



**MACHAKOS UNIVERSITY**

**SCHOOL OF HUMANITIES AND SOCIAL SCIENCES**

**DEPARTMENT OF FASHION DESIGN AND MARKETING**

**SUPPLEMENTARY/SPECIAL UNIVERSITY EXAMINATIONS 2019/2020 ACADEMIC  
YEAR**

**FIRST YEAR EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN  
FASHION DESIGN AND MARKETING**

**HFM 104: CARE OF TEXTILE PRODUCTS**

**Date:**

**Time: 2 Hours**

**INSTRUCTIONS:**

- i) This paper consists of **five** questions.*
- ii) Answer **Question 1** and any other **two** questions.*
- iii) **Question 1**=20 marks*
- iv) **Question 2 to 5**=15 marks each*

**QUESTION ONE**

- a) Define the following terms as used in this course;
  - i.** Enzyme detergents **(1mark)**
  - ii.** Hard water **(1mark)**
  - iii.** Laundry **(1mark)**
  - iv.** Soapless detergents **(1mark)**
- b) Explain three (3) qualities of laundry soaps that influence the process of laundering. **(3marks)**
- c) Identify three (3) general rules of removing the stains. **(3marks)**
- d) Expound any four (4) properties of soft water. **(4marks)**
- e) Explain three methods that are used to remove temporary hardness from water. **(6marks)**

**QUESTION TWO**

Describe the methods used to remove the following types of stains.

- i. Food
- ii. Iron rust
- iii. Chewing gum
- iv. Writing ink
- v. Mildew

**(15marks)**

### **QUESTION THREE**

Discuss five types of ironing equipment that are commonly used

**(15marks)**

### **QUESTION FOUR**

Discuss the types of washing machines that are used in the textile care and maintenance

**(15 marks)**

### **QUESTION FIVE**

With the aid of illustrations, explain five pressing symbols used in international care labeling of clothes **(15 marks)**

## MARKING SCHEME

### 1a) Define the following terms as used in this course

- ✓ Enzyme detergents - is catalysts that break up a protein chain into amino acids. Enzyme detergents have enzyme built in to improve their cleaning efficiency
- ✓ permanent hardness -this is caused by the presence of their calcium and calcium chlorides or sulphates in water, that is , magnesium chloride ,magnesium sulphate ,calcium chloride or calcium sulphate
- ✓ Laundry –work is the general care of clothes and household articles.
- ✓ Soapless detergents- These are made from petroleum or by products or hydrocarbons, for example naphthalene and alkane gases. **(1x4=4marks)**

### (b) Identify the qualities of soaps

- ✓ Soaps are destroyed by hard water. They form scum when in contact with hard water.
- ✓ They are destroyed by acid.
- ✓ They do not lather easily in hard water.
- ✓ They are difficult to rinse out of some fabrics such as wool and bulky fabrics.
- ✓ They loosen colour in woolen fabrics as they form an alkaline solutions in water. **(3marks)**

### (c) Identify fifteen general rules of removing the stains on out of fabric

- ✓ Identify the type of stain.
- ✓ Identity Identify the right stain remover for the stain on the fabric.
- ✓ Remove the stain when it is fresh.
- ✓ Remove the stain before washing the garment.
- ✓ Test the fabric for colour –fastness to the remover on an unseen part of the garment first.
- ✓ Work quickly and lightly on a clean surface.
- ✓ Work from strong side of the garment.
- ✓ Remove the stain inwards.
- ✓ There are different strength of removers'. Try weak ones first before moving on the stronger ones.
- ✓ use dilute concentrations of the removers first, then move on to stronger ones if it does not work.
- ✓ Work in a well-ventilated area as some of the fumes produced by the removers are dangerous.
- ✓ Wash the garment immediately after removing the stain.
- ✓ If the stain is stubborn, send the garment to a reliable drycleaner.

- ✓ Keep all stain removers away from the reach of children. **(1x3=3marks)**

(d)Expound any four properties of soft water

- ✓ It uses little detergent because it lathers easily with soap.
  - ✓ It does not dry up the skin or leave white marks.
  - ✓ It does not form scum when it reacts with soap.
  - ✓ It is not as tasty as hard water to drink
- (4marks)**

(e)Explain three methods that are used to remove temporary hardness from water

- ✓ Boiling carbon dioxide is driven off in the steam and calcium is driven off in the steam and calcium carbonate is left on the sides of container as fur – a whitish deposit. This is commonly seen on basins, hot water kettles and water heaters.
  - ✓ Use of commercial agents (water softeners).
  - ✓ Uses of soap less detergents such as Omo and toss .These have water softeners incorporated in to the
- (2x3=6marks)**

## QUESTION TWO

Describe the methods used to remove the following types of stains

- Iron rust Cover the stain with salt and lemon juice and leave it for an hour, then wash thoroughly. Cover the stained part with salts or lemon and pour boiling water through
- Chewing gum- rub the stain with ice if available. Once it hardens, scrape off the chewing gum, then wash normally or apply blue band on top of the stain then treat it as grease stain and wash the garment normally.
- Writing ink- blot out as much ink as possible. Cover the stain with milk and squeeze lemon juice on top and leave if for an hour. Tomato juice may also be used and still left for an hour. Rinse thoroughly and wash the article normally.
- Mildew- Caused by fungus rub due to dampness on fabrics, treat it with water and soap as in perspiration. Hydrogen peroxide may be used but not on white cotton and linens.
- Food - Soak in warm water, treat as teas or coffee, dilute hydrogen peroxide may also be used

**(5 points @ 3 marks=15marks)**

## QUESTION THREE

Discuss five types of ironing equipment that are commonly used

✓ **Charcoal irons**

These are heated by hot charcoal. They are heavy, and the temperature cannot be controlled. care must be not to pour ash onto the garments when ironing

✓ **Flat irons**

These are only placed on a hot surface, which heat them up, example of such surface are electricity plate, kitchen stove and hot charcoal. Hence they cannot be regulated .one needs to wipe after heating to avoid soiling the garment.

✓ **Automatic electric irons**

These are electric irons which have a control disc which can be used to set the required temperature.

✓ **Steam irons**

These are also electric irons that contain a chamber where water is converted in to steam. The steam then flows out of grooves in the soleplate. This means there is no need to use a pressing cloth. They have a larger surface and are lighter in weight .They are a bit more expensive and can be used either when wet (with steam) or when dry.

✓ **Steam and spray irons**

These have a button which produces fine jets of water when pressed. It gives extra dampness on badly creased or heavier articles in addition to the steam.

✓ **Travelling irons**

These are small and light weight electric irons, whose temperature can be regulated. They can be easily dismantled and assembled for ease in packing for travel.

**(5 points @ 3 marks=15marks)**

#### **QUESTION FOUR**

✓ **SINGLE TUB WITH WRINGER**

This machine has a single tub with a wringer attached. The wringer is turned either on either manually or electrically. The machine may be fitted with a water heater, whereby it

may be used to boil clothes .this type of machine is relatively cheap. It does not require a lot of space. This type of machine only washes. Rinsing is, therefore, done manually.

✓ **TWIN TUB**

This machine consists of a large unit divided into two; a washing tub and a separate spin drier .clothes are washed in 1<sup>st</sup> tub then lifted across to the spin drier where the soapy water is wrung out and the clothes rinsed. It is quite expensive and requires more space. It can be pre-set for temperature of water and length of time for washing .this means one does less work when washing.

✓ **SEMI-AUTOMATIC.**

Washing, rinsing and spin-drying take place in one unit (in one tube) .washing time, temperature of water, rinsing and spin –drying are pre-set, one stage after the other. This machine is more expensive to run and buy .it is possible to store the soapsuds for re-use.it means less work, but needs a good source of water to run effectively

✓ **FULLY AUTOMATIC**

The entire laundering process is done once the controls are set. It is very expensive, bulky and also needs a good source of water

## QUESTION FIVE

With the aid of illustrations, explain five pressing symbols used in international care labeling of clothes **(15 marks)**

Ironing/Pressing Symbols	
Symbol	Description
	Iron with or without steam by hand, or press on commercial equipment, at a high temperature (not exceeding 200°C). Recommended temperature for cotton and linen textiles.
	Iron with or without steam by hand, or press on commercial equipment, at a medium temperature (not exceeding 150°C). Recommended temperature for polyester, rayon, silk, triacetate and wool textiles.

## Ironing/Pressing Symbols

Symbol	Description
	Iron with or without steam by hand, or press on commercial equipment, at a low temperature (not exceeding 110°C). Recommended temperature for acetate, acrylic, modacrylic, nylon, polypropylene and spandex textiles.
	Do not steam.
	Do not iron or press.

- ✓ **Correct description-1 mark;**
- ✓ **correct symbol-1 mark,**
- ✓ **Total 2x5= 10 marks**