



# **Cereal processing**

## **Level-II**

**Based on October 2019, Version 2 Occupational standards**

**Module Title: - Implementing food safety**

**LG Code: IND CRP2 M20 0920 LO (1-3) LG (67-69)**

**TTLM Code: IND CRP2 TTLM 0920v1**



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### Instruction sheet

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics:

- Identifying food handling requirements.
- Identifying food safety program
- Carry out food handling
- Controlling Food safety hazards
- Reporting food safety control and taking corrective action
- Recording Food safety procedure.
- Maintaining workplace standard
- Conducting work

This guide will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this learning guide, you will be able to:

- Identify food handling requirements.
- Identify food safety program
- Carry out food handling
- Control Food safety hazards
- Report food safety control and taking corrective action
- Record Food safety procedure.
- Maintain workplace standard
- Conduct work

**Learning Instructions:**

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below.
3. Read the information written in the information Sheets
4. Accomplish the Self-checks
5. Perform Operation Sheets
6. Do the “LAP test”



## Information Sheet 1- Identifying food handling requirements

### 1.1. Introduction

Food safety practices refer to specific food handling controls related to food handling and preparation in your business. These include things such as the receipt, storage, processing, display, packaging and transportation of food.

As well as paying attention to the practices specific to food handling and preparation in your business there are some practices that support food safety. These are called Support programs and include things such as cleaning and sanitizing, time and temperature controls, pest control, food recalls and waste disposal. Support programs are an essential part of your food safety program and must be followed by all food businesses

### 1.2. General requirements for the products:

All food products are to be supplied

- in good condition
- fresh condition
- Free from any odour
- Free from discolouration or signs of spoilage or contamination and;
- Under temperature control (ie below 5°C or above 60°C).

#### 1.2.1. Package and labelling requirements:

All food products are to be delivered in food grade containers that are free from chemical or physical contaminants. Labelling shall comply with the requirements of the Food Standards Code.

#### 1.2.2. Transport requirements:

All food products are to be transported in clean food transport vehicles. The foods are not to be transported in direct contact with meat, animals, plants, pests or chemicals or exposed to sunlight. All potentially hazardous foods (dairy foods, meat, fish, & smallgoods) must be transported under refrigeration at or below 5°C for cold food and at or above 60°C for hot food. Frozen food is to be delivered frozen hard (not partially thawed). If food is transported between 5°C and 60°C, it must be demonstrated that the temperature of the

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food, having regard to the time taken to transport the food, will not adversely affect the microbiological safety of the food.

### 1.3. Waste Disposal

A food business must maintain the food premises to a standard of cleanliness where there is no accumulation of garbage, except in garbage containers; recycled matter, except in containers; food waste; dirt; grease; or other visible matter.

Waste food must be separated from other foods so that it cannot be used for human consumption. Waste food can include:

- Food which has been left over by a customer.
- Food which may have been contaminated and unsafe to consume.
- Food that may be contaminated by pests, dirt and dust.
- Food that may be contaminated by chemicals.
- Food which is past its “use by” date.
- Food that has been outside temperature control and recalled food.

An adequate number of garbage bins should be provided for the food preparation area, emptied and cleaned daily. External garbage bins should be positioned outside of the food preparation area and be located in a designated area that is away from entry and exit points to the food preparation area. They should be pest proof with close fitting lids and should be cleansed regularly (for example, once a week) as part of the cleaning schedule.



**Fig. 1 Liquid waste trash bin**



**Fig. 2 Solid waste trash bin**



There is no single individual sewage disposal technique that can be universally applied under all conditions. However, the selection of a particular method will depend upon the following major factors:

- The nature of soil formation and stability of the locality
- The availability of adequate land for sewage disposal
- The quantity of sewage to be disposed
- The degree of sewage treatment to be achieved
- The presence of well water, and whether it is used as the source of the water supply
- The level of the water table of the ground water
- The proximity of the disposal site to surface water sources
- The relative cost of the disposal technology

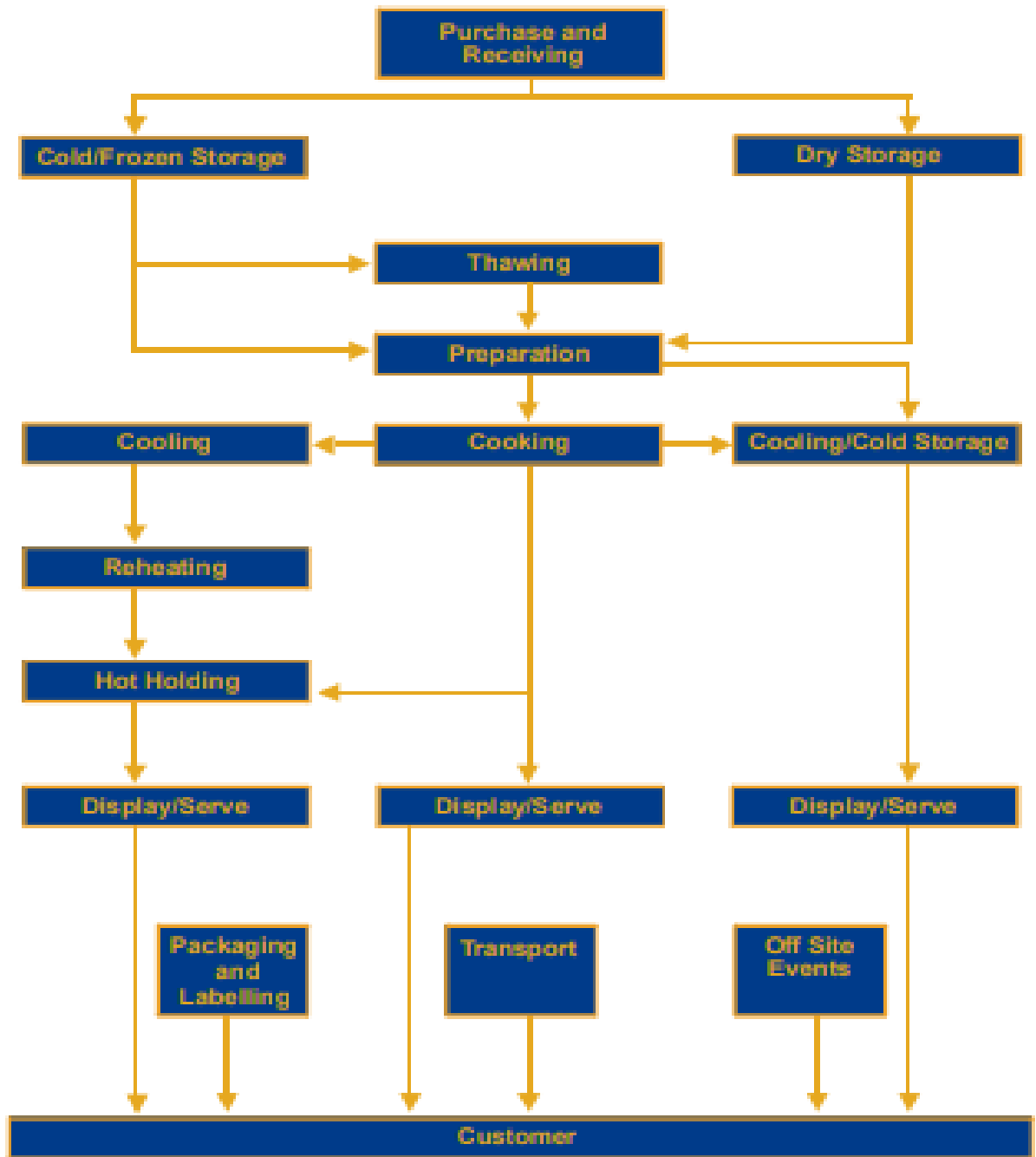
In food handling industry, identifying food requirements are the most important thing to be considered food handling activities.

This can be summarized in the flow chart below.

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## Food Handling Activities Flow Chart

**Step 2. Identify the relevant processes in the flowchart that apply to your business and complete the Food Handling Activities Form (p14) Make a copy of this flowchart and add it to your Food Safety Program. This will help you identify the activities in your food business and complete your activities form.**



**Fig. 3 Food handling activity flow chart**





<b>Self-Check -1</b>	<b>Written Test</b>
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Mention the condition in which all food products are to be supplied (6pts)
  
2. Mention waste food that must be separated from other foods so that it cannot be used for human consumption (6pts)

**Note: Satisfactory rating – 12 points      Unsatisfactory - below 12 points**

You can ask you teacher for the copy of the correct answers.

**Answer Sheet**

Score = _____
Rating: _____

Name: \_\_\_\_\_ Date \_\_\_\_\_

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## Information Sheet 2- Identifying food safety program

### 2.1 The food safety programs

The purpose of food safety programs is to ensure that a food business has made decisions on what actions it will take to prevent food safety problems arising in the food handling operations that are specific to its particular business. This food safety program tool for the commercial food service sector identifies and recommends controls for the hazards expected to be relevant to the food handling operations involved in the commercial food service sector in accordance with the components of a food safety program, as outlined below.

#### The food safety program must:

- Systematically identify the potential hazards that may be reasonably expected to occur in all the food handling operations of your business;
- Identify where, in your food handling operations, you control the hazards;
- Explain your monitoring system to ensure the controls are in place;
- Specify the corrective action you will take if monitoring indicates that a hazard is not being controlled;
- State how your food safety program will be reviewed to ensure that it is adequate; and
- Describe the records that you will keep so that you can demonstrate that you are complying with your food safety program

Standard 3.2.1 requires that your food safety program and the records you keep demonstrating compliance must be in writing and available to food safety auditors.

It is essential that the food safety program you prepare based on this food safety program tool accurately reflects the food handling operations that you use in your business.

There may be more than one way to control a hazard and the legal requirements for a food safety program allow you the flexibility to include the control that works best for your business. For example, the growth of food borne pathogens in potentially hazardous food

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could be controlled by maintaining this food at 5°C or below or limiting the time the food is at temperatures that support the growth of these pathogens.

In following this food safety program tool, you should be meeting the requirements of the parts of Standard 3.2.2 Food Safety Practices and General Requirements and Standard 3.2.3 Food Premises and Equipment that are applicable to your business. The approach taken in the design of this tool is that complying with these Standards need not be a separate exercise.

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<b>Self-Check -2</b>	<b>Written Test</b>
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Mention the importance of food safety program tool for the commercial food service sector that identifies and recommends controls for the hazards expected as components of a food safety program (6pts)

**Note: Satisfactory rating – 6 points                      Unsatisfactory - below 6points**

You can ask you teacher for the copy of the correct answers.

**Answer Sheet**

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_ Date \_\_\_\_\_

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## Information Sheet 3- Carry out food handling

### 3.1 Food handling fundamentals statement

The industry has included the food handling fundamentals by: examples

- incorporating these fundamentals in food handling procedures and practices,
- providing food handlers with a copy of their obligations as a food handler,
- including the food handler hygiene policy in organisational policy, providing it to all current food handlers and new food handlers,
- using the food handling fundamentals during food handler training sessions,
- Displaying food handling and food safety information in the kitchen area or relevant notice board, and other.

.....

.....

Authorised by manager .....Date

### 3.2 Food Handlers skills and knowledge in food safety

Food handlers and supervisors of food handling operations are required to have skills and knowledge in food safety and food hygiene matters appropriate to their work activities.

There are many approaches that a given industry can adopt to provide food handlers with appropriate skills and knowledge to produce safe food. Some examples are

- in-house training;
- Distribution of food safety information;
- Viewing of relevant food safety videos or dvds;
- Use of interactive cd rom or internet based packages;

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- Establishment of internal policies and procedures that provide information about food handler and supervisor responsibilities; and
- Attendance at food safety courses.

A food handler skills and knowledge register should be kept to demonstrate to an auditor that food handlers have appropriate skills and knowledge. This function may be undertaken by another department, a training coordinator or central office as long as the records are available if required by an auditor. Record below is an example of a food handler skills and knowledge register.

**Food handler skills and knowledge statement**

The industry will ensure food handlers have appropriate skills and knowledge by:

.....

.....

.....

.....

.....

The industry will record this information on: *(example record 4)*.....

Authorised by manager ..... Date .....



<b>Self-Check -3</b>	<b>Written Test</b>
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Mention the approaches that a given industry can adopt to provide food handlers with appropriate skills and knowledge to produce safe food. (6pts)

**Note: Satisfactory rating – 6 points                      Unsatisfactory - below 6 points**

You can ask you teacher for the copy of the correct answers.

**Answer Sheet**

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date \_\_\_\_\_

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## Information Sheet 4- Controlling food safety hazards

### 4.1 Definition

**Hazards** is a biological, chemical or physical agent in, or condition of, food with the potential to cause an adverse health effect

Foods can become unsafe and have the potential to cause harm through hazards. Hazards arise from:

- improper agricultural practices
- polluted environment (mercury, cadmium, nickel)
- poor hygiene at all and any stage of the food chain (E.coli, Listeria, Campylobacter)
- lack of preventive controls in food processing and preparation operations
- untrained personnel
- misuse of chemicals (pesticides, weed inhibitors, growth hormones)
- use of banned dyes and flavours (Sudan, tartrazine, azo dyes, butter yellow)
- contaminated raw materials, ingredients and water (bacteria and viruses, mycotoxins)
- inadequate or improper storage or handling.
- adulterated food and food fraud (intentional addition of cheaper varieties, substitution with alternate substances, synthetic varieties, salt, sawdust, sand etc.).

### 4.2 Types of hazards

Three types of hazards:

- Biological (germs)
- Chemical (poisons)
- Physicals(objects )

- **Biological hazards (germs)**

These are harmful micro-organisms such as bacteria, viruses, helminths, protozoa, algae, and certain toxic products they may produce. For example, Salmonella, Escherechia coli, Listeria, Yersinia, Clostridium, Staphylococcus. They cause harm by spoiling of food, or causing sickness, disease, or death in people consuming the food. However, not all micro-

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organisms are harmful. Bacteria in yogurt, yeast in bread, or certain molds in cheese form part of the food production and play an important role to impart characteristic flavours.

Biological hazards are introduced into food primarily through contact with soil, contaminated water, incorrectly treated manure, sewage, air, persons, animals (farm animals, birds and pests), and transport.

- **Chemical hazards**

These are fertilizers, pesticides, weed inhibitors, growth regulators added intentionally during production, waxes during post harvest, the residues of which are beyond safe or acceptable limits. They may also be prohibited or unauthorized substances and colorants (like Sudan IV, tartrazine, azo dyes), adulterants or inappropriately used stabilizers and preservatives.

Chemicals from non-food grade packaging in contact with food can also leach into food. Substances like heavy metals (lead, cadmium, zinc, cyanide), refrigerants etc may be present in food due to pollution.

Detergents and lubricants used by the food handler or processor may also contaminate food and present a hazard. Chemical hazards exist also in natural form such as allergens, mycotoxins, alkaloids (glycoalkaloids in potatoes), enzyme inhibitors.



**Mycotoxins are**

- poisonous chemical compounds
- produced by certain fungi
- associated with diseased or mouldy crops.
- found on seeds, nuts, grains, and fruits such as wheat, maize, barley, peanuts, apples etc.

**Fig. 4. Chemical industry**

- **Physical hazards**

These are pieces of metal, glass, plastic, wood, personal items, machinery and equipment. For example pins, nails, broken bulb or bottle, fragments, watch, jewellery, keys, stones, hair. These hazards can cause choking, cuts and bruises in the mouth and gastrointestinal system.



**Fig. 5 Examples of physical hazards**

### 4.3 Hazard controls / monitoring

- Only buy from approved suppliers on Record 1 - Approved Food Suppliers List.
- Suppliers should read and sign Record 2 - Approved Food Supplier Agreement Form.
- An employee of the business needs to be present when the goods are delivered to carry out the following checks:
  - ✓ Check that the temperature of potentially hazardous foods received from all suppliers is 5°C or below for cold food and 60°C or above for hot food. Once it is established that a supplier is delivering potentially hazardous foods within agreed temperature ranges, deliveries can be checked randomly, for example: a representative sample of 1 in 5.





<b>Self-Check -4</b>	<b>Written Test</b>
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Mention the three types of Hazards (3pts)
2. Mention How can we keep food safe in business?(7pts)

**Note: Satisfactory rating – 10 points      Unsatisfactory - below 10 points**

You can ask you teacher for the copy of the correct answers.

**Answer Sheet**

Score = _____
Rating: _____

Name: \_\_\_\_\_ Date \_\_\_\_\_

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## Information Sheet 5- Reporting food safety control and taking corrective action

### 5.1 Definitions of important terminologies

**Control:** To take all necessary actions to ensure and maintain compliance with criteria established in the HACCP plan and /or the state wherein correct procedures are being followed and criteria are being met.

**Control measure:** Any action and activity that can be used to prevent or eliminate a food safety hazard or reduce it to an acceptable level.

**Corrective action:** Any action to be taken when the results of monitoring at the CCP indicate a loss of control.

**Hazard analysis and critical control point (HACCP):** A system which identifies, evaluates, and controls hazards which are significant for food safety.

**Hazard:** A biological, chemical or physical agent in, or condition of, food with the potential to cause an adverse health effect.

**Hazard analysis:** The process of collecting and evaluating information on hazards and conditions leading to their presence to decide which are significant for food safety and therefore should be addressed in the HACCP plan.

### 5.2 Food safety control and taking corrective action

The bee product processing industry, like other industries, faces the problem of what to do with products of semi-finished products which cannot be safely consumed. Often, the product can be reprocessed; however, this may require a rapid HACCP study because, when no previous experience exists, the product to be 'reworked' should be regarded as a new raw material. The HACCP system for food safety management is designed to identify potential health hazards and to establish strategies to prevent their occurrence.

Under a properly implemented HACCP System, whenever a deviation from a critical limit (CL) for a critical control point (CCP) occurs, there shall be a corrective action. A deviation is a failure to meet a CL. It indicates that a possible food safety hazard may have occurred

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and that unsafe product may have been produced. Thus, corrective actions must be immediate and must trigger an automatic review of the HACCP plan.

The HACCP team should routinely pay close attention to operational trends. This should include tracking the frequency of the process adjustments that are required when operating limits are exceeded. A pattern of exceeding operating limits on a regular basis could serve as a warning that a deviation may be imminent.

### 5.3 Properties of Corrective Actions

**Specific:** Corrective actions are required for each affected CCP, and for each and every deviation at each CCP.

**Immediate and comprehensive:** The time for corrective action is dependent upon the monitoring frequency. All food products affected and produced within the monitoring time period must be brought under control. Holding and storage provisions for pending product must be included.

**Documented:** Every corrective action for every deviation must be recorded on an appropriate form.

### 5.4 Corrective Action Plan

A written Corrective Action Plan is required, and each corrective action must be documented. Corrective actions are specific for each hazard and for each CCP. The plan must provide for immediate corrective actions. However, time factors will vary with monitoring procedures. It is important to note that, when a deviation occurs, a corrective action must be taken on all affected food products produced since the last monitoring observation or measurement. Thus, provisions in a corrective action plan should include procedures for holding suspected product as appropriate.

The goals of a corrective action plan are to:

- Establish a system that allows and promotes rapid response to deviations from a critical limit;

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- Correct and eliminate the cause of the deviation and restore process control;
- Maintain accurate documentation and records; and
- Identify affected product and determine appropriate disposition.

- **Taking corrective actions**

Reject potentially hazardous foods which are delivered having internal temperatures between 5°C and 60°C (unless the supplier can demonstrate that the time period at which the food has been between 5°C and 60°C will not compromise the safety of the food). Refer to Support Program 5 – Temperature Control (4 hour/2 hour guide).

- ✓ Reject products in damaged packaging.
- ✓ Reject goods that are incorrectly labelled. Goods that don't have the name and address of the supplier and a use by/best before date or batch code (un-packaged food is exempt).
- ✓ Reject deliveries if the inside of the delivery vehicle is unclean or is carrying chemicals or other matter that may contaminate food.
- ✓ Reject suppliers that do not provide food in the agreed manner. Refer to Record 2 - Approved Food Supplier Agreement Form.
- ✓ Record details of any problem/s and the corrective actions taken on Record 3 - Incoming Goods.

#### **5.4. Documentation of Corrective Actions**

Documentation and records of all corrective actions for all CCPs must be maintained on appropriate forms. In addition, corrective actions should be summarized in a narrative statement. These records should demonstrate both corrective actions and product disposition. In addition, they assist in assessing recurring problems and the need for modifications.

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At a minimum, corrective action records must include:

- Product identification: description, code and/or lot number, hold number, amount of hold;
- Description of deviation;
- Date of occurrence;
- Corrective action taken and process adjustments;
- Name of responsible individual; and
- Results of product evaluation and disposition.

Improper corrective actions, or lack of corrective actions when deviations occur, are a major cause of regulatory violation of HACCP plans for those commodities under federal regulation. Therefore, where appropriate, the HACCP team should consult regulatory requirements. At the bare minimum, corrective actions must be summarized on the HACCP Plan Summary Form.

Generally, Corrective actions are key to preventing the sale of unsafe product. Corrective actions shall be taken for every deviation from a Critical Limit. The cause of the deviation shall be corrected and any modifications made to prevent recurrence. It is imperative that these actions be taken, that they be thorough, and that they be documented.

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<b>Self-Check -5</b>	<b>Written Test</b>
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What is the importance of HACCP system designed for food safety management (4 points)
2. Write the properties of corrective action.(3points)
3. Mention some of the record of corrective action must include. (4points)

**Note: Satisfactory rating – 11points                      Unsatisfactory - below 11 points**

You can ask you teacher for the copy of the correct answers.

**Answer Sheet**

Score = _____
Rating: _____

Name: \_\_\_\_\_ Date \_\_\_\_\_

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**Information Sheet 6- Recording Food safety procedure**

**6.1 Recording**

**What are records?** Select the Records that have been referred to in the Food Handling Activities and the Support Programs. It is a good idea to photocopy a stock of these records so they are available when needed. Some records are used daily, weekly or monthly whereas other records may only be used once a year. Your business needs to assign responsibility to people to carry out the actions in the food handling activities, and complete the records. The records in current use should be kept in a folder that is easily accessible. Those records that are not in current use (ie. completed records) should be kept in such a way as to be available for review by an Environmental Health Officer or Food Safety Auditor.

The forms included in this template (and information within the forms) are examples. Standard 3.2.1 requires that records demonstrate action taken and compliance with the food safety program. You may use any method, including other forms or variations of any of these or others, electronic logging, personal digital assistants etc, as long the record demonstrates action taken or compliance with the food safety program and is available to your food safety auditor.

The key with record keeping is to:

- keep records to a minimum: only record information that is required or will be useful;
- be creative: develop recording methods as part of your current food operations or on existing documentation (for example, record receiving temperatures on purchase orders or invoices, or cooking temperatures on the weekly menu);
- make it clear and easy for the recorder (food handlers: talk to them about what works);
- develop processes to ensure completed records are collected, reviewed and filed ready for audit in a timely manner, and ensure replacement forms are readily and immediately available;
- avoid recording the obvious things
- use abbreviations where possible; and

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- discuss with your auditor: required information, methods and appropriateness of records.

Remember records must demonstrate compliance with your food safety program and be available to your food safety auditor.

## 6.2 Types and procedures of recording

### Record 1: Supplier list

**Procedure:** for each food supplier, record business details (for example, business name, and contact person and phone number), the type of product supplied (for example, meat, dry good, fruit and vegetable, dairy, bee products etc) and any relevant notes

### Record 2: Food receipt

**Procedure:** The business will check a sample of food deliveries:

- Potentially hazardous foods will be checked to see if the temperature is at 5oC or below.
- Frozen goods will be checked to confirm foods are received hard frozen.
- Non-potentially hazardous foods (dry goods, fruit and vegetables, bee products etc) will be checked for signs of contamination, damaged packaging or expired dates.

### Record 3: storage temperatures

**Storage procedure:** check the fridge temperature each day and record if out of range advise manager.

manager) and record. If below 60 °C check power and settings and check again in 30 minutes. If still below 60°C advise manager and take action to ensure food safety is not compromised.

### Record 4: skill and knowledge

**Procedure:** record how food handlers have obtained appropriate skills and knowledge

### Record 5: cleaning and sanitizing schedule

Food handlers will after every session:

- clean and sanitise the service area
- empty, clean and refill bain-maries
- wash and store dishes and utensils

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- mop the floor around the service area and dishwasher.

**Procedure:** food handlers are to initial tasks as completed or at the end of their shift

**Record 6: Adequate cooking**

**Procedure:**

- Temperature check or visually check potentially hazardous cooked foods that do not undergo sustained boiling, simmering or steaming; and
- Check that potentially hazardous cooked foods that are cooled for consumption later are cooled rapidly.

**Record: 7 Maintenance and calibration**

**Procedure:** list equipment, fittings and fixtures that impact on the safety and suitability of the food and record maintenance for each.

**Record 8: pest control activities to prevent pests**

**Procedure:** record routine activities undertaken to prevent pests

**Record 9: Transport temperature**

**Procedure:** record the temperature and time of a sample of potentially hazardous food before dispatch and at receipt. If foods are between 5°C and 60°C advise manager.

**Record 10: review of food safety program**

**Procedure:** review the food safety program at least annually by assessing and making any necessary adjustments to the food safety program.

**Record 11: non conformance**

**Procedure:** record any non-conformance and resolution that impact on food safety or the food safety program

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<b>Self-Check -6</b>	<b>Written Test</b>
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Mention the types and procedures of recording (20pts)

**Note: Satisfactory rating – 20 points      Unsatisfactory - below 20 points**

You can ask you teacher for the copy of the correct answers.

**Answer Sheet**

Score = _____
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## Information Sheet 7- Maintaining workplace standard

### 7.1 Maintaining workplace standard

Food safety practices refer to specific food handling controls related to food handling and preparation in business/industry. These include things such as the receipt, storage, processing, display, packaging and transportation of food. As well as paying attention to the practices specific to food handling and preparation in product handling business/Industry there are some practices that support food safety. These are called Support programs and include things such as cleaning and sanitizing, time and temperature controls, pest control, and Food recalls and waste disposal.

In order to maintain the work place to its standards to keep food safety practices: there should be:

- Appropriate storage area
- Processing area and display facilities
- Packaging and transportation facilities and also
- Cleaning and sanitizing facilities
- pests control mechanism
- waste disposal
- Temperature controls are maintained to its standards.

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<b>Self-Check -7</b>	<b>Written Test</b>
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Mention some of the most important points that a work place maintain to keep a given food safety practices (7pts)

**Note: Satisfactory rating –7 points                      Unsatisfactory - below 7 points**

You can ask you teacher for the copy of the correct answers.

**Answer Sheet**

Score = _____
Rating: _____

Name: \_\_\_\_\_ Date \_\_\_\_\_

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## Information Sheet 8- Conducting work

### 8.1 Conducting work

While conducting work in food safety program the following are very important points to be considered. Some of them are:

**Manufacturer instructions-** including food safety practice

#### **Material safety data sheets (MSDS)**

The MSDS is a detailed informational document prepared by the manufacturer or importer of a hazardous chemical. It describes the physical and chemical properties of the product.

MSDS's contain useful information such as:

- Flash point,
- Toxicity,/contaminants
- Procedures for spills and leaks and
- Product handling, processing and Storage guidelines.

Information included in a Material Safety Data Sheet aids in the selection of safe products, helps you understand the potential health and physical hazards of a chemical and describes how to respond effectively to exposure situations OHS standards and procedures Specifications for tools, equipment and materials in controlling safety food requirements.

- **Standard Operating Procedures (SOP)**

It is a set of step-by-step instructions compiled by an organization to help workers carry out complex routine operations. SOPs aim to achieve efficiency, quality output and uniformity of performance, while reducing miscommunication and failure to comply with industry regulations

- Verbal directions from manager or supervisor
- Work instructions and standards
- Work notes.

Instructions and directions provided by supervisor must be followed and if we have any question we can ask when necessary. And also employee must observe and follow Enterprise policies and procedures in relation to workplace practices in the handling and disposal of materials.

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<b>Self-Check -8</b>	<b>Written Test</b>
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. List down 5 instructions and directions provided by supervisor to be followed by an expert in camel raising activity (5pts)
2. Write the useful information contained in material safety data sheet. (5pts)

**Note: Satisfactory rating – 10 points      Unsatisfactory - below 10 points**

You can ask you teacher for the copy of the correct answers.

**Answer Sheet**

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

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LG #68	LO # 2- Participate in maintaining and improving food safety
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### Instruction sheet

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics:

- Monitor work area, equipment and product materials
- Identifying and reporting processes, practices or conditions
- Taking corrective action
- Raising food safety issues

This guide will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this learning guide, you will be able to:

- monitor work area, equipment and product materials
- Identify and reporting processes, practices or conditions
- take corrective action
- raise food safety issues

**Learning Instructions:**

- 1 Read the specific objectives of this Learning Guide.
- 2 Follow the instructions described below.
- 3 Read the information written in the information Sheets
- 4 Accomplish the Self-checks
- 5 Perform Operation Sheets
- 6 Do the “LAP test”

**Information Sheet 1- Monitor work area, equipment and product materials**

**1.1. Introduction**

Monitoring of equipment's is very important to maintain the quality of must as to achieve the desired production of mead with good flavor. Similarly monitoring of equipment is used to identify the defected equipment's which have a negative impact on must operation and suggest for maintenance. Monitoring involves the regular measurement of parameters such as functionality, vibration, temperature and sound in and around machines and equipment. The equipment component defects are recognized at an early stage for maintenance or purchasing new and the remaining runtimes of bearings, shafts, etc.

**1.1.1. Five keys to safe food in a given working areas**

**1.1.2. Keep clean**

- Wash your hands before handling product and often during food preparation. Wash your hands every time they are exposed to germs (after going to the toilet, blowing your nose, smoking, handling raw meat/poultry/eggs, touching unclean surfaces, handling trash etc.)
- Wash, and sanitize all surfaces and equipment used for food preparation.



**Fig 1. Steps in washing hands**

Utensils especially those from which you eat, drink or in which you cook should not come in touch with raw meat/poultry/eggs.

- Protect kitchen areas and food from insects, pests and other animals.
- Keep food covered, in closed containers and wherever needed, refrigerated.
- Keep food preparation area clean and in good condition (repair cracks, fill holes, do not allow small spaces between fixtures that do not allow cleaning and where dirt and food can accumulate).
- Do not neglect the rubbish area. Keep it clean and tidy and remove rubbish daily. Clean and dry all equipment (including the cleaning equipment) as germs can grow fast in damp places



**Fig. 2 Dry cleaning equipments**

### 1.1.3. Separate raw and cooked food

- Separate raw meat, poultry and seafood from other foods at all stages from cleaning, storing, preparation, and cooking.
- Use separate equipment, utensils (including washcloth) for handling raw foods meats, poultry and sea foods. Use them for other foods always only after washing with hot water and soap.
- Do not let juices or liquids from raw meats, poultry and sea foods to spill or seep onto other surfaces or come into contact with cooked or other raw foods.
- Store foods in covered containers to avoid cross-contamination between raw and prepared foods.



Fig. 3 Separate raw and cooked food

### 1.1.4. Cook thoroughly

Proper cooking can kill almost all dangerous microorganisms. Studies have shown that cooking food to a temperature of 70°C can help ensure it is safe for consumption.

- Ensure food is thoroughly cooked through, especially meat, poultry, eggs and honey and bees wax.
- Juices from meats, seafood and poultry should not be pink, and should be clear



Fig. 4 cooking equipment

### 1.1.5. Store food at safe temperatures

- Do not leave cooked food at room temperatures for more than 2 hours.
- Refrigerate all cooked and perishable foods promptly
- Keep cooked food very hot (above 60°C) prior to serving
- Do not store food too long (more than 3 days) in the refrigerator
- Do not reheat refrigerator food more than once.
- Do not refreeze frozen food after thawing or Cooking

### 1.1.6. Use safe water and raw materials.

- Use safe water or treat it (by boiling, chlorination, and filtration) to make it safe for cooking, washing hands or utensils, and making drinks or ice.
- Select fresh and wholesome foods (not damaged or rotting) from clean stores / places
- Wash fruits and vegetables, bee products especially if eaten raw
- Cut away damaged bee products, since bacteria can thrive in these places.
- Do not use food beyond their expiry date.



Fig. 5 materials for cooking

Fig. 6 bee keepers' starter kits



<b>Self-Check -1</b>	<b>Written Test</b>
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. List down the Five keys to safe food in monitoring work area and product material and equipment's (5pts)

**Note: Satisfactory rating – 5 points                      Unsatisfactory - below 5 points**

You can ask you teacher for the copy of the correct answers.

**Answer Sheet**

Score = _____
Rating: _____

Name: \_\_\_\_\_ Date \_\_\_\_\_

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## Information Sheet 2- Identifying and reporting processes, practices or conditions

### 2.1 Identifying and reporting processes, practices or conditions

For proper identification and reporting of food safety processes or condition, it is important to ask ourselves about the way we are checking it and how can we take correction action are considered. See the most important goals below

#### **Goal 1: Ensure that food is safe when you purchase and receive it.( How can I check?)**

- Inspect all food deliveries from your suppliers.
- Observe whether the driver and the truck are clean and check that the vehicle is not carrying animals or chemicals in the same area as the food.
- Examine the packaging to see if it is damaged.
- Make sure that all products are properly labelled, including the product name and address of the manufacturer, a batch code or date code, an ingredient list and allergen and food intolerance information.
- All products should be within their 'best before' or 'use-by' dates.
- Look for any visible signs of insects, insect eggs or other items that should not be in or near food, such as dirt, glass and rubbish.
- Use a probe thermometer to regularly measure the temperature of food deliveries from each supplier of high-risk food.
- For new suppliers, check the temperature of deliveries more often until you are sure that the food is meeting temperature requirements.
- Check the temperature of each delivery for any supplier you feel is not consistently meeting temperature requirements.
- Tap frozen foods to test that they are frozen hard. Make sure an employee of your business is available to check when goods are delivered. If you have an arrangement with your suppliers for food to be delivered outside business hours, check the food before storing it.





- If you collect food from your supplier and transport it yourself, check that it is safe and kept at the right temperature during transport and storage.

**Goal 2: Ensure that stored food remains safe (how can I check?)**

- Measure core temperatures of high risk food stored in the refrigerator using a probe thermometer regularly (at least one check a day).
- If frozen food is warmer than  $-15^{\circ}\text{C}$ , test whether it is frozen hard. If yes, then it is still ok to use
- Check your completed food temperature records (Record 2) to ensure that safe food temperatures are maintained.
- If using remote temperature monitoring IT systems, refer to the Department of Health Guide to remote monitoring of temperatures in food storage units for advice on how to check and monitor the operation of your system.

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<b>Self-Check -2</b>	<b>Written Test</b>
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Mention the way we check weather stored food remains safe. (4pts)
2. Mention how can we check /ensure that food is safe when you purchase and receive it? (6pts)

**Note: Satisfactory rating – 10 points      Unsatisfactory - below 10 points**

You can ask you teacher for the copy of the correct answers.

**Answer Sheet**

Score = _____
Rating: _____

Name: \_\_\_\_\_ Date \_\_\_\_\_

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## Information Sheet 3- Taking corrective action

### 3.1 Taking corrective action

Before taking corrective actions it is very important identify hazards. So that to keep the food safety it is important to take corrective action / manage hazards according to the sever and extent of hazards.

### 3.2 Managing hazards

- **Hazard identification**

In any food safety system, all reasonably foreseeable hazards are identified along each stage / process. Hazard identification is the identification of biological, chemical, and physical agents capable of causing adverse health effects and which may be present in a particular food or group of foods. – Codex

- **Hazard analysis**

Each hazard is then analysed along the source, what can go wrong, how, when etc. and understanding the conditions that may cause the hazard to be present or to increase.

- **Hazard characterization**

The qualitative and/or quantitative evaluation of the nature of the adverse health effects.

- **Risk characterization**

The qualitative and/or quantitative estimation of the probability of occurrence and severity of adverse health effects.

- **Control measures**

Necessary actions are identified and implemented to reduce or eliminate the hazard

Probability of occurrence	High	minor	major	critical
	Medium	minor	major	major
	Low	minor	minor	minor
		Low	Medium	High
Severity of adverse health effects				

**Figure 7: Risk characterization matrix**

Clearly, hazard analysis is always unique to a company, its products, processes, and circumstances. No two companies will have the same analysis.

For example, refer to the work surfaces illustrated below (Figures 8 and 9).



**Fig 8. Unclean work surface and low lighting process risk**



**Fig. 9 clean work surface and well interiors**



- **Control measure:**

Action taken to reduce risk / eliminate hazard:

- ✓ Change table or repair table to cover work-surface and food contact surface with nontoxic and easily cleanable material e.g. steel or rustproof metal.
- ✓ Improve visibility through added lighting.

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<b>Self-Check -3</b>	<b>Written Test</b>
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Describe briefly the difference between hazard identification and hazard characterization (6pts)

**Note: Satisfactory rating – 6 points                      Unsatisfactory - below 6 points**

You can ask you teacher for the copy of the correct answers.

**Answer Sheet**

Score = _____
Rating: _____

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## Information Sheet 4- Raising food safety issues

### 4.1 Introduction

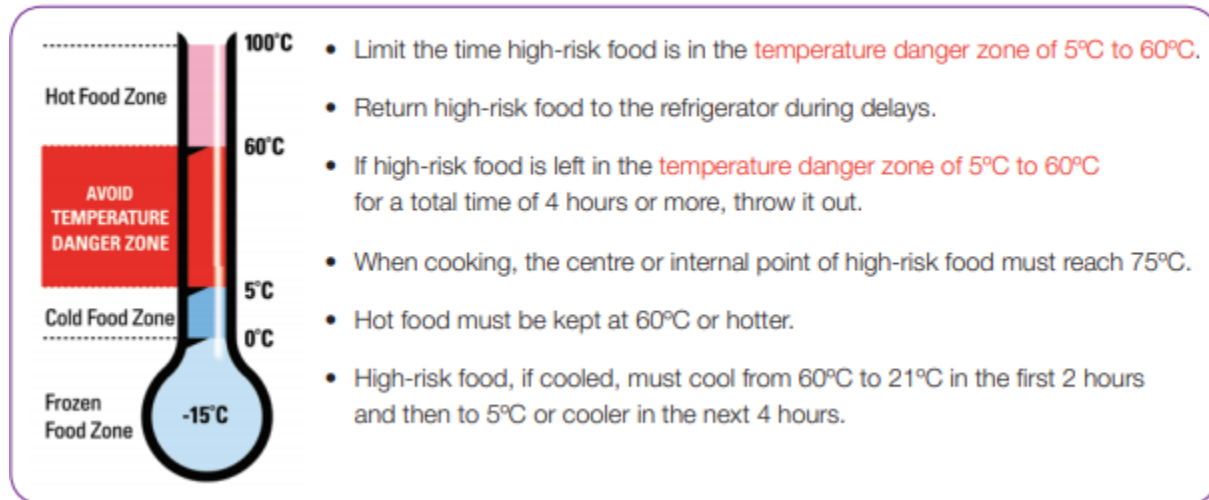
To maintain consumer confidence and industry work has to be done together to promote a preventative approach to food safety. This aligns with international best practice on the production and service of safe food by restaurants, cafes and other catering operations that have opted to implement similar food safety program systems. Food safety programs are recognized as a preventative approach to food safety. They are based upon the internationally accepted principle that food safety is best achieved through the identification and control of hazards in the production, manufacturing and handling of food.

This Food Safety Program Tool is a practical step-by-step guide to help you develop a food safety program for your business. It can be used to create your own workable, site-specific food safety program to address the food safety hazards associated with your business and to prevent food borne illness. It can also provide you with the flexibility to manage your own processes to suit your individual situation, a means to minimize the costs of implementing a food safety program and a source of information to address the needs of your business. Development of your food safety program is not an onerous task and can be incorporated into the day to day running of your business

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## 4.2 Keeping food safe in business

### Use time and temperature control to limit bacteria growth



**Fig. 10** Time and temperature control/limit

### 4.3 Avoid cross-contamination from other foods, surfaces, hands or equipment

- Keep raw food separate from cooked or ready-to-eat food.
- Use separate utensils and cutting boards when preparing raw and ready-to-eat food.

### 4.4 Handle and store food in hygienic conditions

- Wash hands thoroughly and regularly.
- Use clean, dry, sanitized cutting boards and equipment.
- Rinse cleaning cloths after each use and replace frequently.
- Store food away from contaminants and protected from pests.

### 4.5 Identify or separate foods containing allergens from other foods

- Identify allergens and label or name them in foods on your menu or display.
- Avoid cross-contaminating other foods with foods that contain allergens.
- For more information about food allergies and intolerances visit: Allergen awareness and food businesses.

### 4.6. Identify or separate foods to which some people are intolerant

- Identify common foods that cause food intolerance symptoms in some people after consuming them. Label or name them in foods on your menu or display.
- Avoid cross-contaminating other foods with these foods.

### 4.6 Symbols used in the food safety program



The following symbols appear in the food safety program template to remind you of specific food safety issues.



**Fig 11. Symbols**



<b>Self-Check -4</b>	<b>Written Test</b>
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Describe briefly the ways in which we can raise the food safety issues. (10 pts)

**Note: Satisfactory rating – 10 points      Unsatisfactory - below 10 points**

You can ask you teacher for the copy of the correct answers.

**Answer Sheet**

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

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<b>Operation sheet -1</b>	<b>Taking Corrective actions</b>
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Measure to be taken to take corrective action as follows:-

- Step.1. Prepare the necessary materials
- Step.2. Measure the food sample using thermometer (Reject potentially hazardous foods delivered b/n 5°C and 60°C) using Temperature Control (4 hour/2 hour guide)
- Step 3. Reject products in damaged packaging.
- Step.4. Reject goods that are incorrectly labelled.).
- Step.5. Reject deliveries if the inside of the delivery vehicle is unclean or is carrying chemicals or other matter that may contaminate food.
- Step.6. Reject suppliers that do not provide food in the agreed manner.  
Refer to Record 2 - Approved Food Supplier Agreement Form.
- Step.7. Record details of any problem/s and the corrective actions taken on  
Record 3 - Incoming Goods.
- Step.8. Report your result



<b>LAP Test</b>	<b>Practical demonstration</b>
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Name: \_\_\_\_\_ Date: \_\_\_\_\_

Time started: \_\_\_\_\_ Time finished: \_\_\_\_\_

**Instructions:** Given necessary templates, tools and materials you are required to perform the following tasks within 2 hours.

Task . Perform corrective action in food safety control.



<b>LG #69</b>	<b>LO # 3- Comply with personal hygiene standards</b>
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<p><b>Instruction sheet</b></p> <p>This learning guide is developed to provide you the necessary information regarding the following content coverage and topics:</p> <ul style="list-style-type: none"><li>• Personal hygiene</li><li>• Reporting Health conditions and/or illness.</li><li>• Wear appropriate clothing and footwear</li><li>• Complying movement around the workplace</li></ul> <p>This guide will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this learning guide, you will be able to:</p> <ul style="list-style-type: none"><li>• Personal hygiene</li><li>• Report health conditions and/or illness.</li><li>• Wear appropriate clothing and footwear</li><li>• Comply movement around the workplace</li></ul>
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**Learning Instructions:**

- 1 Read the specific objectives of this Learning Guide.
- 2 Follow the instructions described below.
- 3 Read the information written in the information Sheets
- 4 Accomplish the Self-checks
- 5 Perform Operation Sheets
- 6 Do the “LAP test”

**Information Sheet 1- Personal hygiene**

**1.1. Personal hygiene**

Every person working in handling area maintaining a high degree of personal cleanliness and wearing suitable, clean and, where necessary, protective clothing. People who do not maintain an appropriate degree of personal cleanliness, who have certain illnesses or conditions or whose conduct / behaviour is not appropriate to food safety, can contaminate food and transmit illness to consumers.

**1.2. Hygiene and protective clothing**

Food handlers should maintain a high degree of personal cleanliness where appropriate; food handlers must wear suitable protective clothing, head covering, and footwear.



**Fig.1. Suitable PPE**

- **Hand washing**

Personnel should always wash their hands when personal cleanliness may affect food safety, for example:

- ✓ At the start of food handling activities;
- ✓ immediately after using the toilet;
- ✓ After handling raw food or any contaminated
- ✓ Material; and after smoking.



<b>Self-Check -1</b>	<b>Written Test</b>
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Mention the how we can keep personal hygiene in food safety program. (5 pts)

**Note: Satisfactory rating – 5 points                      Unsatisfactory - below 5 points**

You can ask you teacher for the copy of the correct answers.

**Answer Sheet**

Score = _____
Rating: _____

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**Information Sheet 2- Reporting Health conditions and/or illness**

**2.1. Health condition of staff**

person suffering from, or being a carrier of a disease likely to be transmitted through food or afflicted, for example, with infected wounds, skin infections, sores or diarrhoea, permitted to handle any food-handling area in any capacity, if there is any likelihood of direct or indirect contamination?

- Are the health cards maintained for all employees
- Does any person so affected and employed in the establishment and who is likely to come into contact with food report immediately the illness or symptoms, and if possible their causes, to the processing establishment?
- At all stages of production, processing and distribution, is the food protected against any contamination likely to render the food unfit for human consumption, injurious to health or contaminated in such a way that it would be unreasonable to expect it to be consumed in that state?

**Sick persons**



**Fig. 2.** Sick persons suffering from illness transmitted through food, should not be allowed to enter any food handling area.



## 2.2. Reporting Staff health condition

Monitor the health of staff. Conditions to be reported for medical examination and/or possible exclusion from food handling are:

- Jaundice;
- Diarrhoea;
- vomiting;
- fever;
- sore throat with fever;
- Visibly infected skin lesions (boils, cuts, etc.);
- Discharges from the ear, eye or nose.

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<b>Self-Check -2</b>	<b>Written Test</b>
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Mention the conditions to be reported for medical examination and/or possible exclusion from food handling. (8pts)

**Note: Satisfactory rating – 7 points                      Unsatisfactory - below 7 points**

You can ask you teacher for the copy of the correct answers.

**Answer Sheet**

Score = _____
Rating: _____

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**Information Sheet 3- Wearing clothing and footwear**

**3.1 Wearing appropriate Personal Protective Equipment**

There are different types of materials, tools and equipments and supplies to perform different activities in food safety program. Therefore, identifying, selecting, using and preparing facilities, supplies according to the working activity are very important aspect of the program.

Personal protective clothing and footwear include:

- Overalls
- Gloves
- Safety goggles
- plastic boots/shoes
- respirator or face mask
- Aprons
- Protective eyewear/hair wear

Protective clothing and footwear should be selected to prevent skin contact with contaminated materials or environments. Consideration should be given to the type of work being performed by the worker when selecting personal protective clothing.



**Fig . 3 Overall**

An overall is useful while working in an apiary to prevent the bees from going up your selves or into your garments



**Fig 4. Bee –veil**

It is a head veil made of mosquito- netting & is used – is the material used to protect head region, face & neck from bee's sting.



**Fig. 5. Gloves**

It is used to protect the hands and fingers against any hazard

### **3.2 Personnel conduct**

People engaged in food handling activities should refrain from conducting themselves in a manner which could result in contamination of food, for example:

- smoking;
- spitting;
- chewing (gum / tobacco) or eating;
- sneezing or coughing over unprotected food and in the premises where food being process



<b>Self-Check -3</b>	<b>Written Test</b>
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Mention some examples of personal conduct in food handling activities that refrain from conducting themselves in a manner which could result in contamination of food (6pts)

**Note: Satisfactory rating – 6 points                      Unsatisfactory - below 6 points**

You can ask you teacher for the copy of the correct answers.

**Answer Sheet**

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_ Date \_\_\_\_\_

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## Information Sheet 4- Complying movement around the workplace

When moving around the work place it is important to follow/observe some important thing in food safety program. Some of these are:

- raw materials and other supplies
- onsite services and deliveries
- storage temperature
- equipment and materials
- actions of non-compliance
- methods to isolate or quarantine unsafe food
- appropriate bandage and dressing
- hygiene/cleaning and sanitization
- waste management
- samples of semi and finished products
- Handle and dispose out of specification

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<b>Self-Check 4-</b>	<b>Written Test</b>
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Mention important things to followed/observed while moving around the work place in food safety program. (8pts)

**Note: Satisfactory rating – 6 points                      Unsatisfactory - below 6 points**

You can ask you teacher for the copy of the correct answers.

**Answer Sheet**

Score = _____
Rating: _____

Name: \_\_\_\_\_ Date \_\_\_\_\_

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<b>Operation sheet -1</b>	<b>Ensure store food stay/remains safe</b>
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Steps and procedures for handling and store food in hygienic condition

Step 1. Prepare the necessary materials including safety materials.

Step 2. Prepare thermometer to measure food stored.

Step 3. Check frozen food warmer if greater than – 15<sup>0</sup>c.

Step 4. Check complete food Temperature record.

Step 5. Check and monitor your operation

Step 6 . Record each step and activity and repot to the concerned body

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<b>Operation sheet -2</b>	<b>Handle and store food in hygienic conditions</b>
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Steps and procedures for handling and store food in hygienic condition

- Step 1. Prepare the necessary materials including PPE.
- Step 2. Wash hands thoroughly and regularly.
- Step 3. Use clean, dry, sanitized cutting boards and equipment.
- Step 4. Rinse cleaning cloths after each use and replace frequently.
- Step 5. Store food away from contaminants and protected from pests.
- Step 6 . Record each step and activity and report to the concerned body



<b>LAP Test</b>	<b>Practical demonstration</b>
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Name: \_\_\_\_\_ Date: \_\_\_\_\_

Time started: \_\_\_\_\_ Time finished: \_\_\_\_\_

**Instructions:** Given necessary templates, tools and materials you are required to perform the following tasks within 3 hours.

Task 1. Conduct activities ensuring store food stay/remains safe.

Task 2. Perform food handling and storing in hygienic conditions



**References**

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### The trainers who developed the curriculum

No	Name	Qualification	Educational background	Region	College	Mob.no	E-mail
1	Shiferaw Negassa (Phd)	Phd	Plant science (BSc), horticulture (MSc), agronomy and crop physiology(Phd)	Oromia	Holeta satellite college	0911913680	nesgeashiferaw@yahoo.com
2	Tesfaye Mekuriyaw	B	Food science and technology	Addis Ababa	Kolfe industrial college	0927785174	Tesfayemekuriyaw48@gmail.com
3	Moti Taye	A	Plant science	Oromia	Bako College	0921801540	tayemoti12@gmail.com
4	Adamu Bekena	B	Food technology and process engineering	Addis Ababa	Yeka industrial college	0988620906	adamuberkana2@gmail.com
5	Fitsum				FTA facilitator		





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