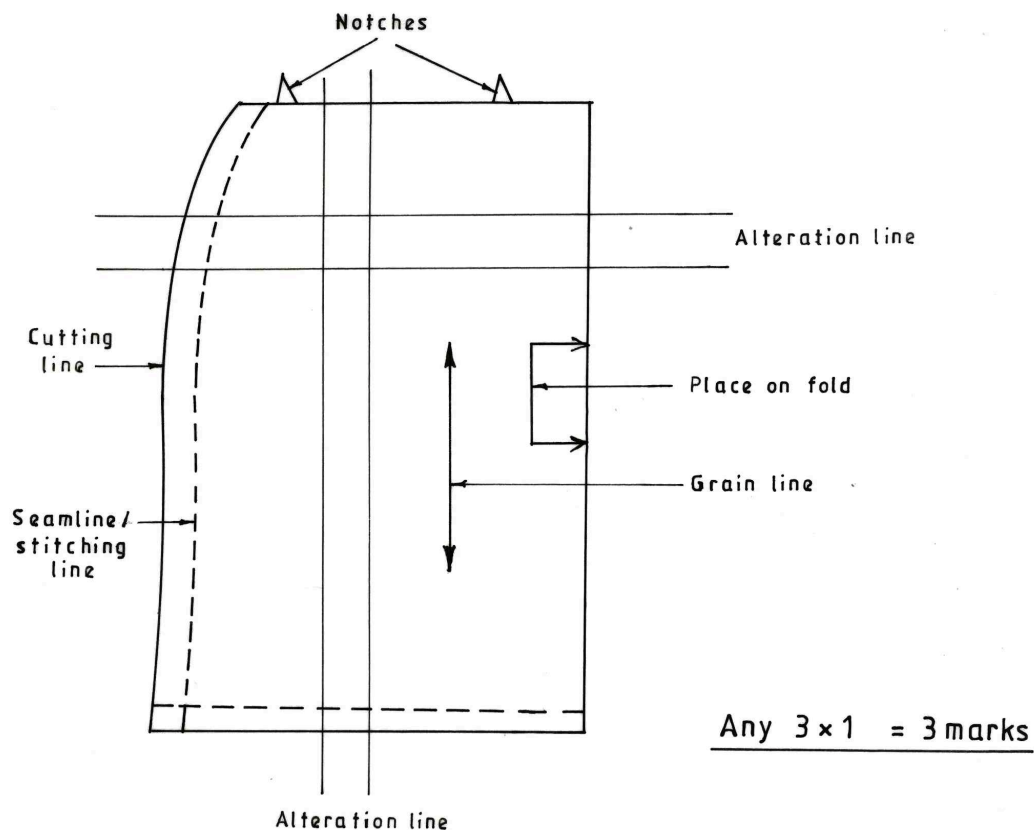
**4 marks**

24. (a) (i) Methods of disposing of fullness;

- |           |            |
|-----------|------------|
| • Elastic | • Shirring |
| • Darts   | • Easing   |
| • Pleats  | • Smoking  |
| • Tucks   |            |
| • Gathers |            |

Any 6 x ( $\frac{1}{2}$ ) **3 marks**

24. (a) (ii) Pattern markings on the skirt sketch.



(b) Attaching a lace onto the lower edge of a skirt using the overlaid seam;

- Fold the skirt along the fitting line to the W.S, then press;
- Place folded lace over the skirt fitting line; R.S. up of lace. Match fitting line, then pin and tack;
- Remove pins and machine stitch close to the fold, through the three layers;
- Remove tacking and press;
- Trim raw edges close to 1cm, neaten raw edges;
- Press seam on the R.S and W.S.

6 x 1

**6 marks**

(c) Finishing processes carried out during laundry;

- Ironing - moving a hot iron to and fro on an article until all creases are removed;
- Damping - introducing moisture to the dry article to be ironed;
- Pressing - placing a warm iron on a garment, lifting and placing it on the next portion until the whole article is pressed;
- Airing - hanging ironed clothes for some minutes to remove any traces of dampness before storage;
- Folding/Hanging - preparing clothes for storage;
- Mangling - folding of towels and pressing them between a mangle or roller for storage.

Any 4 x 2

**8 marks**

25. (a) Qualities of Aluminium that make it suitable for kitchen utensils;

- It is light in weight;
- It has a silvery appearance;
- It has a lower melting point/malleable;
- It acts as a good conductor of heat;
- It is highly resistant to weather corrosion;
- It is easy to clean;
- It is durable;
- It is reasonably cheap;
- It is safe to use;
- It does not rust.

Any 6 x 1

**6 marks**

(b) Signs of a child suffering from Marasmus;

- Extreme loss of weight;
- No fat under the skin/emaciated/wrinkled skin;
- Child looks like an elderly person;
- Ribs can be seen clearly;
- Eyes protrude;
- Hair looks normal but head is big;
- Child is weak;
- Child is alert and interested in his/her surroundings;
- Retarded growth.

Any 6 x 1

**6 marks**

(c) Factors to consider when selecting a baby's clothes;

- 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 therefore should have tie tapes;
- clothes should be non-flammable to keep baby safe from fire;
- Should be strong to withstand frequent washing.

Any 4 x 2

**8 marks**