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Food Industry Capacity and Skill Initiative

Facilitator Guide



Sector
Food Processing

Sub-Sector
Fruits and Vegetables

Occupation
Sorting and Grading

Reference ID: FIC/Q0108, Version 4.0
NSQF level: 3

Fruits and Vegetables Selection In-Charge

First Edition, October 2016

Fruits and Vegetables Selection In-Charge
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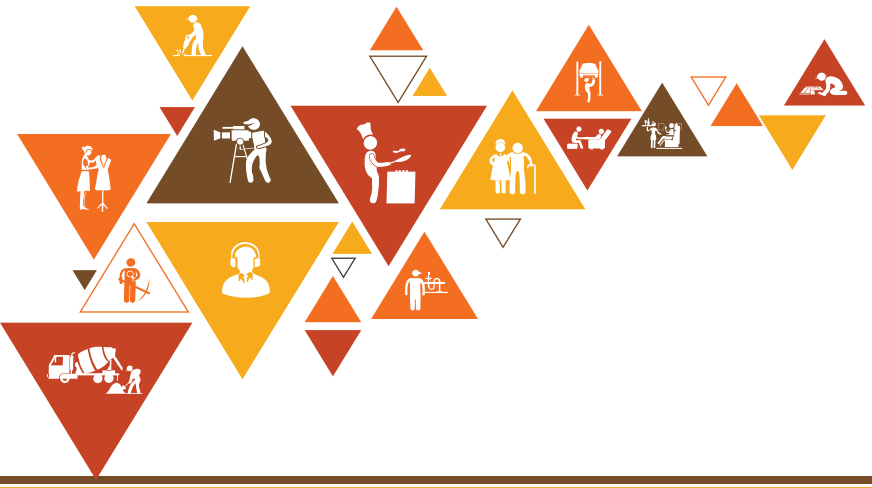

> Skilling is building a better India. If we have to move India towards development then Skill Development should be our mission.

Shri Narendra Modi
Prime Minister of India

Acknowledgements

The preparation of this Facilitator Guide would not have been possible without the support of the Food Processing Industries. The Industry feedback has been extremely encouraging from inception to conclusion it is with their inputs that we have tried to bridge the skill gaps existing today in the Industry.

This Facilitator Guide is dedicated to all the aspiring youth who desire to achieve special skills which would be a lifelong asset for their future endeavors and help them make a bright career in the Food Processing Sector.

FICSI is thankful to all organisations and individuals who have helped us in preparation of this Facilitator Guide. We also wish to extend our gratitude to all those who reviewed the content and provided valuable inputs for improving the quality, coherence, and content presentation of chapters.

About this Guide

This course encompasses all National Occupational Standards (NOS) of the Qualification Pack, Fruits and Vegetables Selection In-Charge , Reference ID: FIC/Q0108. Each NOS is covered across one Unit/s. This book is designed for upgrading the knowledge and skills for working as a 'Fruits and Vegetables Selection In-Charge' in the Food Processing Industry. This book will provide the necessary knowledge and skill inputs for a Fruits and Vegetables Selection In-Charge to work in an organized and the disciplined manner and following safe working practices, effective communication, documentation, and work ethics as well as production work, ensuring preparation and maintenance of work area along with the required machinery. Upon successful completion of this course the participant will be able to:

Key Learning Objectives for the specific NOS mark the beginning of the Unit/s for that NOS:

- **FIC/N9026 :** Prepare for production
- **FIC/N0129 :** Sort and grade produce
- **FIC/N9901 :** Implement health and safety practices at the workplace
- **FIC/N9902 :** Work effectively in an organization
- **SGJ/N1702 :** Optimize resource utilization at workplace
- **DGT/VSQ/N0101 :** Employability Skills

Symbols Used

Ask


Explain


Elaborate


Notes


Objectives


Do


Demonstrate


Activity


Team Activity


Facilitation Notes


Practical


Say


Resources

Example


Summary


Role Play


Learning Outcomes

Table of Contents

Table of Contents

Table of Contents

Skill India
कौशल भारत-कुशल भारत

NCVET
कौशल गुणवत्ता प्रगति

सत्यमेव जयते
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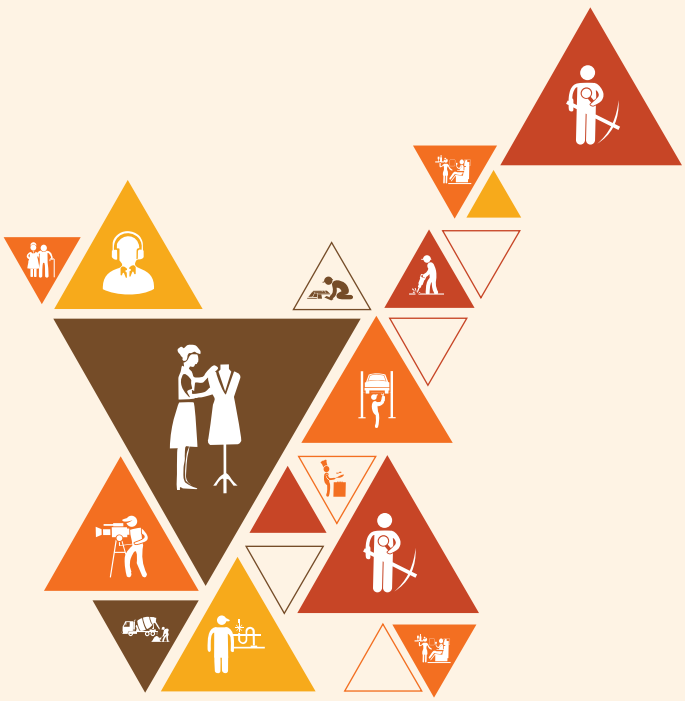
1. Introduction to the Program and Overview of the Food Processing Industry

Unit 1.1 - Introduction to the Training Programme

Unit 1.2 - Introduction to the Food Processing Industry



FIC/N0129

Terminal outcome 

At the end of this module, trainees will be able to:

1. Explain the purpose of training
2. Discuss the National Occupational Standards and Qualification Pack
3. Define food processing
4. List the various sectors of the food processing industry
5. Describe the various stages of food processing for converting raw materials to food products

Unit 1.1: Introduction to the Training Programme

Unit Objectives

At the end of this unit, trainees will be able to

- Explain the purpose of training
- Discuss the National Occupational Standards and Qualification Pack

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, and various introductory PPTs, etc.

Note

This is the first session of the program, which will introduce us to the purpose and benefits of the training programme. This session will also help us get acquainted with the qualification pack.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- What are usual tasks of food processing industry?
- Have you ever visited a food processing hub?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- The training programme will enable an individual to:
    - Prepare for production

- Sort and grade produce
- Ensure Food Safety at the Workplace
- Ensure Workplace Health and Safety
- Work effectively in an organization
- Optimize Resource Utilization at the Workplace

- After successful completion of training and passing the assessment, participants will be issued a certificate.
- This training programme is intended for imparting basic skill and knowledge relevant to the job role, required to perform at a food processing industry.
- This programme is based on qualification pack called F&V-SIC. The Qualification Pack Code for a Fruits and Vegetables Selection In-Charge is FIC/Q108.

Say

Let us now participate in an activity to understand the concept better.

Activity

- Ask group members to stand in a circle, if room space permits.
- Next, ask any participant from the group to start the game by introducing himself or herself by making a gesture, and alliterating his/her name, e.g. “I’m Wonderful Ana” or “I’m Smart Sam”.
- The next player points to the first player, repeats the previous player’s name, attribute and gesture, and does something similar about himself or herself. And so on.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

Unit 1.2: Introduction to the Food Processing Industry

Unit Objectives

At the end of this unit, trainees will be able to:

- Define food processing
- List the various sectors of the food processing industry
- Describe the various stages of food processing for converting raw materials to food products

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, etc.

Note

This is the second session of the program, which will introduce us to sector where trainees will have to work.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- How would you describe the work of a food processor?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- Food processing is the method used to convert raw materials into food products
- They could be processed foods, ready to eat foods, food additives or foods used to prepare other food products

- Besides food processing, the food industry also relies on food preservation as an important method to store food products for longer periods of time
- The food processing industry in India is divided into several sub sectors

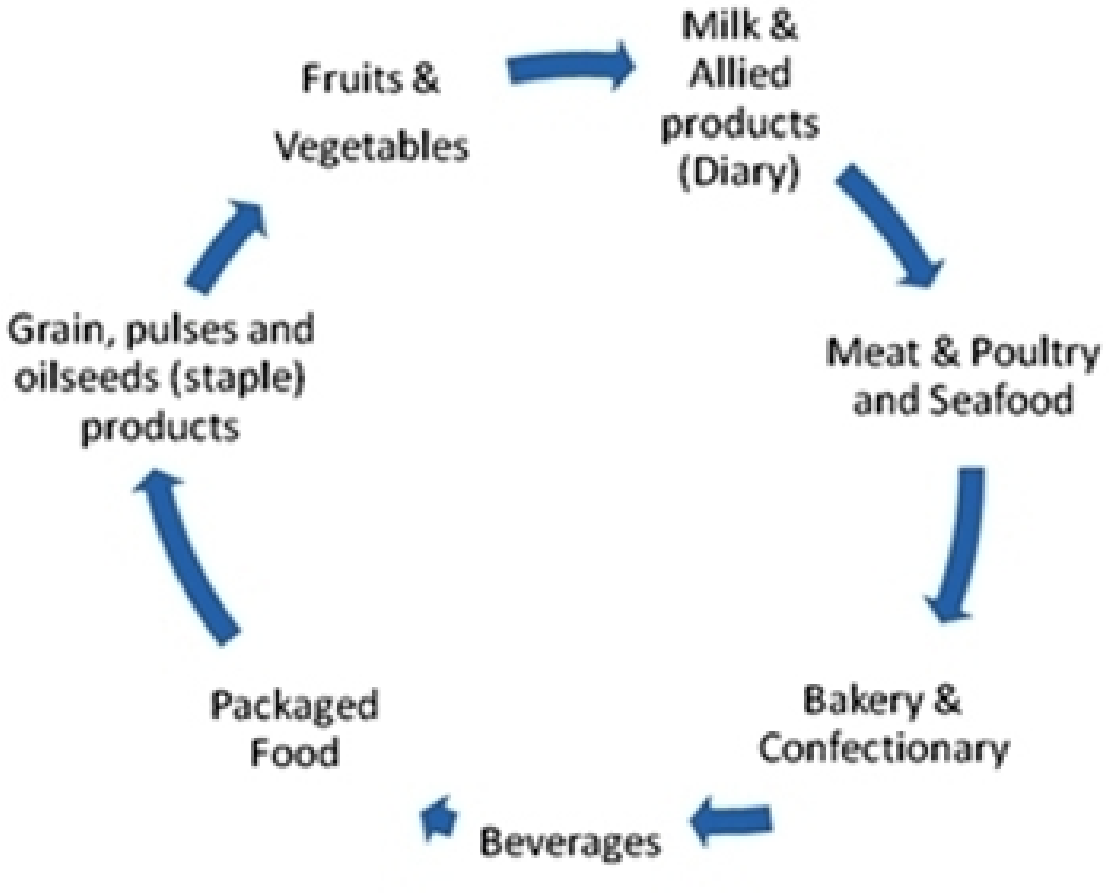


Fig 1.1: Sub sectors of food processing industry

- The Indian food industry is a star sector in India with a bright prospect for growth and development
- Indian food and grocery market is the sixth largest in the world Food industry, particularly the food processing sector in India, has shown immense potential due to its quick paced growth
- Food processing ranks fifth in the country in terms of its production, growth, export, and consumption
- One of the recent trend that is seen in this sector is ordering food online Even though this segment is still in its early stages of development, it is growing at an increasingly fast pace
- Food industry is implementing stringent food safety and quality measures in order to attract more investors and ensure the safety of its existing consumers
- The following chart shows the journey food material goes through to become a final, consumable product to various customers.

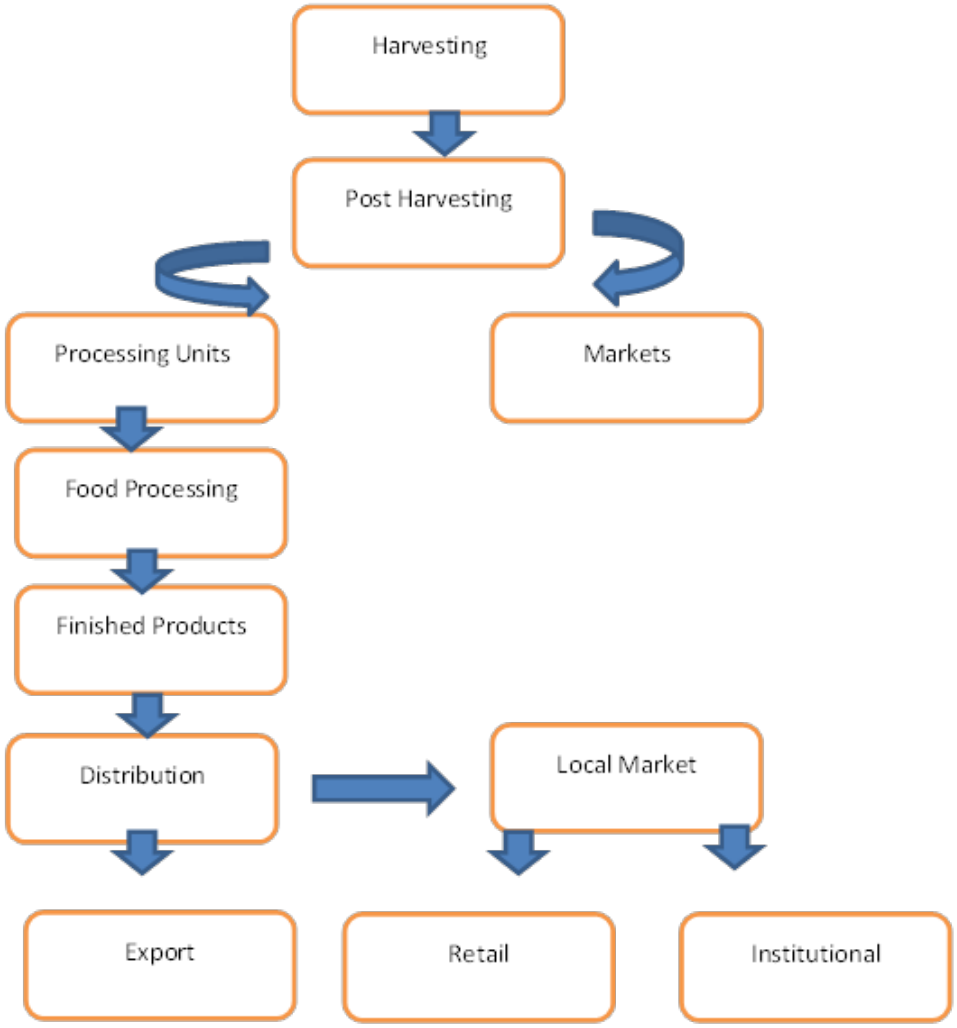


Fig 1.2: Journey of harvested food

Say

Let us now participate in an activity to understand the concept better.

Activity

- The trainer is going to show an introductory video about the concept of food processing

  https://www.google.com/search?q=food+processing+industry+in+india&source=lmns&tbm=vid&bih=657&biw=1366&hl=en&sa=X&ved=2ahUKEwivwI7ThaT_AhWg1HMBHcPFCtcQ_AUoA3oECAEQAw#fpstate=ive&vld=cid:751d699c,vid:xoJx34gRDb4

- The video will be followed by a round of generic discussion.

Say

Did you find the activities fruitful? I hope all of you are now aware of the job role.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

Scan the QR codes or click on the link to watch the related videos

https://www.youtube.com/watch?v=5VlYw38hCxU

Scope of food processing in India with National and International perspective

https://www.youtube.com/watch?v=J-2EiMVNtpM

Overview of Food Processing Industry

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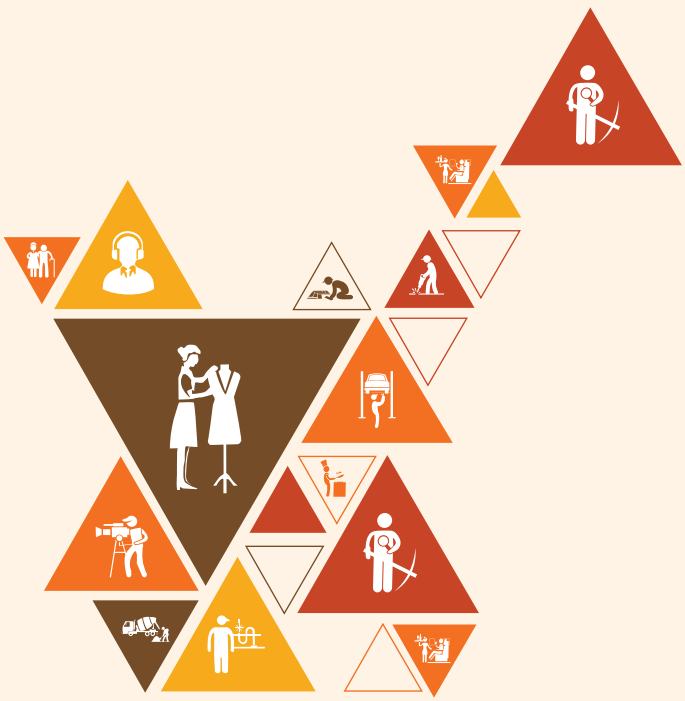
2. Prepare for Production

Unit 2.1 - Plan for Production

Unit 2.2 - Cleaning and Maintenance



FIC/N9026

Terminal outcome

At the end of this module, trainees will be able to:

1. List the various segments in non-voice customer service, tools, and techniques
2. Identify the role and importance of non-voice technology tools for resolving queries

Unit 2.1: Plan for Production

Unit Objectives

At the end of this unit, trainees will be able to

- Discuss the significance of supervisor's work instructions with regards to the production requirements
- Describe the relevance of planning and prioritizing the production work
- State the importance of planning and arranging the estimated resource requirement
- Explain the various factors to be considered while allocating responsibilities to the team
- Estimate the resource requirement as per the production requirement
- Discuss the capacity utilization of machinery with respect to the processing time, production order, and batch size for each product

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, Pump, Water, Spray System, Sorting Line Conveyor, Grading Line Conveyor, Electronic Sorting Machine, Packaging Machine, Protective Gloves, Head Caps, Aprons, Safety Goggles, Safety Boots, Mouth Masks, Sanitizer, Food Safety Manual, checklists, food safety SOP, etc.

Note

This is the third session of the program, which will introduce us to the relevance of planning and prioritizing the production work.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- What do you understand by the term 'planning'?
- How does planning enhance productivity?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- In general, supervision means managing the activities of others. The Production supervisors are mainly concerned with overseeing and managing the performance of employees under their control.
- To accomplish this goal, they must analyze production requirements and suggest constructive improvements to enhance production output. Also, they must ensure all production goes effortlessly and efficiently by thoroughly monitoring workers and their workflows.
- The Production Supervisors fulfil the following responsibilities:

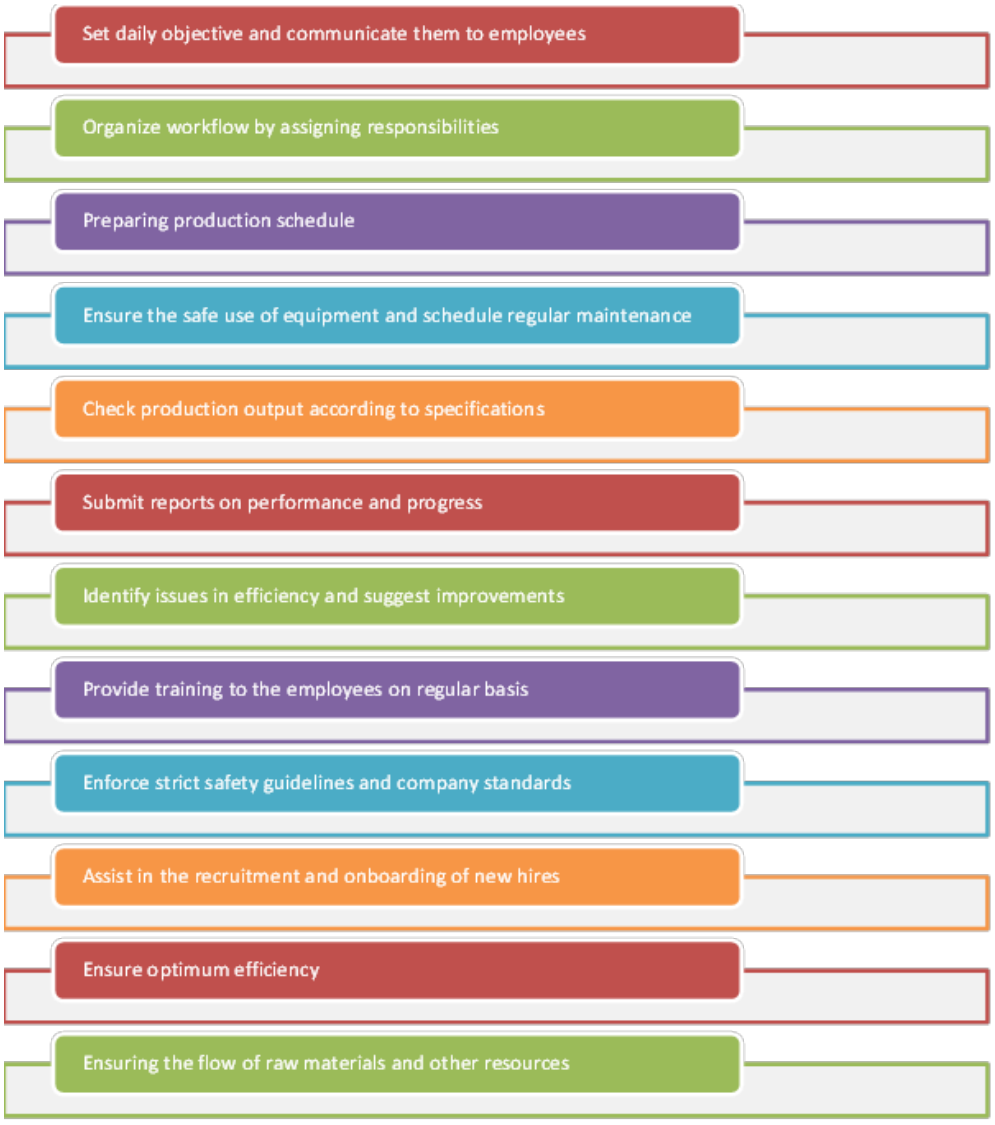


Fig.2.1: Responsibilities of Supervisor in Production

Supervisors' work instructions are vital for pickle and paste making production or manufacturing process. It provides instruction and guidance for work tasks in day-to-day operations, non-standard tasks, and emergencies.

Say

Let us now participate in an activity to understand the concept better.

Activity

- This activity is in the form of Preparing List
- The Trainer will discuss the responsibilities of a supervisor in fruits and vegetable selection process
- After that, the Trainer will ask everyone to write at least 10 points on the responsibilities of a supervisor
- Each Trainee must prepare their own list
- Points should be elaborative with descriptions
- The Trainer will ask Trainees to stand up and read out what they have written one by one
- The best performers will be appreciated by the class.

Say

Let us now participate in an activity to understand the concept better.

Elaborate

In this session, we will discuss the following points:

- Production refers to the transformation of inputs into finished goods/ or the creation of services to satisfy the customer needs.
- A simplified production system is shown below:
- Production planning is a process that is necessarily required to ensure efficient and economical production.
- The production process planning is rarely linear. Often new ideas and unforeseen possibilities surface.
- This creative problem-solving process may lead to considering a previously deemed unacceptable option, or it may reveal a solution that was not thought about in any previous plans.
- Production planning is based on the following crucial elements:
    - **Raw Material:** Procurement of raw material, component and spare parts of machines or equipment in the right quantity and specifications at the right time from the right source at the right place.
    - **Method of Processing:** It includes determining the best sequence of operation (process plan) and planning for tooling, jigs and fixtures etc.
    - **Machine & Equipment:** It involves facilities planning, capacity planning, allocations, and utilization of plant and equipment, machines etc.
    - **Manpower:** Planning for manpower (labour and managerial levels) having appropriate skills and expertise.
    - **Routing:** It determining the flow of work material handling in the plant, and sequence of operations or processing steps.

- **Estimation:** It involves deciding the quantity of the product which needs to be produced and cost involved in it on the basis of sale forecast.
- **Utilization:** It is the process assigning specific jobs to machines, men, or work centres based on relative priorities and capacity utilization.
- **Scheduling:** It provides a timetable for production activities.
- **Dispatching:** It is a release of orders and instructions for starting of production in accordance with routing sheet and scheduling charts.
- **Inspection:** It is related to maintenance of quality in production and of evaluating the efficiency of the processes, methods and labours to achieve the quality standard.
- **Evaluation:** It is to improve performance. Performance of machines, processes and labour is evaluated to improve the same.
- **Cost control:** It is controlled by wastage reduction, value analysis, inventory control and efficient utilization of all resources.

- Work allocation needs to be done fairly to operate the team based on equality. The primary responsibility of a supervisor is to allocate tasks to each person in the team.
- Resource management is the process of pre-planning, scheduling, and allocating resources to maximize optimization and efficiency. It determines which resources are needed, in what quantities, and when to complete the production.
  - The resource plan is prepared according to the product's delivery timelines and helps keep the production on track.
  - Effective Resource planning lays the foundation of a successful production process.
  - It set realistic expectations for the production deliverables among clients and other stakeholders.
  - It helps to estimate production costs and profit margins accurately.
  - Resource planning offers improved insight into actual costs and the overall profitability of the production.
  - It prevents over-working or under-utilizing of the manpower, which leads to increased employee satisfaction.
  - It leads to optimal utilization of resources to prevent over-burdening and at the same time ensures that the food processing industry makes the most of the resources.
  - Hiring decisions taken based on resource planning analysis are usually in the benefit to the production.
  - A successful resource plan can be treated as a fool-proof formula for future production.

Say

Let us now participate in an activity to understand the concept better.

Activity

- This activity is in the form of Mock Resource Utilization
- The Trainer will ask each Trainee to make resource plans

- Trainees should prepare the list allocating his/ her fellow participants from the class
- Everyone must participate in the activity and prepare at least three different resource plans
- The Trainer will supervise the session and guide Trainees accordingly.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

Unit 2.2: Cleaning and Maintenance

Unit Objectives

At the end of this unit, trainees will be able to

- List the materials and equipment used in cleaning and maintenance of the work area
- List the sanitizers used in cleaning work area and machineries
- Identify different kinds of waste material and comprehend the ways to dispose them safely
- Specify the inspection procedure for inspecting the tools, equipment, and machinery used in the job
- State the importance of reporting information such as faulty tools and equipment to the concerned authority

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, Pump, Water, Spray System, Sorting Line Conveyor, Grading Line Conveyor, Electronic Sorting Machine, Packaging Machine, Protective Gloves, Head Caps, Aprons, Safety Goggles, Safety Boots, Mouth Masks, Sanitizer, Food Safety Manual, checklists, food safety SOP, etc.

Note

This is the fourth session of the program, which will introduce us to the process of cleaning and sanitizing wok area and machinery.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- Why does cleaning and sanitation play a major role in the food processing industry
- What are common cleaning agents used at the workplace?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- Cleaning and sanitizing (disinfecting) are usually two separate processes. Effective cleaning must be carried out before sanitizing the work area and machinery, as sanitizers may not work as well if the work area or machinery has not had all visible contamination removed.
- Cleaning is often done using the correct proportion of detergent and water. Detergents are chemicals that eliminate dirt and grease. However, it does not kill bacteria and other microorganisms. Microorganisms may be removed during the cleaning process but they can't be destroyed properly. Hence, sanitizing is required for this purpose.
- The primary reasons for cleaning and sanitizing the work area and machinery are:
    - To prevent outbreaks of food poisoning
    - To comply with the law
    - To remove any food debris on which bacteria may grow
    - To reduce the risk of food poisoning
- Proper and regular cleaning of the work areas protects food from any contamination.
- Cleaning equipment is divided into two sub-categories:
    - **Manual cleaning equipment –** Depends upon operation and energies of the employees and requisite the staff's maximum effort and techniques for cleaning.
    - **Automatic cleaning equipment –** Requires electricity or battery power for the operation. These cleaning machines ease labour and save a lot of time.

Say

Let us now participate in an activity to understand the concept better.

Activity

- This activity is in the form of Preparing List
- The Trainer will discuss the responsibilities of a supervisor in fruits and vegetable selection process
- After that, the Trainer will ask everyone to write at least 10 points on the responsibilities of a supervisor
- Each Trainee must prepare their own list
- Points should be elaborative with descriptions
- The Trainer will ask Trainees to stand up and read out what they have written one by one
- The best performers will be appreciated by the class.

Say

Let us now participate in an activity to understand the concept better.

Elaborate

In this session, we will discuss the following points:

- Production refers to the transformation of inputs into finished goods/ or the creation of services to satisfy the customer needs.
- A simplified production system is shown below:
- Production planning is a process that is necessarily required to ensure efficient and economical production.
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- Production planning is based on the following crucial elements:
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    - **Method of Processing:** It includes determining the best sequence of operation (process plan) and planning for tooling, jigs and fixtures etc.
    - **Machine & Equipment:** It involves facilities planning, capacity planning, allocations, and utilization of plant and equipment, machines etc.
    - **Manpower:** Planning for manpower (labour and managerial levels) having appropriate skills and expertise.
    - **Routing:** It determining the flow of work material handling in the plant, and sequence of operations or processing steps.

 Microfiber Cloth	 Brooms	 Polishing Machine
 Steam Vapour Machine	 Vacuum Cleaner	 Different types of brushes
 Abrasives	 Floor Scrubber	 High Pressure Sprays

- Detergent suppliers usually have a range of detergents to be employed in varying and specific circumstances. The range of products will include:
  - **Alkalis:**
    - Caustic soda
    - Caustic potash
    - Coronate
    - Silicate
    - Phosphate
  - **Acids:**
    - Phosphoric
    - Nitric

- Citric
- Glycolic

- **Chelates:**
  - EDTA
  - NTA
  - Gluconate
  - Glucoheptonate, citrate
  - Polymeric
- **Solvents:**
  - Isopropanol
  - Propylene
  - Butyl diglycol
  - Ethers
- **Surfactants:**
  - Anionic
  - Cationic
  - Non-ionic
  - Amphoteric
- **Inhibitors:**
  - Organic
  - Inorganic
- **Enzymes:**
  - Protease
  - Lipase
  - Amylase
- **Oxidising agents:**
  - Hypochlorite
  - Isocyanurates
  - Stabilisers
  - Viscosity modifiers

Say

Let us now participate in an activity to understand the concept better.

Activity

- This activity is in the form of Knowing Cleaning Equipment
- The Trainer will show all the cleaning equipment and agents mentioned in the PH to Trainees
- The Trainer shall explain the function of all equipment
- After the demonstration, the Trainer shall ask Trainees to try their hands at cleaning using those agents
- Trainees must remember the basics of using the agents and equipment
- The Trainer shall supervise the session and help Trainees understand the usage of the cleaning and sanitizing equipment.

Say

Did you enjoy this activity? Let us now participate in another descriptive session where we will learn more about effective practices for sanitization and cleaning.

Elaborate

In this session, we will discuss the following points:

- It is compulsory to follow the manufacturer's instructions provided on the label for effective and safe use of a sanitizer.
    - Some sanitizers are toxic to people, and the residue must be rinsed off, while other sanitizers are food-safe and do not require rinsing. So, the manufacturer's instructions shall always be followed for the sanitizer to ensure safe use.
    - Sanitizers work best at the correct dilution. If they are too weak, they do not work effectively, and money is being wasted if they are too strong.
    - Sanitizers need time to work. The contact time varies depending on the job.
    - Check the dilution, contact time, safety precautions, shelf life, and storage of all chemicals before use.
- When cleaning and sanitizing work areas and equipment, the following practices must be followed:
    - Plan the cleaning sequence to avoid re-soiling the cleaned area
    - Implement and display a cleaning schedule so all staff know their cleaning and sanitizing responsibilities.
    - Wear personal protective equipment required for the cleaning methods and materials being used.
    - All items must be stored off the floor. Allowing clearance from the floor gives plenty of room for cleaning beneath shelving and equipment.
    - All the machinery used for processing is "SWITCH OFF"
    - Keep only what you need at the food processing premises.
    - Use the right materials for cleaning while considering risk, time, efficiency and type of stains.
    - Wipe out the chemical spill properly in the work area, with care and caution.
    - Use a high volume, low pressure hose for equipment and surfaces. High pressure hoses can splash

and spray dirt onto surfaces and create aerosols that may contain and spread pathogens.

- Use a vacuum cleaner or at least a damp cloth to clean the dust from surfaces around the work area.
- Remove the residues, coarse dirty oily substances and scraps from the surface area.
- Undertake regular maintenance, for example filling holes and replacing damaged tiles.
- Wipe down tools, equipment and surfaces as per specified standards.
- Dispose any waste or chemicals used in an appropriate manner.

- The following points explains workflow process of cleaning and maintenance:
  - Before cleaning any machine, equipment or tool, read the cleaning instructions mentioned in the manufacture's manual
  - Attend to minor repairs and maintenance work
  - Clean the machinery, tools and equipment with recommended sanitizer
  - Dispose waste material appropriately as per the standards
  - Maintain equipment daily/weekly as per supplier's instruction manual
  - Report faulty tools and equipment to the concerned authority for repair
- In food manufacturing, maintenance supports various key objectives, many of which are unique to food production. Maintenance plays the following roles in food manufacturing:
  - It keeps the production running smoothly.
  - It helps to prevent any contamination and ensure food safety.
  - It reduces product losses.
  - It maintains regulatory compliance.

Fig.2.3: Maintenance Checklist

- Every piece of equipment and machinery should have detailed descriptions, drawings, and photographs of how and when each machinery should be maintained or serviced. It includes:
  - Maintenance procedures
  - Lubrication procedures
  - Tool reconciliation procedures
  - Procedures for temporary repairs
  - Procedures for emergency repairs
  - Spare parts inventory program
  - Training procedures
  - Handover procedures
  - Audit Procedures

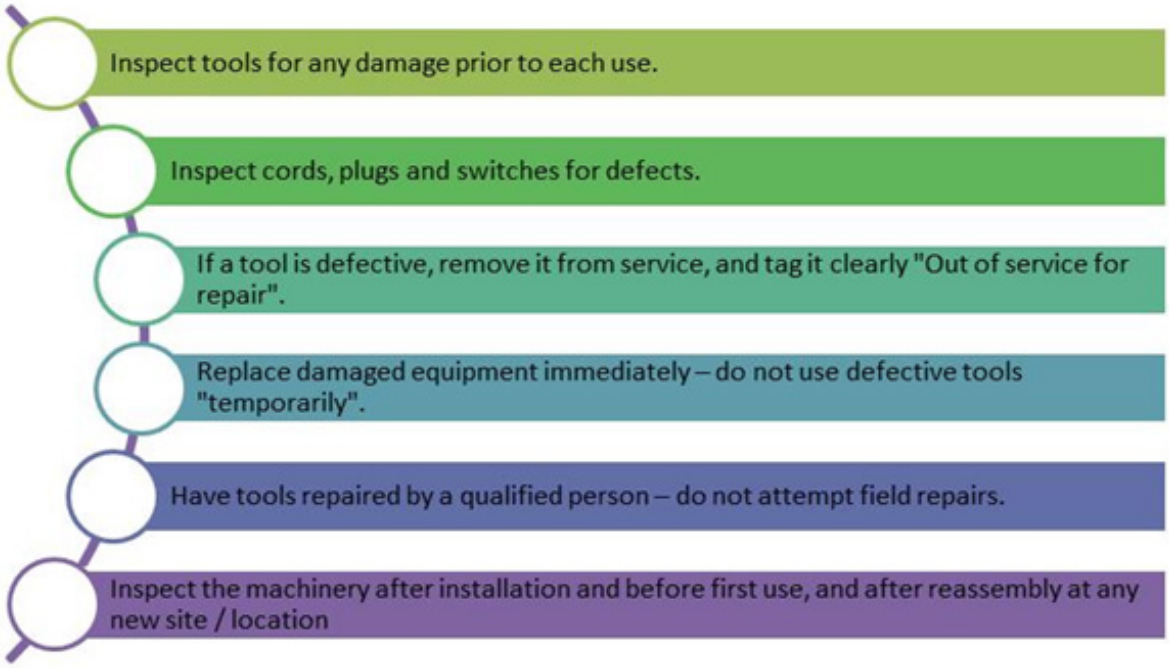


Fig.2.4: Inspection Checklists

- In general, waste is segregated as dry and wet waste. Dry waste includes wood, paper, plastic, glass, etc., related products that can be recycled, and wet waste refers to organic and biodegradable waste. The waste can be segregated using color-coded dustbins.
- **Green Bin:** The green-coloured bin is used to dump biodegradable waste. In addition, this bin is used to dispose of wet/organic material, including cooked food/leftover food, vegetable/fruit peels, eggshell, rotten eggs, chicken/fish bones, tea bags/coffee grinds, coconut shells, and garden waste, including fallen leaves/twigs or the puja flowers/garlands.
- **Blue bin:** The blue-coloured bin is used for segregating dry or recyclable left over. This category includes waste like plastic covers, bottles, boxes, cups, toffee wrappers, soap or chocolate wrappers, and paper waste, including magazines, newspapers, tetra packs, cardboard cartons, pizza boxes, or paper cups/ plates, metallic items like tins/cans, foil paper, and containers.

Say

Let us now participate in an activity to understand the concept better.

Activity

- This activity is in the form of Checklist Preparation
- The Trainer will explain the following checklists to Trainees
  - Maintenance Checklist
  - Inspection Checklist
- Trainees must note down important points pertaining to the topic
- After the Trainer finishes explaining, Trainees must prepare two separate checklist on the abovementioned topics
- This is an individual task and every participant must prepare their own checklist
- The Trainer shall go through each checklist and will guide Trainees accordingly.

Say

Let's participate in a waste management activity now.

Activity

- This activity is in the form of Waste Segregation
- The Trainer shall first explain the significance of segregating dry and wet waste
- Trainees must have a thorough knowledge of the topic
- Now, the Trainer will put a blue and a green bin in front of the class
- There will be waste beside the bins
- Waste should include cooked food/leftover food, vegetable/fruit peels, eggshell, rotten eggs, chicken/fish bones, tea bags/coffee grinds, coconut shells, and garden waste, including fallen leaves/twigs or the puja flowers/garlands, plastic covers, bottles, boxes, cups, toffee wrappers, soap or chocolate wrappers, and paper waste, including magazines, newspapers, tetra packs, cardboard cartons, pizza boxes, or paper cups/plates, metallic items like tins/cans, foil paper, and containers
- Trainees should pick up the waste and put them in the right bin
- The Trainer will supervise the entire session and rectify Trainees if needed.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

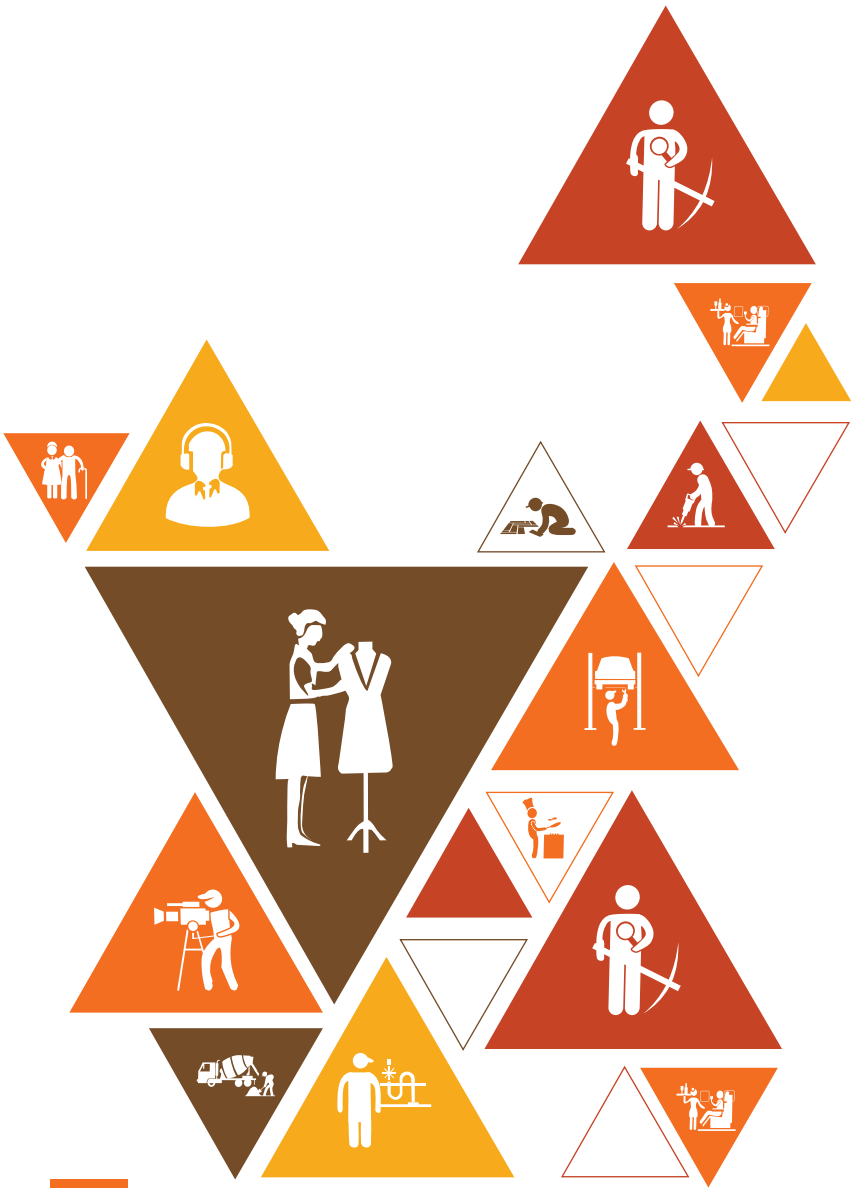
Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

Scan the QR codes or click on the link to watch the related videos

https://www.youtube.com/watch?v=MiUgOzXfUYs

Procedure for production planning



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National
Skill Development
Corporation
Transforming the skill landscape

FICSI
Food Industry Capacity and Skill Initiative

3. Carry out Sorting and Grading of Fruits and Vegetables

Unit 3.1 - Quality Parameters of Fruit and Vegetable Produce Selection Process

Unit 3.2 - Tools and Equipment

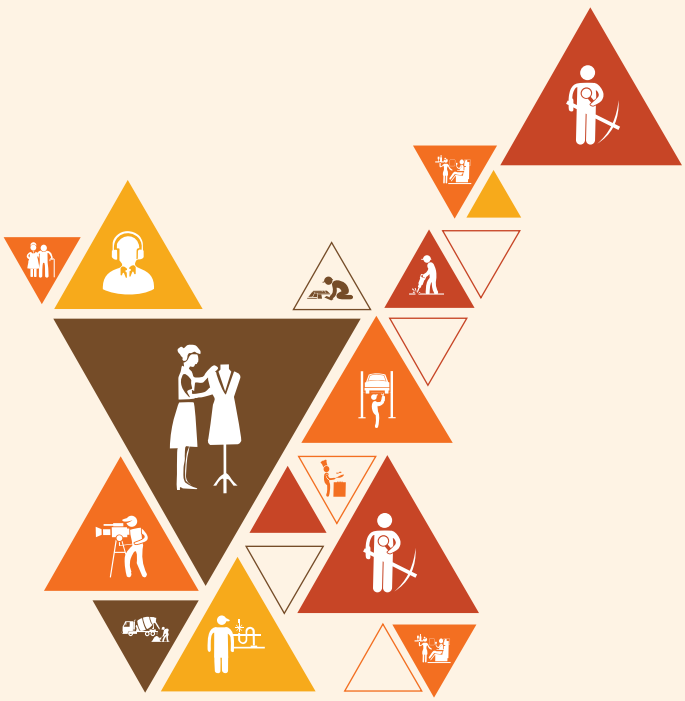
Unit 3.3 - Receiving and Washing the Produce

Unit 3.4 - Sorting and Grading the Produce

Unit 3.5 - Packaging and Storage of Products

Unit 3.6 - Post Production Cleaning and Maintenance

Unit 3.7 - Further Processing Activities



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Terminal outcome

At the end of this module, trainees will be able to:

1. List the quality parameters (physical, chemical, microbiological, sensory) required to be evaluated while sorting the agricultural produce.
2. Describe the importance of determining physical and sensory characteristics of the produce.
3. Describe the various types of tests performed to check the quality of agricultural produce.
4. Discuss the procedure of sampling of produce and testing the water for desired levels of suitability.
5. State the significance of washing the agricultural produce.
6. State the importance of grading fruits and vegetables.
7. Discuss the steps to be performed for receiving agricultural produce from the supplier/vendor.

Unit 3.1: Quality Parameters of Fruit and Vegetable Produce Selection Process

Unit Objectives

At the end of this unit, trainees will be able to

- Describe the various types of tests performed to check the quality of agricultural produce
- Describe the techniques used for determining the quality of the product
- Explain the importance of performing chemical and microbiological tests on the produce and techniques used
- Explain the ways to implement food safety management system and critical control points for washing, sorting and grading of agricultural produce
- Describe the role of GMP and GHP at the workplace

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, Pump, Water, Spray System, Sorting Line Conveyor, Grading Line Conveyor, Electronic Sorting Machine, Packaging Machine, Protective Gloves, Head Caps, Aprons, Safety Goggles, Safety Boots, Mouth Masks, Sanitizer, Food Safety Manual, checklists, food safety SOP, etc.

Note

This is the fifth session of the program, which will introduce us to the quality parameters of fruit and vegetable produce selection process.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- What are the general parameters to select fruits and vegetables?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- Testing ensures fruits and vegetables:
  - Are free of physical, chemical, biological, radiological hazards (e.g.: metals contained in soil)
  - Meet nutritional requirements
- **Sensory Indicator Checks:** The quality of agricultural produce can be tested by using our sensory organs such as eyes, nose, mouth, hands. Looking, smelling, tasting, and feeling the produce are means of inspecting the quality of the produce.

Quality Attributes	Measurement
Visual appearance	Inspect visually the size, shape, gloss and colour
Touch and feel	Manually inspect the firmness and texture
Visual Defects	Examine the produce visually to determine whether there are any flaws or colour fading
Odour	Analysis is primarily qualitative and subjective, based on smell
Taste	Evaluation by taste alone (sweetness, bitterness, sourness and saltiness)
Texture	Features that can be detected by applying pressure to the fruit or vegetable include its tenderness, hardness, crispness, crunchiness, chewiness, and fibrousness

Table 3.1: Sensory Testing Indicators of Fruits and Vegetables

- It is likely that food and vegetable produce may contain foreign objects which could arise from
  - Environment – e.g.- soil, stones, sticks, seeds, weeds
  - Equipment/containers/buildings – e.g.- glass, wood, metal, plastic
  - Human handling of produce – jewellery, hair clips, personal items, etc.
- **Nutritional Checks:** Detecting the composition of produce indicates the quality of the produce and helps improve their quality from the source.
- **Checks for Heavy Metals and Pesticides:** Contaminants of produce include toxic and harmful substances such as heavy metals (mercury, lead, nitrate, etc.), mycotoxins, and pesticides. Heavy metals, for example, come from many sources such as discharges from industrial waste that eventually reach the soil and contaminate it.
- **Chemical Testing:** One of the advanced non-destructive quality assessment chemical testing techniques is near infrared (NIR) spectroscopy. NIR is used to identify the ingredients and additives in the produce. It shows the measurement of soluble solids content (SSC), acidity and firmness, vitamin C, polyphenols and pigments, moisture, water content, stiffness or presence of internal damage, dry matter, pH (acidity) in the fruits and vegetables.
- Often the cause of food borne illnesses can be traced to the presence of high levels of chemical residues from contaminated soil or water, growth of bacteria, viruses and other microbiological contaminants associated with inadequate storage conditions or unsanitary food handling practices.

- Food Safety Management System (FSMS) is a set of standards to ensure the food that is produced is up to quality standards and safe for human consumption.
- FSMS lays down regulations and standards for good manufacturing practices, good hygienic practices, hazard analysis and critical control points to be practiced, to ensure food safety at the time of its production, storage, distribution, sales, and imports.

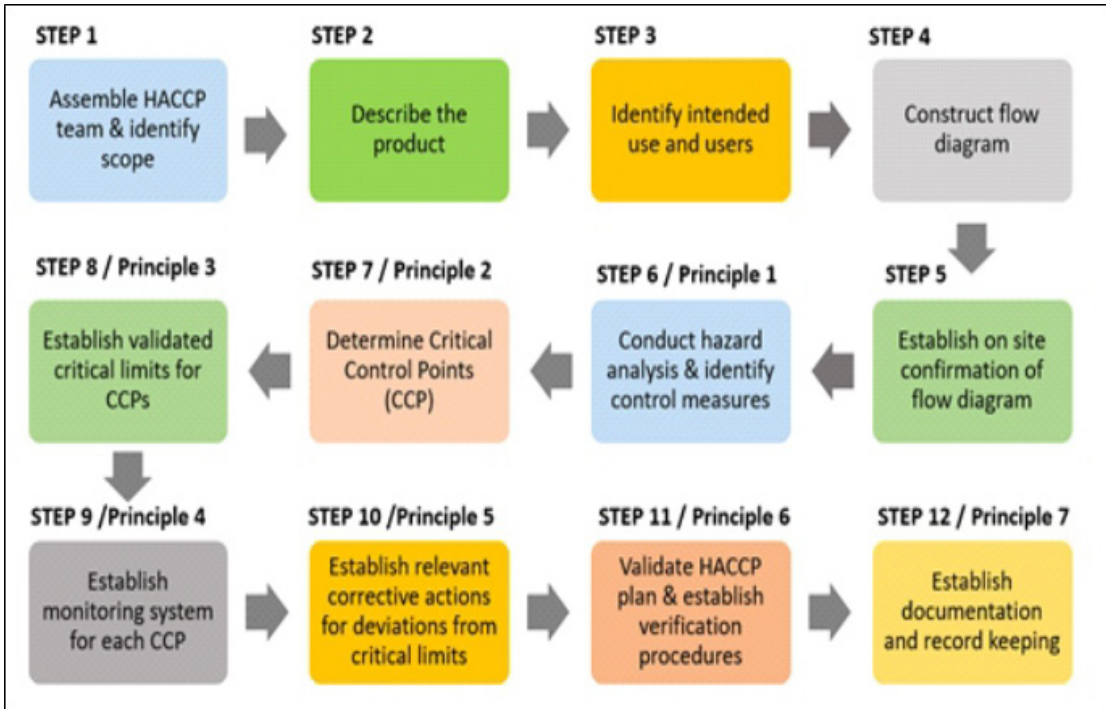


Fig.3.1: HACCP Principles in Implementing Food Safety Management System

- **Good Hygiene Practice (GHP):** GHP stands for Good Hygiene Practice. As the name suggests, it refers to hygiene management in the entire fruits and vegetables supply chain. It includes hygiene practices of workers, sanitation facilities, pest control, and preventing physical and chemical pollutions. GHP aims to reduce risks of contamination, recall, waste and to ensure all produce is as per predefined quality standards.
- **Good Manufacturing Practice (GMP):** GMP stands for Good Manufacturing Practice. It is a set of practices laid down to produce and process safe agricultural products. GMP lays down quality standards for all aspects in the supply chain and manufacturing environment - from the produce, premises, equipment, to imparting training on hygiene practices to the staff.

Say

Let us now participate in an activity to understand the concept better.

Activity

- This activity is in the form of Mock Documentation

- The Trainer will first demonstrate various templates as shown in the table (refer to handbook)
- Trainees must be able to decipher the significance and proper usage of the documents
- Post demonstration, the Trainer will ask Trainees to prepare mock documents on the following topics
  - Cleaning Plan
  - Inventory Documents
  - Non-conformance and Corrective Action Records
- Trainees will refer to the table and prepare templates on their own
- Once the Trainer check and approve the templates, Trainees must fill in the documents to understand the usage better
- Lastly, the Trainer will inspect each document and rectify mistakes (if there is any)

Say

Let's participate in another activity now.

Activity

- This activity is in the form of Practical Session
- The Trainer will take Trainees to a lab
- Trainees must get acquainted to various protective equipment used in the food processing sector to promote good hygiene
- The Trainer will explain the function of each tool/ equipment
- Trainees should have a hands-on session as well to boost their theoretical knowledge.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

Unit 3.2: Tools and Equipment

Unit Objectives

At the end of this unit, trainees will be able to

- List the tools and equipment required for washing, drying, sorting and grading of fruits and vegetables.
- Use relevant tools and equipment to test the quality of produce at various stages and take appropriate action in case of variances
- Demonstrate the use of various equipment by setting controls for washing, drying, sorting and grading the produce
- Show how to calibrate the equipment as required at various stages.

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, Pump, Water, Spray System, Sorting Line Conveyor, Grading Line Conveyor, Electronic Sorting Machine, Packaging Machine, Protective Gloves, Head Caps, Aprons, Safety Goggles, Safety Boots, Mouth Masks, Sanitizer, Food Safety Manual, checklists, food safety SOP, etc.

Note

This is the sixth session of the program, which will introduce us to various tools and equipment used in the fruits and vegetable processing sector.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- Could you name a few tools and equipment used in the food processing sector?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- **Brush Washing Machine:** Brush washing machine is suitable for washing round and oval shaped fruits

and vegetables such as orange, carrots, onions, pineapples, beetroots.

- **Drum washing machine:** Drum washing machine is suitable for washing vegetables such as carrot, beetroot, sweet potato, ginger. The equipment has a water pump, drum, supporting wheel, spray pipe, water tank, valve, drive shaft, motors, rollers, supporting wheels, brushes, spray pipes, water tanks, valves, shafts, electrical controls among other parts. Once fruits and vegetables are put into the drum, the water spray pipe flushes water and the drum turns and rotates to wash the vegetables and fruits.
- **Air Bubble Washing Machine:** Air bubble washing machine is suitable for washing and cleaning most fruits and vegetables such as tomatoes, mango, pineapple, and banana.
- **An air drying machine** is used to remove the water from fruits and vegetables that are washed. The body of the machine is made of stainless steel. Some machines offer the provision of adjusting the drying speed as well as the height of the fans to control the drying process under different drying situations.
- Although sorting is generally done by hand to remove fruits and vegetables that are unsuitable for the market, there are many types of equipment for sorting based on size, shape, colour and blemishes. Some equipment use advanced technology including built in cameras to build a 3D model of the fruit to be sorted by weight and appearance.
- The grading equipment includes a drum type classifier, a strip classifier, a three-roll type classifier, a weight classifier, and a fruit colour classifier among other components. It is equipped with laterally placed grading rolls out of stainless steel.
- **Rotary Drum Grading Machine:** The machine is used to grade round or oval shaped fruits and vegetables according to the size of the screen mesh. The inside, outside of the rotary drum and other parts are polished to reduce damage to fruits and vegetables. The angle of the rotary drum can be adjusted to reduce collision depending on the property of fruits and vegetables.
- Fruits and vegetables are transported into the grader by the elevator. By the function of the transmission equipment, the rotary drum keeps running and the fruits and vegetables get graded.
- Calibrating an equipment means to adjust/configure the equipment such that it gives accurate readings/measurements as per standards to meet manufacture's specifications. Calibration ensures the equipment readings are accurate.

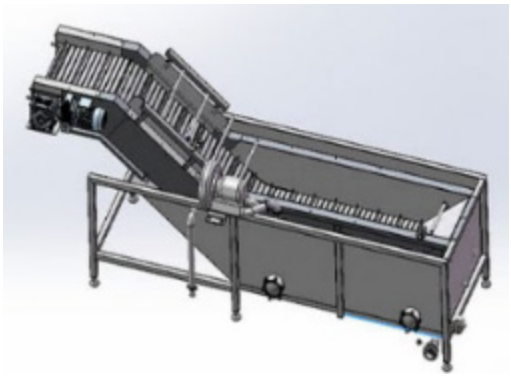
(for Images refer to 3.2.1, 3.2.2 and 3.2.3)

Say

Let us now participate in an activity to understand the concept better.

Activity

Match the Columns

Column A	Column B
Air bubble washing machine	
Brush washing machine	
Drum washing machine	

Say

Let's participate in another activity now.

Activity

- This activity is in the form of Checklist Preparation
- Trainees must have a clear idea of tools and materials required for storing, cleaning and sanitation
- Once the objectives of the checklist is clear to each Trainee, the Trainer will ask them to prepare a checklist individually
- The checklist must include necessary tools, materials and important prerequisites as discussed in the PH

- The Trainer will check each checklist and rectify Trainees
- The best performers will be appreciated by the class.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

Unit 3.3: Receiving and Washing the Produce

Unit Objectives

At the end of this unit, trainees will be able to

- Discuss the steps to be performed for receiving agricultural produce from the supplier/vendor
- Show how to receive the agricultural produce
- Discuss the procedure of sampling of produce and testing the water for desired levels of suitability
- Show how to measure the specified quantity of chlorine and dosage in water
- Demonstrate the steps followed to prepare the chlorinated water
- State the significance of washing the agricultural produce
- Explain the technique used for washing fruits and vegetables as per industrial practices
- Demonstrate the procedure to be followed for washing and cleaning the agricultural produce
- Demonstrate the process of drying the washed produce
- Show how to inspect the washed produce to ensure its adequately dried

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, Pump, Water, Spray System, Sorting Line Conveyor, Grading Line Conveyor, Electronic Sorting Machine, Packaging Machine, Protective Gloves, Head Caps, Aprons, Safety Goggles, Safety Boots, Mouth Masks, Sanitizer, Food Safety Manual, checklists, food safety SOP, etc.

Note

This is the seventh session of the program, which will introduce us to receiving and washing the produce.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- Why do you thing washing fruits and vegetables before using them is important?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- The following are the steps for receiving agricultural produce from the supplier/vendor.
- **Step 1:** Source the produce from the approved producers / suppliers/vendors. Maintain a record of their details to mitigate unauthorised or unadulterated produce. Ensure that the product purchased from the areas comply with the requirements of heavy metals and pesticides residue as suggested by FSSAI.
- **Step 2:** Unload / handle the produce carefully to avoid bruises.
- **Step 3.1:** Inspect the quantity of produce received. The produce is generally delivered in bags, boxes, cases, or cartons. Count the number of bags/cases/ cartons and weigh the produce delivered by the supplier/vendor. The quantity of the goods received should match the quantity on the invoice and the quantity on the purchase order.
- **Step 3.2:** Inspect the quality of the produce through sampling. The quality received should be as per specifications given on the invoice or as per specifications agreed with the supplier. Inspect the sample size physically to check for the following:
    - Colour
    - Size
    - Ripeness
    - Freshness
    - Maturity
    - Texture
    - Free from colouring matter, harmful chemicals, foreign bodes
- Not bruised/damaged
- In case an unacceptable quality of produce has been delivered, insist that the supplier pick up the item and issue a credit.
- **Step 4:** Store the received produce on clean crates, trays or boards and not directly on the floor or ground.
- The quality inspection of the produce received from suppliers/vendors is the most critical step in the above mentioned process. The inspection of the goods shall be done as per the company's sampling and quality plans.
- The sampling shall be done in a way, where the complete lot is covered. For example, the most common sampling method is "square root of total number of boxes + 1". It means, if there are 25 boxes, then at least 5+1= i.e.6 boxes must be sampled.
- Water is used extensively in the fruit and vegetable supply chain at different points and for different purposes. Water contamination can originate from various sources, such as soil, industry waste and faeces (farm animals and wildlife, humans) with faeces being the most relevant source of foodborne pathogens.
- Fruits and vegetables are to be washed with potable water treated with a sanitizing agent. Doing so, can reduce microorganisms and pathogens that may be on the surface of the produce. Chlorine is the most widely used sanitizer and disinfectant because it is effective, safe, easy to use and inexpensive.
- Chlorinated water is prepared by adding any of the following to water:
    - Chlorine gas or

- Calcium hypochlorite or
- Sodium hypochlorite

- Sodium hypochlorite, also known as bleach, is mostly widely as it is safer and easy to use. It is a liquid sanitizer that can be mixed with water and used immediately.
- Observe the following precautions while preparing chlorinated water

Say

Let us now participate in an activity to understand the concept better.

Activity

- This activity is in the form of Role Play
- The Trainer will divide the class into pairs
- The activity has two halves
- In the first half, one participant from each pair will play the role of vendor and the other will receive agricultural produces from the vendor
- In the second half, the roles will be switched
- The Trainer will supervise the session and ensure that the steps as discussed in the PH are followed by Trainees.

Elaborate

In this session, we will discuss the following points:

- The following steps outline the procedure and technique of washing fruits and vegetables.
  - **Step 1:** Pump water into the float tank (water tank) and control the water level for washing produce.
  - **Step 2:** Measure specified quantity of chlorine and dose in water and prepare chlorinated water (if required) to destroy microbes.
  - **Step 3:** Dump the produce in the float tank manually, for those produce that can tolerate water treatment, to remove soil, pesticides, dirt, plant debris and rotting parts or start conveyor or ladder elevator and control speed, load the produce in the conveyor to transfer it to the float tank.
  - **Step 4:** Start the conveyor to lift the produce from the float tank to the rolling conveyor for washing.
  - **Step 5:** Open the valves of the high pressure spraying system for fresh water and adjust pressure to spray water on produce for thorough washing and to remove chlorine.
  - **Step 6:** Adjust controls to transfer produce to the brushing conveyor with brush rollers for wiping and to transfer the produce into different lanes of sorting tables.
  - **Step 7:** For those produce that cannot tolerate water treatment, start the equipment with brushing rollers, adjust speed and dump produce that for brushing and removing soil and dirt on the surface.

- After washing, it is important to dry the fruits and vegetables to remove the moisture so that they do not rot. This process is known as drying, dehydrating or dewatering.
- Inspection of the produce at this stage is a must to ensure the following:
  - There are no drop lets of water on the produce.
  - They are clean, free of dirt, dust, spots, moulds, other contaminants.
  - Leafy vegetables like spinach are consistently coloured, smooth and without tears.
  - Root vegetables such as potatoes, garlic, onions, are firm and tough.
  - They are fresh, free of any bruises, of the correct shape, colour, texture, odour

Say

Let us now participate in an activity to understand the concept better.

Activity

- This activity is in the form of Industry Visit
- The Trainer will take Trainees to a food processing hub where sorting, washing and storing are done using necessary equipment
- Trainees must carry their Student ID, notebook and pen
- The Trainer will introduce various equipment to Trainees
- The Trainees must observe the process of sorting and washing done by skilled workers
- The Trainer will explain various steps to Trainees
- The Trainer and Trainees will thank workers who demonstrated steps.

Say

Did you enjoy this activity? Let us now participate in another activity.

Activity

- This activity is in the form of Washing Produces
- The Trainer will allot a basket of fruits and vegetable to each Trainee
- Trainees will perform washing using correct technique
- Trainees must follow the steps as discussed in the PH
- The Trainer will supervise the session and guide Trainees.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

Unit 3.4: Sorting and Grading the Produce

Unit Objectives

At the end of this unit, trainees will be able to

- Describe the importance of determining physical and sensory characteristics of the produce.
- List the quality parameters (physical, chemical, microbiological, sensory) required to be evaluated while sorting the agricultural produce.
- State the importance of grading fruits and vegetables.
- Perform relevant steps for sorting and grading the agricultural produce.
- Explain the standards to be followed for handling various grades of agricultural produce.
- Discuss the types of defects and procedure to handle rejected materials appropriately.
- Identify the rejects and take appropriate action as per standard work practices.

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, Pump, Water, Spray System, Sorting Line Conveyor, Grading Line Conveyor, Electronic Sorting Machine, Packaging Machine, Protective Gloves, Head Caps, Aprons, Safety Goggles, Safety Boots, Mouth Masks, Sanitizer, Food Safety Manual, checklists, food safety SOP, etc.

Note

This is the eighth session of the program, which will introduce us to the process of sorting and grading the produce.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- Can you use all fruits and vegetables available to you?
- Why sorting is required at a food processing hub?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- Sorting refers to the separation of cleaned products into various quality fractions that may be defined on the basis of size, shape, density, texture and colour. It is done to ensure uniform quality required commercially.
- Sensory evaluation means to measure, analyse and interpret results of those characteristics of fruits and vegetables as they are perceived by our senses of sight, smell, taste, touch and hearing. Based on the perception of our senses, we can evaluate the quality of the produce.
- Fruits and vegetables harvested have irregular/different sizes, shapes and are of heterogeneous composition due to the variety in growing conditions, environmental factors and chemical changes that impact them. The physical, chemical and biological parameters of fruits and vegetables are an important quality indicator for sorting.
- Grading ensures standardization and product uniformity. This is possible because growers adopt quality specifications while growing their produce.
- Grading is likely to fetch high price to the grower because graded produce stand for quality. Thus, the grower/farmer's income increases.
- **Sorting and Grading Procedure**
    - **Step 1:** Transfer the produce to the sorting table manually or control the speed of sorting line conveyor, inspect the produce in the sorting line/sorting table. Sort and grade produce visually and remove the severely damaged, defective, deformed, rotting produce by hand and discard.
    - **Step 2:** Start mechanical sorting machine with mesh screen for sorting produce based on size, dump produce in feed chute or open supply chute to feed material into machine; collect the sorted produce from the discharge outlet.
    - **Step 3:** Operate the equipment that removes dry foliage attached to the bulb (in case of onion, garlic).
    - **Step 4:** Place spherical shaped produce on rings of known diameter to sort them by size, collect the produce that passes through the ring and falls into the containers placed below; replace filled container with empty ones.
    - **Step 5:** Set control parameters of electronic colour sorter for sorting produce based on colour.
    - **Step 6:** In continuous sorting and grading line, control the speed of the different lanes of sorting line conveyors that diverge into single line to transfer produce to the electronic colour sorter for sorting produce based on colour.
    - **Step 7:** Control speed of the conveyor to diverge into number of lanes (as required by the organisation) for uniform grading of produce based on weight and size.
    - **Step 8:** Control the speed of the grading lanes conveyors with mesh screens or diverging belts or rollers with increased spaces between them (in this machine control the speed of rollers) to sort produce based on size (diameter and length).
- Handling Rejects/Defects
    - Prepare a separate area to store the rejects on-site temporarily before final disposal.
    - Return fruit or vegetable rejects to the field where it was grown.
    - Feed the fruit and vegetable to livestock.
    - Compost rejected fruit and vegetable.
    - Dispose the rejects in a safe manner.

Say

Let us now participate in an activity to understand the concept better.

Activity

- This activity is in the form of Sorting and Grading on Own
- The Trainer will allocate a basket of fruits and vegetable to each Trainee
- The task of the session is to sort and grade the produce provided
- Each Trainee must participate in this activity
- The Trainer will first demonstrate the sorting and grading procedure
- Trainees must note down the steps as shown by the Trainer
- After that, Trainees will sort and grade the basket of produce on their own
- The Trainer will supervise the session and guide Trainees as and when needed.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

Unit 3.5 Packaging and Storage of Products

Unit Objectives

At the end of this unit, trainees will be able to

- Show how to apply waxing on agricultural produce.
- List the various types of packaging material used in the job.
- Carry out secondary packaging as per standard practices.
- Operate packaging machine, printing machine and labelling machine effectively.
- Show how to pack the product and eliminate the packaging defects.
- State the importance of labelling on package.
- List the information to be verified on the label.
- Show how to check the product labels to confirm appropriate packing and display of required information.
- Describe the storage procedure to store the incoming produce, packaging materials and packed produce safely.
- Apply standard methods to store the produce appropriately.
- Explain the methods used to store and organize pallets appropriately.
- Employ appropriate practices to move products in the packaging machine.
- Apply standard practices to move the materials from place to another.

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, Pump, Water, Spray System, Sorting Line Conveyor, Grading Line Conveyor, Electronic Sorting Machine, Packaging Machine, Protective Gloves, Head Caps, Aprons, Safety Goggles, Safety Boots, Mouth Masks, Sanitizer, Food Safety Manual, checklists, food safety SOP, etc.

Note

This is the ninth session of the program, which will introduce us to the process of packaging and storage of products.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- Is it important to package fruits and vegetables after sorting?
- What are common storage procedures followed in the food processing sector?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- Waxing is done to preserve fruits and vegetables. It increases the shelf life of agricultural produce. Fruits such as lemons, oranges, apples, and pomegranate have a shine on them due to the presence of natural waxes.
- Wax coating of fruits shall be done only with beeswax (white and yellow) or carnauba wax or shellac wax at level not exceeding Good Manufacturing Practices. No waxes except those mentioned above are permitted for coating of fruits.
- Every package of fresh fruit if coated with wax shall carry the label "Coated with wax (mention the name of wax).
- Apply the film solution to the fruit using any of the following methods:
    - **Spray waxing:** Move fruits and vegetables on a roller conveyor and spray with water-wax emulsion. Air dry the waxed produce.
    - **Manual rubbing:** Apply the wax coating using brush with soft bristles or an absorbent cloth. Air dry the fruit for about 15 minutes.
    - **Brushing:** This is an automated method of fruit waxing. Liquefied wax is taken over a brush that continuously applies a thin layer of wax coating over the surface of the fruit.
- Packaging is wrapping or enclosing fruits and vegetables in suitable materials so as to protect them from damages and contamination while handling, storing, transporting, marketing.
- There are many types of automatic packing machines. The procedure for operating the machine is as follows:
    - Keep the fruit / vegetable in the hopper of the automatic packing machine.
    - Load the produce in the machine.
    - Set the machine for the packaging weight, batch code, date of packing, date of expiry.
    - Start the machine to pack the specified quantity.
    - Collect packed produce from the packaging conveyor for further packaging.
- **Procedure for Packaging Produce**
    - **Step 1:** Transfer the containers with sorted and graded produce to the packaging area.
    - **Step2:** Place specified count of sorted and graded produce manually in plastic moulded trays, thermoformed PVC trays, etc., place label on trays and pass though shrink wrap machine to wrap with shrinkable plastic films (if required).
    - **Step 3:** Wrap individual produce in foam net and place in moulded trays and place packed trays in carton.

- **Step 4:** Weigh sorted and graded produce such as onions, potatoes, sweet potatoes, etc. and pack in mesh bags of various size either manually or mechanically.
- **Step 5:** Feed the sorted and graded produce in the automatic packing machine and operate it to pack the produce.
- **Step 6:** Form ventilated cartons, place protective material such as paper, straw, etc. in carton, place packed trays in the carton and seal, strap carton if required and weigh the packed cartons.
- **Step 7:** Place cartons on pallets. Operate shrink wrap machine to shrink wrap palletized cartons for bulk packaging.
- **Step 8:** Transfer packed cartons/ pallets to storage area and store maintaining storage parameters following SOP.

- A label provides all the necessary information related to the produce to the consumers. It helps consumers know the price, quality, quantity, and features without even opening or tasting it. Consumers can recognise the standard of the product by seeing the labels.
- An automatic labelling machine automates the process reducing human errors. It offers speed, accuracy and reduces the time, cost involved in doing the process manually.
- Packaging materials should be stored in a safe and secure manner.
- Store cardboard cartons/boxes one inside the other to reduce exposure to dirt and dust. Store them in a cool, clean place to keep them from becoming moist, tearing or breaking down.
- Store stretch films in a cool dry place.
- Store plastic crates one above the other to optimise space.

Say

Let us now participate in an activity to understand the concept better.

Activity

- This activity is in the form of Industry Visit
- The Trainer will take Trainees to a food processing hub where packaging and movement of fruits and vegetables are performed
- Trainees must carry their Student ID, notebook and pen
- The Trainer will introduce various equipment to Trainees
- The Trainees must observe the process of packaging and transporting done by skilled workers
- The Trainer will explain various steps to Trainees
- The Trainer and Trainees will thank workers who demonstrated steps.

Say

Did you enjoy this activity? Let us now participate in another activity.

Activity

- This activity is in the form of Packaging
- The Trainer will first demonstrate various packaging procedures step-by-step
- Then every Trainee will be provided with a basket of fruits and vegetables
- Trainees will also be given different packaging materials
- Trainees must package fruits and vegetables on their own
- The Trainer will supervise the session and guide Trainees.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

Unit 3.6: Post Production Cleaning and Maintenance

Unit Objectives

At the end of this unit, trainees will be able to

- State the importance of following defined maintenance procedures in the job.
- Elucidate the cleaning practices to be followed in the job.
- Explain the importance of following standard operating procedures for production, cleaning and use of machine or equipment.
- Show how to clean the tools and equipment after task completion thoroughly.
- Show how to attend to minor repairs and equipment faults.
- Demonstrate the procedure to be followed for cleaning the work area and machinery.

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, Pump, Water, Spray System, Sorting Line Conveyor, Grading Line Conveyor, Electronic Sorting Machine, Packaging Machine, Protective Gloves, Head Caps, Aprons, Safety Goggles, Safety Boots, Mouth Masks, Sanitizer, Food Safety Manual, checklists, food safety SOP, etc.

Note

This is the tenth session of the program, which will introduce us to the process of cleaning and maintenance.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- What are common cleaning agents used in the food processing sector?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- Some common types of cleaning and sanitizing agents to clean food contact and non-food contact surfaces are as follows:

Cleaning Agents	Use	Risk	Safety Measure
Liquid chlorine	Internal cleaning of stainless steel equipment and vessels	Leads to corrosion	Ensure concentration levels are maintained
Hydrogen peroxide	Killing bacterial spores, pathogens, spoilage organisms, and other microorganisms	Has a strong odour	Use in well-ventilated
Ozone	Cleaning surfaces such as equipment, walls, floors, drains, conveyors, tanks, and other containers; Killing microbes	No risk involved since it leaves no residue	and open spaces

Table 3.2: Types of Cleaning and Sanitizing agents

- CIP is a method of cleaning the internal surfaces of equipment and machinery. It is done without dismantling or opening the equipment. In this process, first a rinsing is done by normal water, followed by a cycle of cleaning chemicals, having approved concentration of chemicals.
- COP method of cleaning is for those equipment that cannot be cleaned at the place where they are used and must be disassembled. COP is done at a cleaning station. In this process, equipment and units are scrubbed with approved cleaning chemicals only in COP tanks.
- SIP is a combination of sterilisation, disinfestation, and sanitization. It helps to eliminate any residual microbiological contamination.
- Cleaning removes dirt, dust and other particles from the surface, while sanitizing is necessary to reduce the number of pathogens on the cleaned surface to safe levels.
- Ensure that machinery is clear of debris, before and after every shift.
- Wipe lubricant, dirt and other loose debris from machine surfaces every day.
- Inspect tools for sharpness regularly.
- Check for and replace worn or damaged tools.
- Routinely check all machinery fluid levels, air filters and replace as needed.
- Calibrate monitoring and measuring machines regularly.
- Clean belts and other equipment in direct contact with produce at least once a day.
- Check and maintain motors and other power sources at least twice a year.
- Perform preventive maintenance of equipment and machinery as per manufacturer's instructions and schedule.

Say

Let us now participate in an activity to understand the concept better.

Activity

- This activity is in the form of Practical Session
- The Trainer will demonstrate the process of cleaning worksite using proper cleaning agents
- The Trainer must show three types of cleaning namely:
  - CIP
  - COP
  - SIP
- After the demonstration is finished, Trainees will perform all three processes on their own
- The Trainer must ensure that Trainees are provided with agents and equipment required for the activity
- The Trainer will supervise the session and guide Trainees accordingly.

Say

Did you enjoy this activity?

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

Unit 3.7: Further Processing Activities

Unit Objectives

At the end of this unit, trainees will be able to

- State the importance of evaluating the quality of produce for further processing.
- Dramatize on how to coordinate with relevant personnel to dispatch the produce for further processing.
- Roleplay a situation on how to escalate issues beyond own scope, address issues at work, etc.
- Prepare sample documents as required in the job.

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, Pump, Water, Spray System, Sorting Line Conveyor, Grading Line Conveyor, Electronic Sorting Machine, Packaging Machine, Protective Gloves, Head Caps, Aprons, Safety Goggles, Safety Boots, Mouth Masks, Sanitizer, Food Safety Manual, checklists, food safety SOP, etc.

Note

This is the eleventh session of the program, which will introduce us to the details of processing activities.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- What is quality analysis?
- Why do you think quality analysis upon completion of a task is vital?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- Processing of fruits and vegetables means turning raw fruits and vegetables into fresh food products.

- Raw fruits and vegetables can be canned, dried, frozen or prepared into wholesome nutritious products.
- Processing raw fruits and vegetables is also a means to extend the shelf life of the produce.
- Quality parameters include the following:
  - Freshness
  - Skin colour
  - Shape
  - Size
  - Overall appearance
  - Flavour
  - Ripeness, firmness and uniform maturity
  - Juice content
  - Moisture content
  - Sugars, starch, acidity
  - Nutritional value such as presence of Vitamin C, antioxidants, carotenoids, minerals
  - Method of preparation such as sharpness of cutting tools, size and surface area of the cut pieces, washing/treatment, removal of surface moisture
  - Handling conditions such as cooling rate, sanitation conditions, packaging, maintaining optimum conditions of temperature and relative humidity during distribution
  - Processing techniques used such as boiling, cooling, reheating, conventional frying, air frying
- Follow these steps to escalate issues / challenges beyond your control or authority:
  - Escalate to the right authorities.
  - Provide the background or the context of the problem/issue.
  - Request the superior for support in solving the issues.
  - Mention the challenges faced.
  - Explain the consequence or impact of not providing assistance.
  - Conclude by showing that you will do all to resolve the issue.
  - Sound positive and solution oriented in your attitude, speech and body language throughout.
- Records and documentation are maintained for the following:
  - Materials/equipment control records
  - Equipment log books
  - Personnel records
  - Cleaning records
  - Training records

Say

Let us now participate in an activity to understand the concept better.

Activity

- In this session, the Trainer will play 2 videos.
- The first video will be about 10 ways to build good relationships with your co-workers.
- The YouTube link for the video is: https://www.youtube.com/watch?v=VLRMnPRJK6c
- The other video will be about how to communicate with your co-workers.
- The YouTube link for the video is: https://www.youtube.com/watch?v=erdLGyEliEg
- The students will watch the video attentively with pin-drop silence.
- They must note down crucial and relevant points from the video.
- Students will maintain decorum in the class and will not talk, whisper or discuss in the class.
- In case of queries or doubts, students will write those down in their notebooks.
- After watching the videos, the students can ask questions to clarify doubts.
- The students will raise their hands before asking questions.
- The Doubt Clarification session will be in the form of a discussion round, where the answers can be given by either the Trainer or any of the students knowing the answer.

Say

Did you enjoy this activity? Let us now participate in another activity.

Activity

- This activity is in the form of “Group Discussion”
- The trainer will divide trainees into 5 groups
- All the groups will sit together to discuss the goals of a processing and post-processing activities in the food processing sector
- Every trainee should actively participate in the discussion
- Each group will carry a notebook and pen to chalk out details
- They will jot down the points, important tools and processes
- After the discussion, each group will produce a Minutes of Meeting as a part of documentation process
- The trainer will supervise the entire process and ensure each and every one participates in the meeting.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

Scan the QR codes or click on the link to watch the related videos

https://www.youtube.com/watch?v=Ta18d6JIO3o

Packaging and storage of food

https://www.youtube.com/watch?v=HcI3v1d22CM

Storage of finished products

https://www.youtube.com/watch?v=q8nE0rRnJOY

FSSAI regulations

Skill India
कौशल भारत-कुशल भारत

NCVET
कौशल गुणवत्ता प्रगति

सत्यमेव जयते
GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT
& ENTREPRENEURSHIP

N·S·D·C
National
Skill Development
Corporation
Transforming the skill landscape

FICSI
Food Industry Capacity and Skill Initiative

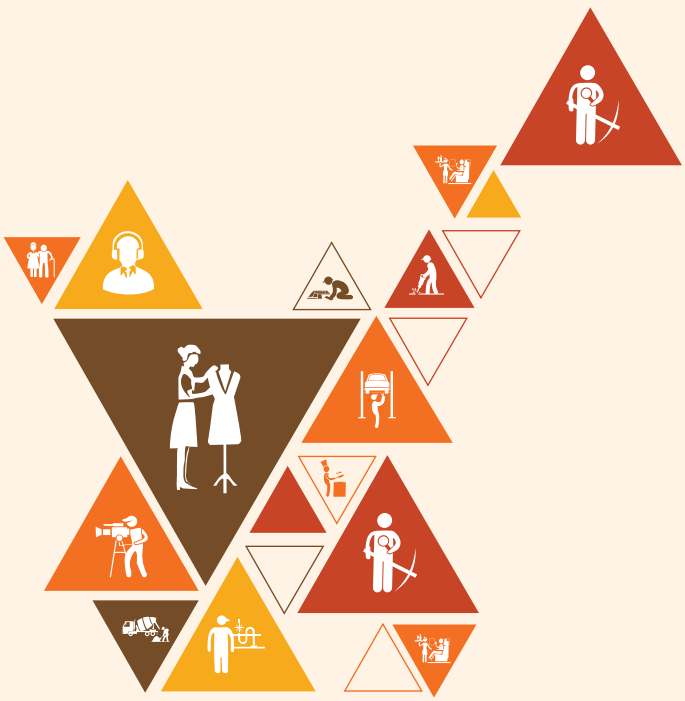
4. Ensuring Food Safety and Personal Hygiene

Unit 4.1 - Introduction to Food Safety

Unit 4.2 - Schedule IV Requirements of FSSAI

Unit 4.3 - Personal Hygiene

Unit 4.4 - Health Safety



FIC/N9901

Terminal outcome

At the end of this module, trainees will be able to:

1. Identify the hazards, types of hazards (Physical, chemical, biological and Allergenic) and risks at workplace
2. HACCP, TACCP, VACCP, Control measures, CCP, Critical limit
3. Explain the preventions of product contamination
4. Discuss the factors affecting food spoilage and food storage techniques
5. Describe Schedule IV requirements of FSSAI
6. Discuss cleaning and sanitization process, needs and importance and storage of sanitizing materials
7. Discuss health and safety policies and procedures
8. Discuss Employee health do's and don'ts, Food borne illness and preventive health checkups

Unit 4.1: Introduction to Food Safety

Unit Objectives

At the end of this unit, trainees will be able to

- Identify types of hazards and risks at workplace

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, various inventory document samples, checklists, food safety SOP, etc.

Note

This is the twelfth session of the program, which will introduce us to the food safety and standard norms to avoid various hazards at the workplace. This session will also help us understand the process of risk assessment in the food industry.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- What are the possible risks associated with food processing industry?
- What do you understand by food contamination?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- Food safety refers to routines in the preparation, handling and storage of food meant to prevent food borne illness and making food safe for human consumption.
- Hazard is a factor or agent which may lead to undesirable effects like illness or injury in the absence of its control, whereas, risk refers to the probability that the effect will occur.

- Types of hazards and risks at work place
  - **There are two types of hazards:** one is food safety hazard and second is health safety hazards
- Food Safety Hazard
  - There are four major hazards that may be introduced into the food supply any time during harvesting, processing, transporting, preparing, storing and serving food.
- Microbiological hazards
  - When harmful microorganisms are found or grown on food it is called microbiological hazards. Food which contains harmful or pathogenic bacteria when eaten can make people ill.
- The microorganisms that can cause foodborne illness are called pathogenic microorganisms. These microorganisms grow best at room temperatures (25-30°C), but most do not grow well at refrigerator or freezer temperatures.
- Pathogenic microorganisms may grow in foods without any noticeable change in odor, appearance or taste. Spoilage microorganisms, including some kinds of bacteria, yeasts and molds, can grow well at temperatures as low as 4°C. When spoilage microorganisms are present, the food usually looks and/or smells awful.
- **FAT TOM-** This is a term used commonly in food industry to describe the six favorable conditions required for the growth of the food borne pathogens/micro-organisms.
- Physical Hazards
  - These include any foreign material, which you would not expect to find in your food. Hair, finger nails, pieces of wood, metal, plastic, glass and insect debris are examples of what can find their way into food as foreign matters.
- Chemical Hazards
  - Chemical hazards include, food contact materials, cleaning agents, pest control substances, contaminants (environmental, agricultural and process e.g. acrylamide), pesticides, biocides and food additives.
- Allergen
  - An allergen is any protein that is capable of producing an abnormal immune response in sensitive segments of the population.
- Handling of Allergenic Foods
  - Allergen-containing ingredients should be kept separate from non-allergen-containing products. Also, finished products containing that ingredient should be kept separate from non-allergenic products.
  - Allergen-containing products should be run at the end of the day or shift or isolated to a specific production line to avoid contact with non-allergen products.
  - Post-production, effective cleaning, and sanitizing must be performed to remove all allergen-containing products.
  - Sampling and testing of food products should be performed by the quality assurance staff or specially trained personnel to detect allergens in food products and on equipment surfaces.
  - Ensure that appropriate and correct information is provided in the labeled packaging of the food product.
  - Proper employee training should be given to prevent allergen contamination.

Say

Let us now participate in an activity to understand the concept better.

Activity

- This activity is in the form of Food Safety Drill
- The Trainer will carry out a mock inspection of the stored food and go through each item carefully
- The Trainer will show how to inspect food for contaminants and allergens
- Once the Trainer finishes the inspection, Trainees will be given a basket of food items
- Each Trainee must inspect the food items allotted to him/ her and prepare a report
- The inspection has to be swift, ensuring no wastage of time
- The Trainer will go through each report and tally the same with the food baskets
- The best performers will be appreciated by the class.

Say

Did you enjoy this activity? Participate in such mock inspection drills more than once to strengthen your skill. Let us now participate in another descriptive elaborate session where we will learn more about food contamination.

Elaborate

In this session, we will discuss the following points:

- The most common types of contaminant include:
  - Physical contaminant Examples: fiber material, particles, chips from your pill press tooling.
  - Chemical contaminant Examples: vapour, pesticides, grease, detergents, and so on.
  - Biological contaminant Examples: fungus, bacteria, virus.
- Cross contamination is possible when the unwanted matter is introduced or brought from one process to the next during manufacturing.
- To remove the contaminant carrier:
  - Reduce human involvement
  - Regulate the use of the equipment
  - Regulate the use of air
  - Regulate the use of water
- To reduce human carrier risk:
  - Ensure that proper attire is worn when coming and going from the production area
  - People frequently touch their eyes, nose, and mouth without even realizing it. Germs can get into the food through their contaminated unwashed hands.

- To reduce water as carrier:
  - As water is the number one source for cross contamination, it is important to reduce and
  - prevent water contamination
  - Water borne contaminants: particulates (such as minerals) and pathogens (e. coli, salmonella, etc.)
  - Use of preventive measure such as filtration devices, distillation or reverse osmosis, UV treatments.
- To reduce air as carrier:
  - Control air flow through AHUs (Air Handling Unit)
  - Use of air locks
  - Installation of HEPA (High Efficiency Particulate Absorbing Filters) filters
  - Ultra-Low Particulate Air

Say

Let us now participate in an activity to understand the concept better.

Activity

- The trainer will first show a video to the trainees related to prevention of food contamination
- The link of the video is below:
- https://www.youtube.com/watch?v=WSD5qa5764Q
- The Trainer will play the video and ask Trainees to take notes
- After the session, Trainees will ask questions regarding the video
- Lastly, the Trainer will ask each Trainee to prepare a list of possible contaminants in the food processing industry
- The Trainer will check each assignment carefully and rectify Trainees if needed.

Say

How was the activity? Did you enjoy it? We will now participate in another important session of discussion. We will be discussing storage and transportation of food items. This session will be followed by a fun activity.

Elaborate

In this session, we will discuss the following points:

- Storage temperature is one of the most important factors in the preservation of food because microorganisms have been found to grow in almost all temperature.

- Food which is not correctly stored can spoil or become contaminated, which can make people sick. There are very specific rules regarding the temperatures that food must be stored at, cooked to and reheated to and if not followed, the risk of becoming ill as a result of contamination increases.
- Room Temperature Food Storage
  - Keep dry storage areas clean with good ventilation to control humidity.
  - 21°C is adequate for dry storage of most products. One of the first things to check regarding food which has been stored in the 'use-by' or 'best-before' dates printed on the packaging.
- Refrigerating and Freezing Food
  - To reduce the risk of bacterial contamination, many foods must be stored in the refrigerator and thus kept below 5°C. These foods are often classified as 'high-risk foods' and include – meat, poultry, dairy, seafood, eggs, small goods and cooked rice and pasta.
- Refrigerated Transportation
  - Refrigerated transportation is a shipping cargo with advanced temperature adjustment features. It is built and designed mainly for climate-sensitive goods such as vegetables, fruits, meat, all-prep meals, bread, etc. in which the freight is loaded with ice and salt to maintain the food's quality at a particular temperature.
- Ambient Temperature for Shipping
  - When it comes to cold chain logistics, maintaining ambient temperature tends to mean maintaining a temperature between 15°C to 25°C or 59°F to 77°F. These temperatures fall in the range of comfortable room temperature instead of being on one extreme and of temperature ranges.

Say

We will now participate in a fun activity to understand the concept.

Activity

- This activity is in the form of industrial visit
- Trainees must carry their Student ID, notebook, pen etc. along with them
- The Trainer will take them to a food processing hub where storing and transporting food are integral parts of the system
- The Trainer will show the facilities such as storage and transportation means
- Trainees must take down important notes
- The Trainer will arrange a short tour to the delivery/ transportation Unit where Trainees will get to see how food transportation works
- After the day (session), Trainees will discuss their experience among themselves and the Trainer will explain function of various tools/ equipment and the process.

Say

With this, we have come to the last phase of our discussion. We will now discuss hazard analysis in the food processing industry and related points.

Elaborate

In this session, we will discuss the following points:

- HACCP (Hazard Analysis Critical Control Point)
    - It is a systematic approach in identification, evaluation and control of food safety hazards and its written documented plan based on HACCP principles known as HACCP Plan. It has 12 steps and 7 principles as:-
        1. Assembly of HACCP Team
        2. Describe Product
        3. Identify indent use
        4. Draw Flowchart / Diagram
        5. Verify Flowchart/ Diagram
        6. Conduct a hazard analysis (Principle 1)
        7. Determine critical control points (CCPs) (Principle 2)
        8. Establish critical limits (Principle 3)
        9. Establish monitoring procedures (Principle 4)
        10. Establish corrective actions (Principle 5)
        11. Establish verification procedures (Principle 6)
        12. Establish record-keeping and documentation procedures (Principle 7)
- VACCP (Vulnerability Analysis Critical Control Points)
    - It focuses on food fraud as well, and widens the scope to include systematic prevention of any potential adulteration of food, whether intentional or not, by identifying the vulnerable points in a supply chain. It is especially concerned with economically motivated adulteration (EMA). Examples include product substitutions, unapproved product enhancements, counterfeiting, stolen goods and others.
- TACCP (Threat Analysis Critical Control Points)
    - It generally requires a wider range of employee involvement than HACCP, as it covers issues such as manufacturing plant and transportation security, IT security, and employee background checks. Some points will overlap with HACCP, such as tamper-proof seals and various quality control checks.
- Critical Limit
    - It means a point, step, or procedure in a food process at which a control measure can be applied and at which control is essential to prevent, reduce to an acceptable level, or eliminate an identified food hazard.

Say

Let us now take part in an activity.

Activity

- This activity is in the form of flowchart session
- The Trainer will divide the class into three groups
- Each group will be assigned with one of the following topics
  - HACCP (Hazard Analysis Critical Control Point)
  - VACCP (Vulnerability Analysis Critical Control Points)
  - TACCP (Threat Analysis Critical Control Points)
- The Trainer will ask each group to prepare a flowchart presentation on the given topic
- The presentation must include pictorial and elaborative descriptions
- Trainees should take help from the PH as well as from internet to prepare the flowchart
- Once the presentation is complete, teams will swap their assignments between themselves and check
- The Trainer will guide Trainees throughout the activity and will help whenever required.

Say

Did you find the activities fruitful? I hope all of you have a better understanding of food safety.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

Unit 4.2: Schedule IV Requirements of FSSAI

Unit Objectives

At the end of this unit, trainees will be able to

- Identify requirements in Schedule IV in FSSAI

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, food safety SOP, and FSSAI documents, etc.

Note

This is the thirteenth session of the program, which will introduce us to the requirements in Schedule IV in FSSAI.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- Do you have any idea about FSSAI and its functions?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- To provide assurance of food safety, Food businesses must implement an effective Food Safety Management System (FSMS) based on Hazard Analysis and Critical Control Point (HACCP) and suitable pre- requisite programmes by actively controlling hazards throughout the food chain starting from food production till final consumption.
- As per the condition of license under FSS (Licensing & Registration of Food Businesses) Regulations 2011, every food business operator (FBO) applying for licensing must have a documented FSMS plan and comply with schedule 4 of this regulation. Schedule 4 introduces the concept of FSMS based on

implementation of Good Manufacturing Practices (GMP) and Good Hygiene Practices (GHP) by food businesses and is divided into five parts as under:

Schedule 4	General Requirements
Part 1	General hygienic and sanitary practices to be followed by food business operators applying for registration - Petty food operators and Street food vendors
Part 2	General hygienic and sanitary practices to be followed by food business operators applying for license- Manufacturing/ processing/ packaging/ storage/distribution
Part 3	General hygienic and sanitary practices to be followed by food business operators applying for license- Milk and milk products
Part 4	General hygienic and sanitary practices to be followed by food business operators applying for license- Slaughter house and meat processing
Part 5	General hygienic and sanitary practices to be followed by food business operators applying for license- Catering

Table 4.1: Five Parts of Good Manufacturing Practices (GMP) and Good Hygiene Practices (GHP)

- Location and Surroundings: Location should be away from industrial activities which produce:
  - Disagreeable or obnoxious odour,
  - Fumes
  - Excessive Soot
  - Dust
  - Smoke
  - Chemical or biological emissions
  - Pollutants
  - Layout and Design of Food Establishment Premises
- Equipment and Containers
  - made up of non-corrosive/ rust free material
  - smooth, free from any grooves
  - easy to clean and maintain
  - non-toxic and non-reactive
  - of food grade quality
- Water supply
  - Only potable water meeting BIS (Bureau of Indian Standards) standards
  - Appropriate facilities for storage and distribution of water
  - Periodic cleaning of storage tanks and its record

- Non-potable water, if used, only for cooling of equipment, steam production, fire fighting
- Distinguished non-potable water pipes

- Drainage and waste disposal
  - Disposal of sewage and effluent in conformance with the requirements
  - of Factory
  - Designed and constructed to reduce risk of contamination to food and potable water
  - Separate waste storage area
  - Covered containers for waste storage
  - No accumulated waste in food handling, food storage or other working areas
  - Periodic disposal of waste/refuse
  - Pedal operated adequate size bins for waste collection
  - Waste bins emptied and washed daily with a disinfectant and dried before next use
- Air quality and ventilation:
  - Natural / mechanical ventilation system including air filters, exhaust fans
  - Designed and constructed as such air does not flow from contaminated areas to clean areas
- Lighting
  - Adequate Natural /artificial lighting
  - Protected lightings to avoid contamination by breakages
- Procurement of raw materials
  - Quality raw materials (free of parasites, micro-organisms, pesticides etc.)
  - Raw material conforming to the regulations under the act
  - Records of raw material as source of procurement
- Storage of raw materials and food
  - Adequate food storage facilities to protect food from contamination
  - Cold storage facilities according to requirement
  - Segregation of storage area for raw and processed food, recalled materials, packaging materials, stationary, cleaning materials/ chemicals
  - Separate cold storage of raw food like meat/poultry/seafood product away from the area of WIP (Work in Progress), processed, cooked and packaged products.
  - Monitoring of temperature and humidity
  - FIFO First received (In) materials must move out first
  - Non –toxic containers for food storage
  - Stored on racks or pallets well above the floor and away from the wall
- Maintenance
  - Preventive and Corrective Maintenance
  - Lubricants and heat transfer fluids shall be food compatible Procedure for releasing maintained equipment back to production
  - Maintenance personnel shall be trained in the product hazards associated with their activities

- Pest Control Systems
  - Report pest infestations immediately.
  - Do not use pesticides/insecticides in food processing area.
- Health Status
  - Personnel suffering from disease or illness shall not be allowed to enter in food handling area
  - System to report illness or symptoms of illness to management
  - Medical examination of food handlers/ employees once in a year
  - Records of medical examination
  - Factory shall be compulsorily inoculated against the entire group of diseases and recorded
  - In case of epidemic, all workers to be vaccinated irrespective of the yearly vaccination.
- Personal Cleanliness
  - High degree of personal cleanliness by food handlers
  - Food business shall provide to all food handlers;
  - Protective clothing
  - Head covering
  - Face mask
  - Gloves
  - Foot wear
- Good Manufacturing Practices (GMPs) are the basic operational and environmental conditions required to produce safe foods. They ensure that ingredients, products and packaging materials are handled safely and that food products are processed in a suitable environment.
- GMPs address the hazards associated with personnel and environment during food production. They provide a foundation for any food safety system. Once GMPs are in place, processors can implement a Hazard Analysis Critical Control Point (HACCP) system to control hazards that may affect the ingredients and packaging material during food processing.
- **Workplace Sanitation:** Maintaining a clean work environment is critical in preventing foodborne illness. Bacteria can grow on unsanitary surfaces and then contaminate food. Just because a work surface looks clean does not mean that it is sanitary. Always ensure that you clean and sanitize a work area before starting to prepare food.
- **Cleaning Procedures and Schedules:** Cleaning with soap and other detergents is just one step of the cleaning procedure. It is also necessary to sanitize. Cleaning will remove any dirt or grease, but will not necessarily kill any bacteria or other pathogens.
- **Routine Equipment Maintenance:** All equipment must be routinely cleaned and inspected. Older equipment may have nooks and crannies where dirt and bacteria can hide, which can be difficult to clean effectively. Proper cleaning procedures must be established and followed at all times with regular review to ensure that procedures are working. If equipment is replaced or cleaning materials change, the process may have to be adjusted.

Say

Let us now participate in an activity to understand the concept better.

Activity

- This activity is in the form of mock checklist preparation
- The Trainer will first explain the crucial parameters followed in the food processing industry in terms of Schedule IV requirements of FSSAI
- After the discussion, the Trainer will ask each Trainee to prepare a mock checklist of important factors and write down their impact as well
- Each Trainee should prepare the checklist individually
- The Trainer will go through each checklist and rectify Trainees if required.

Say

Did you enjoy this activity? Let us move on to another round of discussion on food storage, stock rotation and transportation.

Elaborate

In this session, we will discuss the following points:

- The rule for stock rotation is FIFO (first in, first out) to make sure that older food is used first. This will help to prevent wastage. Older product will have nearer shelf life expiry, so older product should be moved out first, but new products will have ⍰me to move out since expiry is so far.
- Transportation and Handling of Food
  - Food shall be adequately covered during transportation to assure food safety.
- Transportation vehicles
- Vehicle inspection
  - Shall not contaminate foods & packaging
  - Should be easy to clean and maintain
  - Provide effective protection from dust & dirt
  - If required maintain temperature, humidity, atmosphere
  - If required allow monitoring of temperature, humidity, etc.
  - Should be used only for carrying food.
  - Regular maintenance of vehicles is required.
  - Appropriate supply chain to minimize food spoilage
  - Non-toxic, clean, well maintained food containers during transportation
  - Temperature and humidity control during transportation
  - Dedicated vehicles for food transportation
  - Effective cleaning and sanitation of vehicles between loads carrying high risk foods as fish, meat poultry to avoid cross contamination.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

Say

Let us now participate in an activity to understand the concept better.

Activity

- This activity is in the form of Practical Session
- Trainees will be given an assortment of various food that should include different items such as meat, dairy, dry food, fruits, vegetables etc.
- The Trainer will ask each Trainee to make list of how the provided food items should be stored
- There should be packaged food items as well
- Trainees must inspect the expiry date and assort them in terms of FIFO rules
- The Trainer will guide each Trainee throughout the activity.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

Unit 4.3: Personal Hygiene

Unit Objectives

At the end of this unit, trainees will be able to

- Identify types of health and safety policies and procedures

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, food safety SOP, and FSSAI documents, Hand washing videos, sample PPTs, etc.

Note

This is the fourteenth session of the program, which will introduce us to the industrial standards of personal hygiene in the food processing sector.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- What is personal hygiene?
- Why do you think maintaining personal hygiene in the workplace is important?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- The expression "food hygiene" is often associated to personal hygiene. The concept of food hygiene really refers to the general cleanliness state of the food handlers' body and clothes.
- It is imperative for safe food-handling outcomes for all workers to be familiar with standard sanitation and hygiene practices.
- Proper personal hygiene is critical in any food service premise. Personal hygiene includes:
    - Showering and bathing regularly

- Keeping hair clean hair and covered or tied back
- Keeping clean clothing and footwear that is used only at work
- Hand washing regularly

- Proper and regular hand washing is a critical part of any food safety system. (refer to images 4.3.3, 4.3.4, 4.3.5)
- We need to stop the spread of COVID-19 in food industry by washing hands regularly with soap and water for 20 seconds – especially after going to the bathroom, before eating, and after coughing, sneezing, or blowing our nose.
- Good personal hygiene also makes good business sense. Customers like to see food-handling staff who take hygiene seriously and practice safe food handling.
  - Personal hygiene is important to prevent food poisoning.
  - When handling food, wash your hands thoroughly and often.
  - If you are sick, do not go to work, because you can contaminate food more easily.
  - Food handlers should be properly trained in safe food handling.
- Food handling businesses ensure the following factors are considered to ensure personal hygiene:
  - Hand Washing — ensure effective hand washing techniques are followed at appropriate times
  - Minimise hand contact with food — try to minimise direct hand contact with raw food by using appropriate utensils and safe use of disposable gloves
  - Personal cleanliness — cover hair; do not sneeze or cough over food; cover cuts and sores; and do not wear jewellery
  - Wear protective clothing — wear suitable clean protective clothing and handle appropriately to prevent cross contamination
  - Exclude ill staff — staff must report illnesses; exclude staff with vomiting or diarrhea.

Say

Let us now participate in an activity to understand the concept better.

Activity

- This activity is in the form of Video session
- The Trainer will play the video link given below:
- https://www.youtube.com/watch?v=UxskKQ9WOTE
- This video is on the importance of personal hygiene at the workplace and how to maintain the same
- Trainees should watch the video closely and take notes of the important points
- The Trainer will explain the video after the session is complete
- Trainees must be able to understand the importance and process of implementation of personal hygiene after watching the video.

Tips

- Try to stick to the basics of maintaining personal hygiene such as washing hands clean, maintaining nails and hair etc.
- Keep an eye on the dress, shoes and socks
- Don't use loud deodorant or perfumes
- Don't wear accessories and jewellery
- Prioritize the overall appearance i.e. your personality should be boosted by proper grooming.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

Unit 4.4: Health Safety

Unit Objectives

At the end of this unit, trainees will be able to

- Illustrate the concept of health safety
- Understand the hazards of health safety
- Explain the health and safety policies and procedures
- Describe the personal protective equipment
- Discuss the types of personal protective equipment

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, PPEs, cleansers and sanitizers, cleaning chemicals, personal hygiene equipment such as hand-washer, towel, etc.

Note

This is the fifteenth session of the program, which will introduce us to the fundamentals of health safety.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- Which are the crucial factors that have an impact on health safety at the workplace?
- How do you promote health safety at the workplace?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- The term Health and Safety is generally used to describe Occupational Health and Safety, and relates to

the prevention of accidents and ill health to employees and those who may be affected by their work.

- In a safety hazard assessment, it is important to be as thorough as possible because after all, you can't protect your workers against hazards you are unaware of and unprepared for.
- Safety hazards are number one on the list of 3 types of workplace hazards. These hazards play an effect on employees who work directly with machinery or in construction sites.
- Ergonomic safety hazards occur when the type of work, body positions, and working conditions put a strain on your body
- Safety hazards or stressors that cause stress (short-term effects) and strain (long-term effects). These are hazards associated with workplace issues such as workload, lack of control and/or respect, etc.
- A health and safety policy sets out your general approach to health and safety. It explains how you, as an employer, will manage health and safety in your business. It should clearly say who does what, when and how.

Say

Let us now participate in an activity to understand the concept better.

Activity

- This activity is in the form of Quiz Session
- The Trainer will divide the class into 3 groups
- Each group will be assigned with any of the 3 topics given below
  - Safety hazards at the workplace
  - Ergonomic hazards at the workplace
  - Stressors at the workplace
- Each team should be well-prepared with their topic
- After teams are ready, Trainer will start the quiz session
- The Trainer will ask question to teams relevant to their topic
- Right answer will earn 10 points and no answer or wrong answer will incur -10
- Each team should be asked at least 5 questions
- The winning team will be appreciated by the class.

Say

Let us now take part in another discussion session. We will elaborate on the personal protective equipment for food sector workers.

Elaborate

In this session, we will discuss the following points:

- Personal protective equipment, commonly referred to as "PPE", is equipment worn to minimize exposure to hazards that cause serious workplace injuries and illnesses. These injuries and illnesses may result from contact with chemical, radiological, physical, electrical, mechanical, or other workplace hazards.
- Medical examination to be concluded –
    - Physical examination
    - Eye Test
    - Skin examination
    - Compliance with schedule of vaccine to be inoculated against enteric group of diseases
    - Any test required to confirm any communicable or infectious disease which the person suspected to be suffering from on clinical examination

Say

We will now participate in an activity.

Activity

- This activity is in the form of lab session
- The Trainer will take Trainees to a lab where PPEs are present
- The Trainer will show the PPEs one by one and explain their functions
- If possible, the Trainer will allow Trainees to wear PPEs to have a first-hand knowledge of those equipment
- Trainees should take down important notes on how to wear, when to wear etc.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

Scan the QR codes or click on the link to watch the related videos

https://www.youtube.com/watch?v=6WXc6cH_gIl&t=1s

Personal Hygiene

https://www.youtube.com/watch?v=d5kn5ns0zWM

General Requirement on Hygiene and sanitation

Skill India
कौशल भारत-कुशल भारत

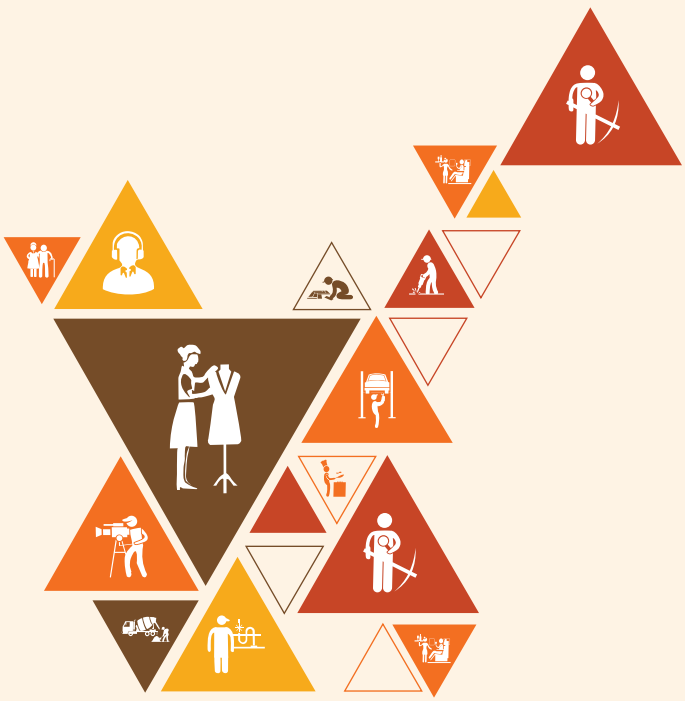
NCVET
कौशल गुणवत्ता प्रगति

सत्यमेव जयते
GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT
& ENTREPRENEURSHIP

N·S·D·C
National
Skill Development
Corporation
Transforming the skill landscape

FICSI
Food Industry Capacity and Skill Initiative

5. Managing Accidents and Emergencies



FIC/N9901

Terminal outcome

At the end of this module, trainees will be able to:

1. Recognize the types of hazards, risks as well as accidents
2. Categorize the standard precautions and practices
3. Examine the utilization of the electrical equipment
4. Explore the usage of personal protective equipment
5. Recognize the organizational protocols
6. Monitor the ways to handle the toxics
7. Identify fire prevention and fire extinguisher
8. Evaluate CPR as well as the artificial respiration
9. Discuss the evacuation and rescue
10. Catalogue the first aids
11. Understand the ill health as well as potential injuries
12. Demonstrate the precautions in mobility
13. Discuss the significance of various types of hazard and safety signs

Unit 5.1: Hazard, Risk and Accidents

Unit Objectives

At the end of this unit, trainees will be able to

- Identify types of hazards, risks as well as accidents

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, Helmet, gloves, rubber mat, ladder, neon tester, leather or asbestos gloves, flame proof aprons, flame proof overalls buttoned to neck, cuff less (without folds) trousers, reinforced footwear, helmets/ hard hats, cap and shoulder covers, ear defenders/plugs, safety boots, knee pads, particle masks, glasses/ goggles/visors, hand and face shields, machine guards, residual current devices, shields, dust sheets, respirator, etc.

Note

This is the twelfth session of the program, which will introduce us to the food safety and standard norms to avoid various hazards at the workplace. This session will also help us understand the process of risk assessment in the food industry.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- What are the possible risks associated with food processing industry?
- What do you understand by food contamination?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- Hazard is considered a sort of incident or source that can fundamentally harm something, whether in a living or non-living state.

- It is important to control workplace hazards by eliminating and identifying the capable risks. This is required as it is capable of causing accidents or hazards, along with finding the access based on the ways to isolate the risk which can lead to the hazard.
- **Safety Hazard:** A safety hazard is among the most common dangers found in every workplace. A safety hazard is capable of causing specific serious injuries or damage to the industrial workers.
- **Chemical Hazards:** Chemical substances are seen to include but are also not restricted to acidic substances, petroleum products, reagents, acids, flammable liquids and many more.
- **Biological Hazards:** Biological hazard is also known as the biohazard and is connected to the biological substances that lead to sickness and illness in humans during its occurrence in direct contact.
- **Physical Hazard:** A physical hazard is the least common hazard at the workplace and is not limited only to physical presence. Extreme weather conditions or unfavourable working environments are the major causes of physical hazards.
- **Ergonomic Hazard:** An ergonomic hazard is a type of hazard that adversely affects the worker's physical health, having continuous work leading to lower back pain, joint pains, muscles ache, and ligaments pain.
- **Work Organization Hazard:** Work organization hazard usually defines the issues related to the workplace such as:
- Risk Assessment (RA) and environment review (ER) were done for hazard and environmental impact. It is done from different stages, from evaluating a new operation, modification to the existing facilities, maintenance work and others.

Say

It's time to participate in an activity.

Activity

- This activity is in the form of mock risk assessment
- The Trainer will give examples of a few workplace scenarios
- Trainees need to evaluate the scenarios and assess those for risks
- Each Trainee should prepare a detailed report on the risk assessment
- Scenarios include both neutral and adverse situations such as Covid threats, leakage, electrocution etc.
- The Trainer will check the reports and rate them on a scale of 10.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

Unit 5.2: Standard Practices and Precautions

Unit Objectives

At the end of this unit, trainees will be able to

- Categorize the standard precautions and practices

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, Helmet, gloves, rubber mat, ladder, neon tester, leather or asbestos gloves, flame proof aprons, flame proof overalls buttoned to neck, cuff less (without folds) trousers, reinforced footwear, helmets/ hard hats, cap and shoulder covers, ear defenders/plugs, safety boots, knee pads, particle masks, glasses/ goggles/visors, hand and face shields, machine guards, residual current Devices, shields, dust sheets, respirator, etc.

Note

This is the seventeenth session of the program, which will introduce us to standard practices and precautions regarding hygiene.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- How should one maintain personal hygiene at the workplace?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- Hand hygiene: Washing hands regularly is a significant step towards cleanliness, protecting us from various diseases and infections. Washing hands can keep us healthy well as it protects us from viruses

capable of travelling from one person to another person. Germs and bacteria are the only host which comes from touching the nose, eyes with dirty hands, or eating/cooking food with smeary hands.

- **Respiratory Hygiene / Cough Etiquette:** One should follow the below guidelines to maintain respiratory hygiene.
- **Sharp Safety:** Sharp objects such as needles, lancets, and surgical knives must be handled with utmost care to prevent injury or spread of infection.
- **Avoiding ergonomic hazard:** Headsets, monitor stands, and adjustable chairs are just some devices that can be easily integrated into a workspace to diminish the risk of injury from repetitive motions. Awkward locating refers to positions in the body when a person deviates significantly from a neutral position while performing tasks.

Say

Let us now participate in an activity to understand the concept better.

Activity

- This activity is in the form of Preparing Checklist
- The Trainer will ask Trainees to prepare a checklist on standard precautions and practices in food processing industry regarding personal hygiene
- The checklist should contain details on hand, respiratory hygiene etc.
- The Trainer will go through each checklist and rectify Trainees if needed.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

Unit 5.3: Uses of Electrical Equipment

Unit Objectives

At the end of this unit, trainees will be able to

- Examine the utilization of the electrical equipment

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, Helmet, gloves, rubber mat, ladder, neon tester, leather or asbestos gloves, flame proof aprons, flame proof overalls buttoned to neck, cuff less (without folds) trousers, reinforced footwear, helmets/ hard hats, cap and shoulder covers, ear defenders/plugs, safety boots, knee pads, particle masks, glasses/ goggles/visors, hand and face shields, machine guards, residual current Devices, shields, dust sheets, respirator, etc.

Note

This is the eighteenth session of the program, which will introduce us to different electrical equipment and their usage.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- Which are the most common electrical equipment used in workplaces?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- Electrical equipment is generally that equipment that requires electrical supplies for their operations. It generally consists of several small components in an enclosed form and is controlled by a power switch. It tends to include:
    - Electric switchboard

- Distribution board
- Circuit breakers and disconnects
- Electricity meter
- Transformer

- The five hazards described here are very common and easily preventable.
  - Working on live circuits
  - Skipping Lockout/Tagout. It is also known as LOTO, which disconnects electricity and avoids electrical hazards.
  - Forgetting PPE.
  - Improper grounding.
  - Damaged extension cords.

Say

Let us now participate in an activity to understand the concept better.

Activity

- This activity is in the form of Decipher the Sign
- The Trainer will show various signs related to electric equipment and their usage
- Trainees should be able to understand their significance
- After that, the Trainer will show random signs and ask Trainees their meaning.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

Unit 5.4: Usage of Personal Protective Equipment

Unit Objectives

At the end of this unit, trainees will be able to

- Explore the usage of personal protective equipment

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, Helmet, gloves, rubber mat, ladder, neon tester, leather or asbestos gloves, flame proof aprons, flame proof overalls buttoned to neck, cuff less (without folds) trousers, reinforced footwear, helmets/ hard hats, cap and shoulder covers, ear defenders/plugs, safety boots, knee pads, particle masks, glasses/ goggles/visors, hand and face shields, machine guards, residual current Devices, shields, dust sheets, respirator, etc.

Note

This is the nineteenth session of the program, which will introduce us to PPEs and their usages.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- What is the full form of PPE?
- How PPE is important to one's job?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- Personal protective equipment is majorly used to protect oneself from serious accidents or illnesses originating from the workplace's physical, biological, chemical, and mechanical hazards.

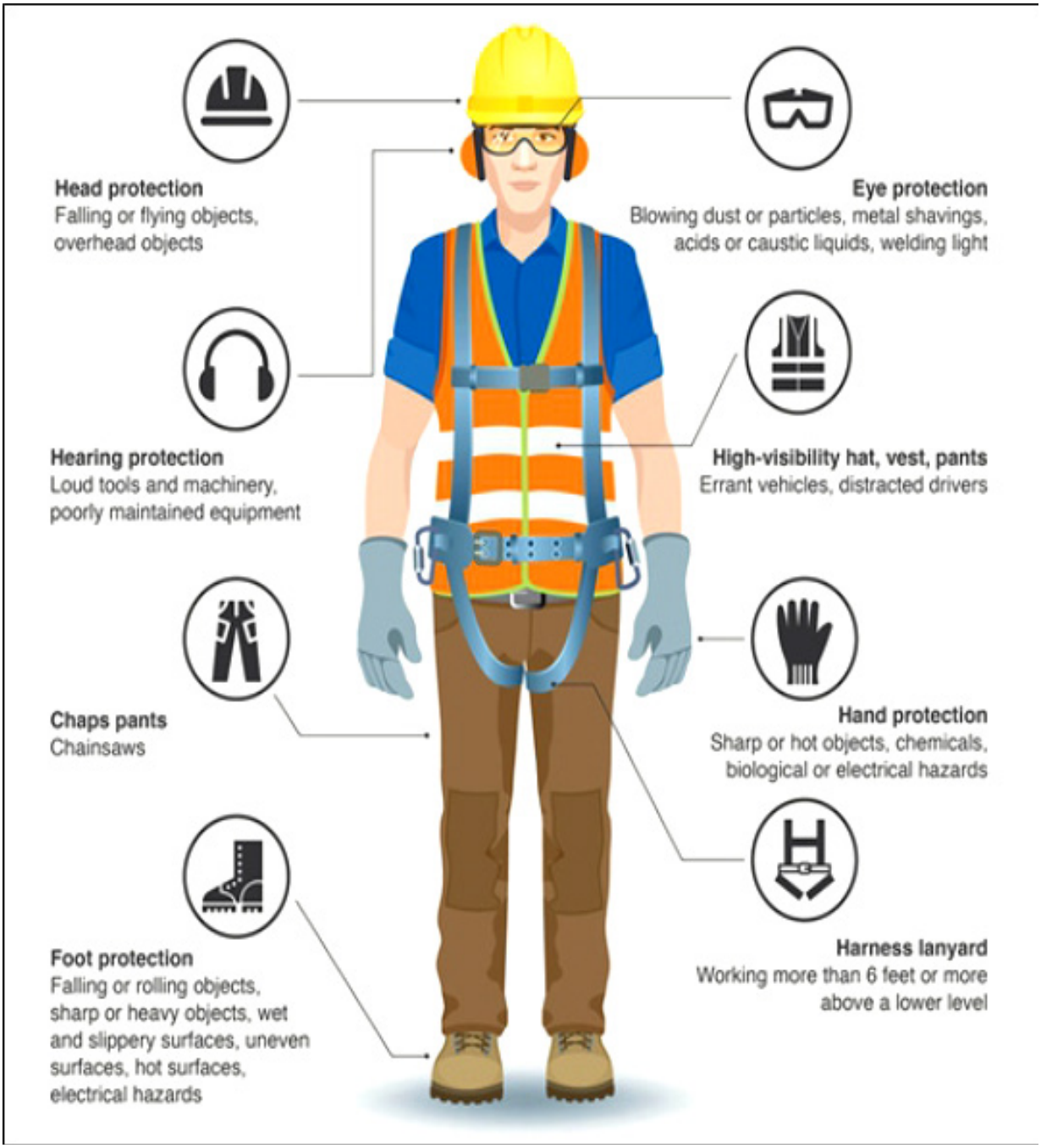


Fig. 5.1: The usage of personal protective equipment

- Protective Clothing Reduces Injury and Contamination Risks. In the food manufacturing Units, workers are at a surprising risk of exposure to harsh and toxic chemicals, which can cause further contamination of the food product. Also, PPE importance can be identified during working at height to avoid slip, trip and fall.

Say

Let us now participate in an activity to understand the concept better.

Activity

- This activity is in the form of Practical Session
- The Trainer will provide relevant PPEs to Trainees and explain how to wear those
- Trainees should wear the PPEs as per instruction and check whether they are comfortable or not
- In case of any doubt, Trainees must ask questions
- The Trainer will also explain when and how these PPEs come handy at the workplace.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

Unit 5.5: Organisational Protocols

Unit Objectives

At the end of this unit, trainees will be able to

- Recognizing the organizational protocols

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, etc.

Note

This is the twentieth session of the program, which will introduce us to the organizational protocols.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- What is organizational protocol?
- Why do you think protocol is important to an organization?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

- In this session, we will discuss the following points:
- Accidents are unplanned experiences resulting in injuries, illness, death, and loss of property and/ or production.
    - Knowledge of the Hazards
    - Be aware of the environment. Look around and recognize workplace risks that are capable of causing harm.

  - Look for manners to diminish or eliminate hazards and implement them.
  - Report unsafe areas or practices.
  - Dress for the weather.
  - Use the EHS (Environmental Health & Safety) Job Hazard Analysis devices to recognize hazards linked with job sorts.
- Keep an orderly job place. Poor housekeeping is capable of causing safety hazards and serious health. The workplace's layout requires having accurate egress routes as well as being debris free.
- Take breaks as well as mobilize around regularly all through the day. Short breaks (moving around and standing up) can make a big distinction in combating the threats of residing in a static position all day long.
- Pay attention to workstation ergonomics.
- Follow the following safe lifting practices:
  - Lift from a position of power
  - Keep the load close
  - Use a staggered stance
  - Cable/Rope/Slings in good repair
  - Hoist chain/Rope free of kinks and twist
- Nowadays, many organizations, including the food industry, also implement their emergency preparedness plan, which includes hazards identified during their past years of operation; possible weather or climatic condition; spillages during operational activities, etc. Hazards can be classified as low, moderate and significant impact on the organization based on the geo-location of the Unit.

Say

Let us now participate in an activity to understand the concept better.

Activity

- This activity is in the form of Mock Lifting
- The Trainer will provide boxes of varied weights to Trainees
- First, the Trainer will show the correct technique of lifting boxes and how to adjust posture with variable weights
- After the demonstration, Trainees will try their hands at it
- Trainees must keep the right posture and maintain the basics of safe lifting technique
- The Trainer will guide them through the entire process and rectify if needed.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

Unit 5.6: Dealing with Toxics

Unit Objectives

At the end of this unit, trainees will be able to

- Monitor the ways to handle the toxics

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, Helmet, gloves, rubber mat, ladder, neon tester, leather or asbestos gloves, flame proof aprons, flame proof overalls buttoned to neck, cuff less (without folds) trousers, reinforced footwear, helmets/ hard hats, cap and shoulder covers, ear defenders/plugs, safety boots, knee pads, particle masks, glasses/ goggles/visors, hand and face shields, machine guards, residual current Devices, shields, dust sheets, respirator, etc.

Note

This is the twenty-first session of the program, which will introduce us to the fundamentals of handling toxic.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- What are the adverse outcomes of mishandling toxic components?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- Toxics are chemical substances that can cause serious harm to the person if he/she comes directly in its contact. One should be extra careful while handling such substances and an organisation must have clear labelling, separate storage rooms and proper guidelines for its usage.
- Exposure hazards:

- **Contact or Absorption:** It can cause when a person comes in direct contact with toxic substances. It can result in drying or defatting of skin, skin irritation, or redness.
- **Inhalation:** It occurs when a person inhales the fumes or vapour of toxic substances. It can cause shortness of breath, sore throat, coughing, an effect on the nervous system, and irritation during the breath.
- **Ingestion:** It occurs when people accidentally consume toxic material. It can result in diarrhoea, vomiting, indigestion, effect on the functioning of the liver and kidney.

- **Storage requirement**
  - Toxic substances must be stored in designated storage compartments only.
  - It should be stored under the optimum condition as prescribed. Always take the material in desired quantity and never put the used or remaining material in the original container.
  - One should always look for an alternative before using the toxic agent.
  - Only authorised
  - Personnel should be given access to the storage compartment.
- **Labelling requirement**
  - Toxic substances or materials should be labelled in clear and readable format and proper usage instructions.
  - Work areas should be labelled properly where toxic substances are used regularly or excessively.
  - Always label the emergency contact number near the storage and the work area.
- **Waste management**
  - Toxic waste must be segregated separately in accordance with its nature.
  - It should be managed separately from other wastes.
  - Flammable chemicals, acids should be disposed of carefully and separately in order to prevent any type of accident or injury.
  - Never dispose of the toxic substance in an open area.
  - It should always be disposed of in a leak-proof and airtight container.

Say

Let us now participate in an activity to understand the concept better.

Activity

- This activity is in the form of Lab Visit
- The Trainer will take Trainees to a lab where toxic elements are stored
- The Trainer will show the optimum storage facilities, proper labelling and handling of toxic
- Trainees should carry their notebook and pen and take down important points
- The Trainer will also explain the adverse outcomes of mishandling the toxic components
- At the end of the session, the Trainer will allow Trainees to handle the toxic under strict supervision.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

Unit 5.7: Fire Prevention and Fire Extinguishers

Unit Objectives

At the end of this unit, trainees will be able to

- Identify fire prevention and fire extinguisher

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, Helmet, gloves, rubber mat, ladder, neon tester, leather or asbestos gloves, flame proof aprons, flame proof overalls buttoned to neck, cuff less (without folds) trousers, reinforced footwear, helmets/ hard hats, cap and shoulder covers, ear defenders/plugs, safety boots, knee pads, particle masks, glasses/ goggles/visors, hand and face shields, machine guards, residual current Devices, shields, dust sheets, respirator, fire extinguishers, etc.

Note

This is the twenty-second session of the program, which will introduce us to the important aspects of fighting fire and different types of fire extinguishers.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- Have you ever experienced fire breakout?
- What do you think are the basic things to keep in mind during firefighting?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- To prevent the workplace from fire, we must enforce the following measures:

- Workers should be highly trained for the mock drill.
- No smoking signs around the highly flammable liquid and gases.

- **Causes of fire**
  - **Flammable and combustible liquids:** This requires proper storage and handling in order to prevent the occurrence of fire which must be stored under a well labelled and closed container to avoid any accident.
  - **Liquefied Petroleum Gases:** LPG gas has a low density and is heavier than air. It usually accumulates in low lying areas so that the workers are warned if they tend to find any leakage or hole in the cylinders. Moreover, they must not use fire; instead of that, they are capable of utilizing soapy water and finding out the bubbles.
- **Fire Alarm Devices:** These are the devices used to warn people during fire and smoke or any other types of fire emergencies.
- **Fire Extinguisher:** It is a lifesaver device that is used to control small fires as well as in emergency situations. It should not be used in indented fire issues if it is reached to the walls, ceiling or where there is no route for escape.

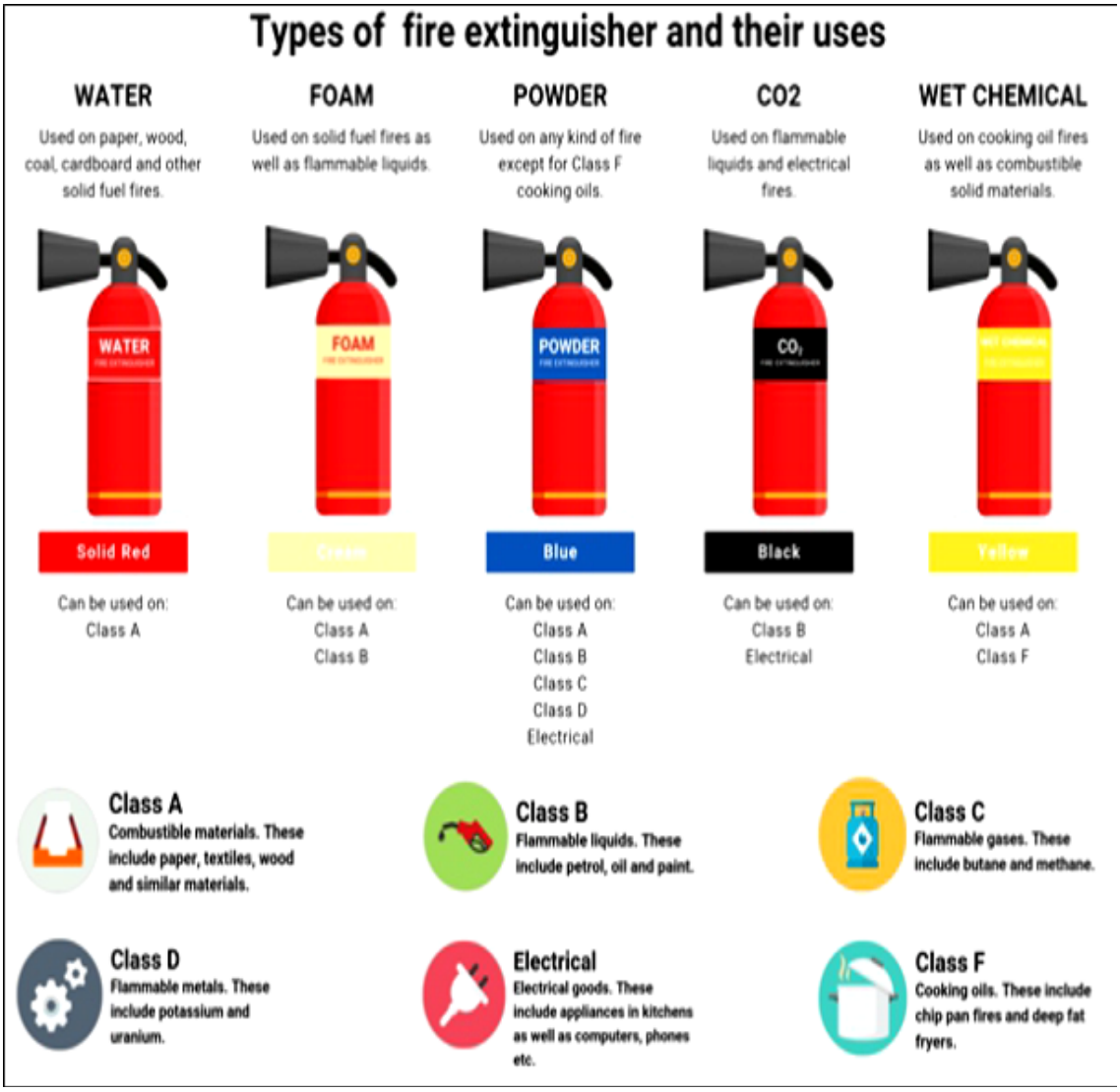


Fig. 5.2: Types of fire extinguishers

- Class A extinguishers would be capable of putting out fires in ordinary combustibles such as wood and paper.
- Class B extinguishers are utilized for flammable liquids like grease, gasoline and oil.
- Class C extinguishers are used only for electrically energized fires.
- Class D extinguishers are used on flammable metals.
- Fire extinguishers are relatively easy to use in case of small fires by using some simple technique called PASS.

Say

Let us now participate in an activity to understand the concept better.

Activity

- This activity is in the form of "Evacuation Drill and Quiz Contest"
- The trainer will ask the trainees to practice evacuation drills. The trainer should guide them
- After the evacuation drill is complete, there will be a quiz contest on the evacuation procedure
- The trainer will conduct the quiz contest
- The trainer will divide the entire class into two group
- One group will be Team A and the other will be Team B
- There should be a scorer to write points on the board
- The trainer will ask questions from the book related to the topic discussed
- For each correct answer, there will be 10 points however, for wrong answers there will be deduction of 10 marks
- There will be 5 marks for each right answer given on a pass and 15 marks will be deducted in case the pass answer is wrong
- There is no negative marking if a question is passed without any answer given.

Say

Did you find the activity fruitful? I hope all of you have enjoyed the activity.

Do

- Jot down the crucial points on the whiteboard as the students speak
- Share your inputs and insight, to encourage the students and add onto what they talk about
- Ensure that all students participate in the class
- Ask a student to summarise what was discussed in the session
- Demonstrate enthusiasm for subject matter, course and participant's work
- Prepare in advance and use appropriate energisers
- Encourage the students to explore how the training session can help them improve their work
- Keep the students on track
- Keep the ambience constructive and positive
- Ensure each contribution is given fair consideration.

Notes for Facilitation

- Ask the participants if they have any questions
- Encourage other participants to answer it and encourage peer learning in the class
- Answer all the doubts in case any to the participants
- Ask them to answer the questions given in the participant manual
- Ensure that all the participants answer every question.

Unit 5.8: Artificial Respiration and CPR

Unit Objectives

At the end of this unit, trainees will be able to

- Evaluate CPR as well as the artificial respiration

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, CPR tools such as valve mask and ventilator, checklists, etc.

Note

This is the twenty-third session of the program, which will introduce us to the life-saving technique of artificial respiration and performing CPR.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- What is CPR?
- When do you perform a CPR?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

Artificial respiration and CPR is an act (or) technique used for stimulating respiration when there is a sudden stoppage of breathing or lung functioning.

- Techniques used to provide artificial respiration are:
  - Mouth-to-mouth breathing
  - Prone-pressure method

- Cardiopulmonary resuscitation (CPR) or external chest compression
- Mouth-To-Mouth Breathing

Position your hand

Interlock fingers

Give chest compressions

Open the airway

Give rescue breaths

Watch chest fall

Repeat chest compressions and rescue breaths

- **Prone Pressure Method:** This method, additionally known as the Schafer method, stands to be a type of artificial respiration which is used for a patient in case of drowning. In this, the patient is placed in a prone or placed in a face-down position allowing rhythmically pressure with the help of hand on the thorax by means of which the water present would get expelled from the lungs allowing air to enter by clearing the passage in order to breath.
- **Back Pressure Arm-Lift:** This particular method is used as an alternative when other methods are not possible or are not working out.
- The mechanical method often uses machine-like ventilators. Another device that is used in the mechanical method is a bag valve mask. It has the self-inflate and deflates mechanism as well as has an air supply that is controlled by the valve.

Say

Let us now participate in an activity to understand the concept better.

Activity

- This activity is in the form of Practical Session
- The Trainer will demonstrate the process of performing CPR
- After the demonstration, the Trainer will divide the class into pairs
- In the first half of the activity, one participant from each pair shall perform CPR on the other
- In the second half, the roles will be swapped i.e. the participant giving CPR will play the role of a patient and the other will perform CPR
- The Trainer will ensure that both mouth-to-mouth and arm-lift CPRs are performed by Trainees
- The Trainer will rectify Trainees if needed.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

Unit 5.9: Rescue and Evacuation in Case of Fire

Unit Objectives

At the end of this unit, trainees will be able to

- Discuss the evacuation and rescue during a fire incident

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, Helmet, gloves, rubber mat, ladder, neon tester, leather or asbestos gloves, flame proof aprons, flame proof overalls buttoned to neck, cuff less (without folds) trousers, reinforced footwear, helmets/ hard hats, cap and shoulder covers, ear defenders/plugs, safety boots, knee pads, particle masks, glasses/ goggles/visors, hand and face shields, machine guards, residual current Devices, shields, dust sheets, respirator, fire extinguishers, CPR devices, etc.

Note

This is the twenty-fourth session of the program, which will introduce us to the steps of evacuation in case of fire.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- What are different causes of fire breakout?
- Which could possibly be the best evacuation process in case of fire at a congested workplace?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- A "Fire Emergency Evacuation Plan (FEEP)" stands a scripted document that involves the activity to be adapted by all staff in the event of a fire and the sequences for calling the fire brigade.

- Staff Fire Notice High fire threats or extensive premises that would be required a more illustrated emergency evacuation strategy which takes account of the findings of the assessment of fire risk, e.g. the staff importantly at threat and their spots.
- **Fire Evacuation Plan:** You require taking into consideration of how you would tend to arrange the premises evacuation in the light of your risk evaluation as well as the other fire precautions that the individuals possesses or intended to put in spot.
- **Simultaneous Evacuation:** In most premises, the evacuation in the instance of fire would easily be by means of each one responding to the warning signal given when a fire is discovered, then making their way, by regards of escape, to a spot of safety away from the boundaries. This is referred as a simultaneous evacuation and would generally be initiated by the sounding of the normal alarm over the system of fire warning.
- **Vertical Phased Evacuation:** In certain larger complex premises, the emergency arrangements are designed to allow people who are not at immediate risk from fire to delay initiating their evacuation. It might be accurate to start the evacuation by initially performing the evacuation by only the sector closest to the fire as well as warning other individuals to stand by.
- **Staff Alarm Evacuation (Silent Alarm):** In certain instances, it might not be accurate for a normal alarm to start immediate evacuation (Cinemas and Theatres). This could be as of the number of members of the public provided and the requirement for the staff in order to put pre-arranged strategies for the safe evacuation of the premises into action.

Say

Let us now participate in an activity to understand the concept better.

Activity

- This activity is in the form of Mock Drill
- The Trainer will arrange a mock fire evacuation drill for Trainees
- First, the Trainer will explain dos and don'ts of fire evacuation
- After the explanation, the Trainer will guide Trainees to perform a mock drill on fire evacuation
- Ten, the Trainer will divide the class into three groups and will make these groups posted in different places
- On the signal, three teams should perform a mock evacuation
- The Trainer will not participate in the evacuation
- The Trainer will observe and rectify Trainees as and when needed.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

Unit 5.10: First Aid

Unit Objectives

At the end of this unit, trainees will be able to

- Cataloguing the first aids

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, first aid kit, First Aid kit, images, sample first aid box, PPEs, etc.

Note

This is the twenty-fifth session of the program, which will introduce us to the basics of first aids at workplace.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- What is first aid?
- Which are the integral components of a first aid box?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- First aid, as the name suggests, stands to be the first and immediate care or assistance provided to the person in case of either minor, serious injury or illness.
- First-aid provided on time can save the life in case of life and death kind of situation as well as additionally assists to control the condition from worsening further.
- First aid is often controlled by the 3 P's principle:

- Prevent further injury
- Preserve life
- Promote recovery

- It is necessary that each floor or manager should have the first aid box handy with them and can be easily accessed by the employees in case of emergency or need.

Say

Let us now participate in an activity to understand the concept better.

Activity

- This activity is in the form of Lab Session
- The Trainer will take Trainees to the lab and show them basic first aid components
- The Trainer will explain the function of each component of a first aid box
- Trainees will take down important notes
- In case Trainees have queries, they should raise their hands and clarify their doubts then and there.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

Unit 5.11: Potential Injuries and Ill Health

Unit Objectives

At the end of this unit, trainees will be able to

- Understanding the ill health as well as potential injuries

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, first aid kit, First Aid kit, images, sample first aid box, PPEs, Injury imges, Injury lists, PPTs related to workplace injuries, etc.

Note

This is the twenty-sixth session of the program, which will introduce us to ill health as well as potential injuries at workplace.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- What could cause potential injuries to a worker in the food processing industry?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- **Slips, trips and falls:** One of the most common causes of injury are slippery surface, fall from ladder or height. It can be avoided through a safety grill or safety bars.
- **Muscle strains:** Muscle strain occurs at the workplace due to lifting heavy items regularly and longstanding or sitting hours. This can be prevented easily through exercise, training and guidance.
- **Being hit by falling objects:** Employees working in warehouses often encounter injuries caused by

falling objects. It can be controlled by providing adequate storage and encouraging staff to store the item safely.

- **Cuts and lacerations:** It generally occurs by inappropriately handling sharp objects and is capable of being controlled by delivering the proper training to the staff, wearing proper protection and providing safety equipment to the workers.
- **Inhaling toxic fumes:** Workers who are dealing with chemicals are more likely to become a victim of an injury caused by toxic materials like inhaling dangerous gases or fumes. It is mandatory for the employer to provide adequate safety gear to its worker who regularly meets such kinds of substances.
- **Crashes and collisions:** It can happen in warehouses and construction sites due to vehicle movement, and prevention can be done through necessary safety measures such as PPE, sufficient light, safety alert etc.
- **Exposure to loud noise:** Industrial deafness can occur to employees working in loud noise areas, and it can be avoided by wearing earplugs or earmuffs.
- **Fights at work:** Disagreement or tension may lead to fighting at work. It is a must to have an employee grievance department in order to deal with such cases.

Say

Let us now participate in an activity to understand the concept better.

Activity

- This activity is in the form of List Preparation
- The Trainer will first explain the potential injuries and their reasons
- After that, the Trainer will ask Trainees to prepare a list of possible reasons of injuries at the workplace
- This is an individual activity and each participant must prepare his/ her own list
- The Trainer will guide Trainees throughout the activity session
- The Trainer shall check each list separately and write his/ her remarks on the list.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

Unit 5.12: Precautions in Mobility

Unit Objectives

At the end of this unit, trainees will be able to

- Demonstration of the precautions in mobility

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, first aid kit, First Aid kit, images, sample first aid box, PPEs, Injury images, Injury lists, PPTs related to workplace nobilities, etc.

Note

This is the twenty-seventh session of the program, which will introduce us to various precautions that must be taken in mobility.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- What are the steps that can minimize the risk of injury at the workplace?
- What will you do in case of injury of your colleague?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- In order to provide better productivity for a workplace, the management of the organization:
  - Should minimize illness and injury of employees.
  - Should reduce the risk of accidents.

- Should maximize productivity.
- Should reduce the cost of injuries and workers compensation.
- Should meet their legal requirements and responsibilities.
- Should retain their staff for better performance.

- Precautions at the workplace may include.
  - Keep every corner organised, clean and clutter-free
  - Usage of mats on slippery floors
  - Properly stored combustible material
  - Ensure proper training while handling equipment and machinery
- In the food processing industry, workers do not require special types of uniforms unless they require antibacterial head caps, clothing or aprons in order to prevent bacterial contamination.
- The common cause of stress during work is working for long hours, insecurity of job and conflicts between employees, which can sometimes lead to depression, difficulties during work and affects the concentration of the employees.

Say

Let us now participate in an activity to understand the concept better.

Activity

- This activity is in the form of Industry Visit
- The Trainer will arrange a brief tour to a food processing hub
- Trainees must carry their Student ID, notebook and pen
- The Trainer will take the Trainees through different departments of the food processing hub and will show various precautions taken in each department against potential hazards
- Trainees should ask questions to clarify their doubts on the spot
- The Trainer will also show various clothes and PPEs worn by workers in the hub.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

Unit 5.13: Significance of Various Types of Hazard and Safety Signs

Unit Objectives

At the end of this unit, trainees will be able to

- Understanding the impact of various types of hazard and safety signs

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, checklists, PPE list, hazard signage, safety signs and symbols, PPT related to hazard identification, First Aid chart, etc.

Note

This is the twenty-eighth session of the program, which will introduce us to various types of hazard and safety signs.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- Have you ever come across safety signs?
- Why do you think sign are significant to workers?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- Safety hazards are the most common workplace risks. They include:
    - Anything that can cause spills or trips such as cords running across the floor or ice

- Anything that can cause falls, such as working from heights, including ladders, scaffolds, roofs, or any elevated work area.
- Unguarded and moving machinery parts that a worker can accidentally touch.

- Electrical hazards like frayed cords, missing ground pins, and improper wiring.
- Confined spaces.
- Safety symbols, hazard symbols or safety labels are meaningful and recognizable graphical symbols that warn of or identify hazards associated with the location or item.
- A chemical hazard is a (non-biological) substance that has the potential to cause harm to life or health.
- Chemicals are widely used in the home and in many other places. Exposure to chemicals can cause acute or long-term detrimental health effects.
- Biological health hazards include bacteria, viruses, parasites and moulds or fungi. They can pose a threat to human health when they are inhaled, eaten or come in contact with skin.
- Poor ergonomics contributes to muscle strain, muscle imbalances, and fatigue. Many muscle strains result from performing the same motion over and over again. These become repetitive stress injuries, which are some of the most common workplace injuries.
- Signs and symptoms of ergonomic injuries include pain which may be dull and aching, sharp and stabbing or a burning sensation—tingling or numbness; swelling, inflammation, stiffness.
- A few examples of work organization hazards and it is effective they are defined below.
  - Falls and Falling Objects- It can result in serious injury or fatality
  - Fire Hazards- It can result in loss, serious injury or fatality
  - Electrical Hazards- It can result in loss, serious injury or fatality
- There are multiple signs or symbols used in an organization to alert the people in their workstations.

Activity

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

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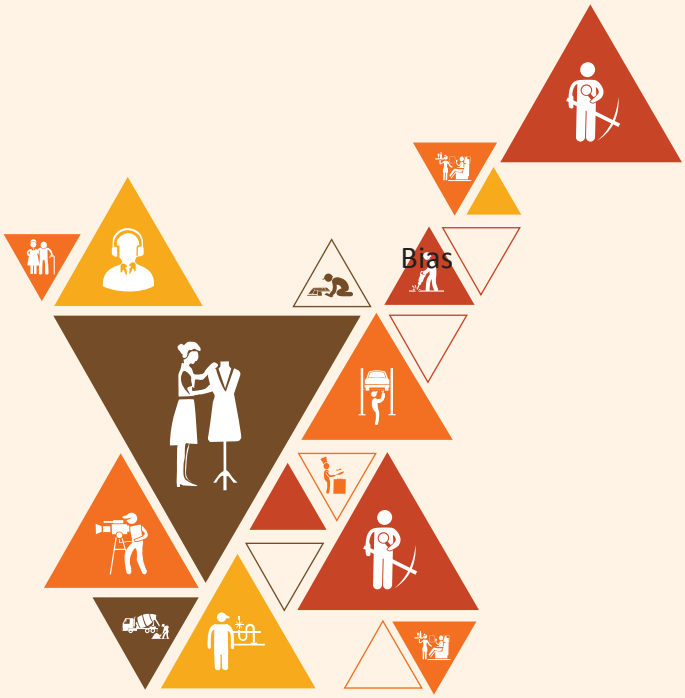
N·S·D·C
National
Skill Development
Corporation
Transforming the skill landscape

FICSI
Food Industry Capacity and Skill Initiative

6. Working Effectively in an Organization

Unit 6.1 - Organizational Policies
Unit 6.2 - Legislations, Standard, Policies, and Procedures
Unit 6.3 - Reporting Structure
Unit 6.4 - Inter Dependent Functions
Unit 6.5 - Harassment and Discrimination
Unit 6.6 - Prioritising Tasks
Unit 6.7 - Communication Skills
Unit 6.8 - Teamwork
Unit 6.9 - Ethics and Discipline
Unit 6.10 - Grievances Solution
Unit 6.11 - Interpersonal Conflicts
Unit 6.12 - Disabilities and Challenges
Unit 6.13 - Gender Sensitivity and Discrimination
Unit 6.14 - Applicable Legislation, Grievance Redressal Mechanisms
Unit 6.15 - Transacting With Others without Personal Bias



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Terminal outcome

At the end of this module, trainees will be able to:

1. Categorize the organizational policies
2. Catalogue the Legislations, standards, policies, and procedures
3. Analyse the reporting structure
4. List the inter-dependent functions
5. Discuss the impact of harassment and discrimination
6. Monitor the ways of prioritising the task
7. Record the types of communication skills
8. Evaluate the ways of carrying out teamwork
9. Highlight the ethics and discipline
10. Illustration of the grievance's solution
11. Recognize the interpersonal conflicts
12. Identify the disabilities and challenges
13. Outline the gender sensitivity and discrimination
14. Discuss the applicable legislations, grievance redressal mechanisms
15. Analyse the process of transacting with others without personal bias

Unit 6.1: Organizational Policies

Unit Objectives

At the end of this unit, trainees will be able to

- Categorize the organizational policies

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, checklists, Organizational SOPs, etc.

Note

This is the twenty-ninth session of the program, which will introduce us to organizational policies.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- Why do you think every organization follow a set of policies?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- Organizational policy or work place policy is a type of statement which provides the outlining of any organization that practices out the procedures. This eventually leads to its business which covers and everything, starting from the operations to concerns and compliances along with the employee's legislation.
- **Benefits of Organizational Policies:**
  - It stands to be in line with organizational values
  - It tends to have the list of complaints with the employment and associated legal requirement

- It provides proper clarity on the roles and responsibilities
- It ensures that an organization operates efficiently and in the specified business manner
- It helps in strengthening the staff position during or in the legal situation
- It enforces consistency and uniformity in the operational procedure and in the processes of decision making
- It saves time for the employees while the problems can be resolved rapidly and effectively through the existing policy

- **Workplace health and safety policy:** It is very essential for a recruiter to provide safe and healthy work environments to their employees since the hazards might arrive without alarming anybody about the risks.
- **Non-discrimination and Anti-harassment policy:** The principle behind this policy highlights its providing of guarantees in which human rights are exercised without any discrimination. These discriminations stand to be against individuals on the basis of their race, colour, gender, age, language, national origin, religion, gender identity, sexual orientation, property, marital status, family status, and citizenship.
- **Equal opportUnity policy:** This policy ensures that the employees are hired irrespective of their gender, religion, colour, age, caste, marital status, or physical ability.
- **Employee code of conduct policy:** The policy sets the guidelines for all the employees and various stakeholders in which they are expected to follow in their professional and personal behaviour at the workplace.
- **Leave policy:** This policy recognises that employees require time off from their works in order to maintain the work-life balance. It also understands the various other needs, like personal commitment, medical exigencies, relaxes time and so on of the employees.
- **Employee time-stamping policy:** This policy describes the rules and regulations related to the working hours of an employee.
- **Employee disciplinary and termination policy:** The major objective of the mentioned policy is to define the procedures and protocols in case of any breach of the company's policy, employee misconduct or any in-disciplinary behaviour.
- **Employee grievance policy:** The aim of this policy is to make sure that every employee has a formal way to raise their concern or complaint to their senior management.
- **Social media policy:** It is expected from every employee who is engaged or involved in social media sites, like Facebook, Instagram, and Twitter, LinkedIn and several other similar platforms, to understand and follow the guidelines of the company's social media policy.
- **E-mail policy:** This policy describes the guidelines and uses of corporate e-mails to meet business requirements.
- **Mobile phone policy:** This policy implies restrictions or limitations on the usage of mobile phones at the workplace.
- **Temporary Policies:** These policies are added to the main body of company's policy guides and could be changed or removed as needed example during the COVID-19 pandemic organization implemented policy to handle social distancing, masking, disinfecting and other safety procedures for keeping employee's and workplace safe for smooth running of organization or business.

Say

Let us now participate in an activity to understand the concept better.

Activity

- This activity is in the form of Discussion Session
- The Trainer will explain various organization policies to Trainees
- Trainees should raise their hands in case they have doubts
- After doubt clarification, the Trainer will divide the class into three groups
- Each group should be prepared to discuss at least 5 organizational policies
- Groups will discuss the policies among themselves and will try to point out pros and cons of the policies
- The Trainer should be present during the discussion session and will guide Trainees accordingly.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

Unit 6.2: Legislations, Standard, Policies, and Procedures

Unit Objectives

At the end of this unit, trainees will be able to

- Catalogue the legislations, standards, policies, and procedures

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, checklists, Organizational SOPs, etc.

Note

This is the thirtieth session of the program, which will introduce us to legislations, standards, policies, and procedures.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- What should be the standard practices at the workplace?
- Do you think policies make an organization stronger?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- Standard practices at a workplace must have:
  - Employers to define clear expectations from their employees.
  - Provide a chance to utilise one's skills to perform a task.
  - Support one's employees

- Motivate employees to collaborate and participate in decision making
- Welcoming nature for the feedback from the organization's employees.
- Investment in the employees learning and development process.
- Feedback received from employees and attempts to make a great workplace.

- A policy is a general set of guidelines that are designed in line with the company's objective for dealing with an issue. Policies communicate the connection between the organization's vision and values.
- A procedure sets out the specific task or action plan for implementing or carrying out a policy. Procedure tells employee's how to deal with a situation and when.

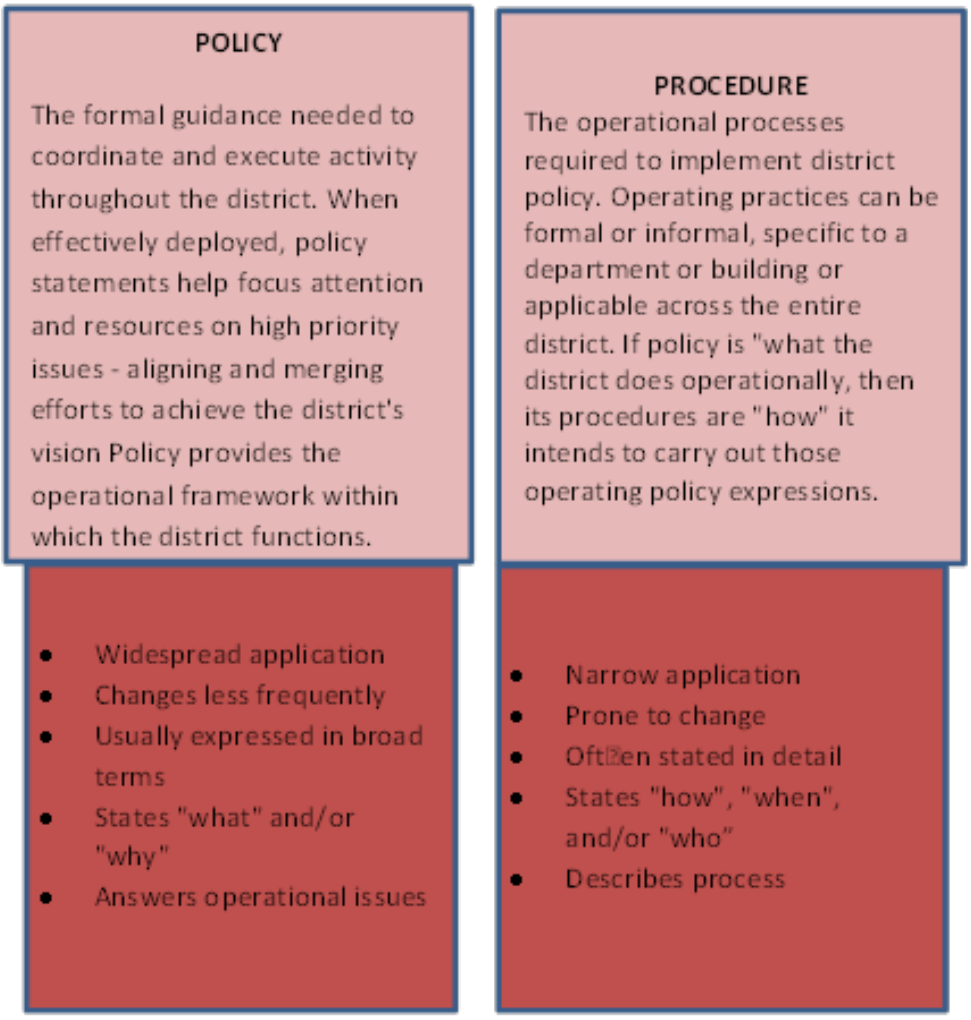

Fig. 6.1: Difference between Policy and Procedure

Say

Let us now participate in an activity to understand the concept better.

Activity

- This activity is in the form of Debate Session
- The Trainer will divide the class into two groups
- Group A will speak for the notion and Group B will speak against the notion
- The notion of the session is “Organizational procedures and policies should be lenient”
- The Trainer will act as the judge and ensure that Trainees are not discussing irrelevant things
- Each Trainee from both groups must speak in front of the class
- The best speakers will be appreciated by the class.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

Unit 6.3: Reporting Structure

Unit Objectives

At the end of this unit, trainees will be able to

- Analyse the reporting structure

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, checklists, Organizational SOPs, etc.

Note

This is the thirty-first session of the program, which will introduce us to the reporting structure of the organizations.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- What do you understand by the term 'hierarchy'?
- Why reporting structure is so important to maintain?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- Reporting structure refers to the relationship between the employee's position in terms of authority –"who reports to whom". The reporting structure acts as a command it is hierarchal within every employee report to another employee who resides to be one level higher in their authority or position within the organisation including communication and decision channels.
- **Vertical Structure:** The vertical organizational structure is a pyramid like top-down management structure. It creates a powerful hierarchical structure that emerges from top highest level of leadership CEO/owner followed by middle management then regular employees at bottom.

- **Horizontal Structure:** The flat structure or horizontal structure is an organizational structure having only a few layers of management into which the managers have a very wide span to control with one or more subordinates as it does not have many chains of command. The top layer of the structure is the owner of the business, whereas the second layer contains team leaders or managers who will report to the business owner.

Say

Let us now participate in an activity to understand the concept better.

Activity

- This activity is in the form of Mock Reporting
- The Trainer will divide the class into few groups depending on batch strength
- The agenda of the session is to grasp the basics of reporting structure
- The Trainer will make few participants team leads, few managers, few CEOs etc.
- Each Trainee should have a role to play in this activity
- Now, every participant must report according to the hierarchy of the organization.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

Unit 6.4: Inter-Dependent Functions

Unit Objectives

At the end of this unit, trainees will be able to

- List the inter-dependent functions

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, checklists, Organizational SOPs, etc.

Note

This is the thirty-second session of the program, which will introduce us to the inter-dependent functions.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- What is inter-dependent function?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- Interdependence stands to be the key aspect of creating a healthy work environment and a sense of Unity among the workers in order to achieve a common organizational goal. Teams of employees working together in hierarchy of organizational structure tend to demonstrate high chances of success rather than working individually.
- The two main components of Inter-dependence are:
    - Collaboration
    - Delegation

- **Pooled inter-dependence:** In an organisation, each vertical or horizontal department may not directly interact and do not directly depend on each other and perform completely separate functions having their own set of tasks, which stands to be different from each other, but they offer a contribution to the overall goal of an organisation as well.
- **Sequential inter-dependence:** Sequential interdependence is a kind of inter-dependence when one department is witnessed to depend upon the functioning of the other department. As an instance, the procurement department must purchase the raw materials in order to ensure the proper functioning of the production department.
- **Reciprocal inter-dependence:** Similar to Sequential inter-dependence, Reciprocal inter-dependence also defines output of one department becomes input of other department in order to efficiently complete the task or project.

Say

Let us now participate in an activity to understand the concept better.

Activity

- This activity is in the form of Role Play
- The Trainer will ask each Trainee to collaborate to perform a common task
- Trainees must collaborate in three different ways i.e.
  - Pooled inter-dependence
  - Sequential inter-dependence
  - Reciprocal inter-dependence
- Trainees must be able to understand various types of interdependence and their significance
- The Trainer will guide the session and help Trainees whenever required.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

Unit 6.5: Harassment and Discrimination

Unit Objectives

At the end of this unit, trainees will be able to

- Discuss the impact of harassment and discrimination

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, checklists, Organizational SOPs, etc.

Note

This is the thirty-third session of the program, which will introduce us to different types of harassment and discrimination at the workplace.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- What do you understand by workplace harassment?
- What should be done to eradicate discrimination from the workplace?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- Harassment can include behaviours, such as:
  - Telling abusive jokes about a particular group of members.
  - Forwarding obvious or sexually suggestive emails or texts.
  - Making disrespectful comments or taunts about a person's appearance and disability.

- Asking unwanted questions about someone's life.
- Displaying ethnic offensive screen savers.

- Discrimination refers to a treatment when one person or a group of members are treated unfairly based on the factors such as race, colour, gender, sexual orientation, age, religion, and disability.
- The different types of workplace discrimination are.
  - Gender Discrimination
  - Age Discrimination
  - Race Discrimination
  - Skin colour Discrimination
  - Mental and physical disability
  - Genetic information
  - Religion Discrimination
- Harassment and Discrimination at workplace is illegal and unethical. It is not only treating your employee's equally the right thing to do but also avoiding any type of harassment and discrimination can also improve company's reputation and will also improve working environment in organization.

Say

Let us now participate in an activity to understand the concept better.

Activity

- This activity is in the form of Preparing List
- The Trainer will first explain different types of harassments and discriminations at the workplace and their adverse impacts
- After that, the Trainer will ask Trainees to make a list of probable workplace harassments and discriminations and write down their solutions
- The Trainer will ask trainees randomly to stand up and read out what he/ she has written
- The best performers will be appreciated by the class.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

Unit 6.6: Prioritising Tasks

Unit Objectives

At the end of this unit, trainees will be able to

- Monitor the ways of prioritising the task

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, checklists, Organizational SOPs, etc.

Note

This is the thirty-fourth session of the program, which will introduce us to different ways to prioritise the task.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- Why do you think certain tasks need to be prioritised?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- Prioritizing a task or work is a process of having an understanding of which task requires to be achieved first by determining the level of importance and urgency of task, thing or event. However, each task or work appears to be equally vital.
- Seven strategies for prioritizing tasks at the workplace:
    - Having a list that contains all tasks or works in one place
    - Identify what's important

- Highlight what is necessary
- Prioritize based on importance
- Avoid competing with priorities
- Consideration of the efforts made in the tasks
- Constantly reviewing task and be realistic

Say

Let us now participate in an activity to understand the concept better.

Activity

- This activity is in the form of Practical Session
- The Trainer will allocate a set of tasks to Trainees
- Trainees must be able to determine which are priority and which can be delayed
- The Trainer will give a piece of paper to each Trainee
- Trainees must write down the sequence of tasks to be performed as per priority
- The Trainer will observe Trainees closely and guide them accordingly.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

Unit 6.7: Communication Skills

Unit Objectives

At the end of this unit, trainees will be able to

- Record the types of communication skills

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, checklists, Organizational SOPs, and soft skills PPTs, etc.

Note

This is the thirty-fifth session of the program, which will introduce us to the importance of communication skills at the workplace.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- Why do you think communication skill is important at the workplace?
- What could be the possible barriers of communication?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- Communication skill mainly addresses to the ability of the ways in order to communicate effectively with managers, colleagues and staff. It is an essential part for every industry
- It may be vocally (using voice), written (using printed or digital media such as books, magazines, websites or emails, visually (using logos, maps, chats or graphs), nonverbally (using body language, gestures, tone and pitch of voice).

- Body Language (non-verbal): When there is a discussion about body language, it refers to the ways by an individual presents themselves while interacting with someone. It includes body posture, hand movements or gestures, the type of eye contact that is made, and the voice tone.
- **Listening:** Communication in the workplace is not entirely about speaking; it mainly represents a two-way channel.
- **Clarity and Conciseness:** One of the major ingredients for effective communication in the workplace is clarity, which mainly stands to be responsible to expresses the attempt of conveying an individual's message in the simple way possible.
- **Friendliness:** In order to engage with the team members in an open or honest discussion, a person needs a friendly tone, a personal question, or simply a smile. It is important because the team members would not hesitate to contact the individual as they would be easily approachable for the conversation.
- **Empathy:** Showing compassion or empathy even when the individual disagrees with an employer, co-worker, or employee state to be very important as it helps in understanding their point of view and also respects their decision.
- **Confidence:** It is an important step to be confident when an individual tends to interact with others. As in all interactions, confidence (but not overconfidence) is crucial part.
- **Respect:** The employee must respect their co-workers' roles, skill set and ideas in order to meet the company's overall goal as a team.

Say

Let us now participate in an activity to understand the concept better.

Activity

- In this activity, you will divide the class into 3 groups.
- All the groups will enact the roles that you will give them.
- The first group will showcase the incorrect method of communicating with colleagues
- The second group will showcase the correct method of communicating with colleagues
- The third group will showcase different methods of building a good work relationship with colleagues
- The group portraying the given role in the best way will be declared as the winner and will be appreciated in the class with accolades.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

Unit 6.8: Teamwork

Unit Objectives

At the end of this unit, trainees will be able to

- Evaluate the ways of carrying out a teamwork

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, checklists, Organizational SOPs, and soft skills PPTs, etc.

Note

This is the thirty-sixth session of the program, which will introduce us to the ways of carrying out a teamwork.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- What is teamwork?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- Methods to improve teamwork in the organization:
- **Encourage informal social events:** In an informal environment, employees feel free to communicate with each other, and they also try to understand the personal behaviour of everyone.
- **Clarify Roles:** In order to work efficiently at the workplace, every employee should have a proper understanding of their roles and responsibilities according to their work demand.

- **Specify long-term as well as short-term goals:** Specifying goals help in streamlining the communication and makes the teamwork more purposeful.
- **Reward and recognition:** It is necessary for an employer to recognise the best performing employees as it will keep them motivated and also provide a sense of accomplishment.
- **Avoid micro-management:** One of the significant drawbacks of micromanagement is that the employee tends to focus on the small or less relevant thing which they think is required to please the immediate supervisor.
- **Establish Effective Communications:** It is not necessary that an employee needs to be friends with all the co-workers, but the thing which is necessary states the establishing and practising of effective/good communication.
- **Respect Individuality:** Every individual has their own personality, skill and preferential ways of working, which is a necessity of the employer in order to recognise these.
- **Seek feedback:** Seek feedback not only from the managerial staff but also from the ground level staff in order to gain the proper insights and scopes of improvement.

Say

Let us now participate in an activity to understand the concept better.

Activity

- This activity is in the form of “Collaboration and Commitment”
- The trainer divides the class in few groups depending on the number of students
- Each group will be part of the entire activity
- The trainer will ask the class to prepare a PowerPoint presentation
- The topic of the presentation is : **Significance of Healthy Team Bonding in Ideal Work Culture**
- Each group will take part in this activity
- One group will collect information
- Another group will collate the data and validate for PowerPoint
- Some other group will prepare the PPT.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

Unit 6.9: Ethics and Discipline

Unit Objectives

At the end of this unit, trainees will be able to

- Highlight the ethics and discipline

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, checklists, Organizational SOPs, and soft skills PPTs, etc.

Note

This is the thirty-seventh session of the program, which will introduce us to the importance of ethics and discipline at the workplace.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- What is ethics?
- How does discipline improve productivity at the workplace?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- Work ethics refers to the ways by which the employees govern themselves and their attitude towards their work. It also refers to morality in the workplace.
- A person having a good work ethic tends to create a healthy workplace environment for him/her as well as for their fellow co-workers.

- It is mandatory for an employer to develop strong work ethics among the employees. It can be done in various ways.
  - Setting clear goals and objectives
  - Mentoring
  - Set example
  - Need of right work environment
  - Encourage professionalism
  - Discipline
  - Listen to your employees
  - Feedback
  - Rewards and recognition
  - Remove obstacles
  - Discipline at Workplace

Say

Let us now participate in an activity to understand the concept better.

Activity

- This activity is in the form of Checklist Preparation
- The Trainer will ask each Trainee to prepare a checklist where they should mention dos and don'ts at the workplace in terms of ethics
- Every Trainee must prepare a checklist and share with the Trainer
- The Trainer will check and rate the checklist on a scale of 10
- The best performers will be appreciated by the class.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

Unit 6.10: Grievances Solution

Unit Objectives

At the end of this unit, trainees will be able to

- Illustration of the grievance's solution

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, checklists, Organizational SOPs, and soft skills PPTs, etc.

Note

This is the thirty-eighth session of the program, which will introduce us to the importance of grievance address system.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- What will you do if you have any grievance related to your wok?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- Grievance can prove to be quite harmful if not dealt with in time. It may lead to frustration among the employees, and they can start losing their trust from the employers.
- Work-related grievances and complaints from staff need to be tackled with proper care and are also known to be a time taking procedure.
- There are five ways in order to address the grievances effectively:
- Prompt and timely Action: The staff or department expert in handling the grievances must be highly trained in managing the employee grievances effectively and in a time-bound manner.

- **Grievance acceptance:** The supervisor or expert must accept the employee grievance and also should respect their genuine feelings.
- **Collect information:** Management should not wait for the grievances to be reported. Instead, it should take preventive steps in order to avoid it. In order to curb it, the management must discuss, collect information, and communicate regarding various issues at the workplace.
- **Cross verify the grievance cause:** Once the information and cause of grievance are collected about the reported incident, the information must be cross-checked from various other sources.
- **Decision making:** On successful identification of the causes, the management must develop a series of steps in order to resolve it along with the next course of action.
- **Review and implement:** The management should not wait for a longer time once they have a rational and effective resolution. It is necessary to involve the concerning employee(s) in confidence before implementing the decision.

Say

Let us now participate in an activity to understand the concept better.

Activity

- The Trainer will ask Trainees to open their notebook
- Each Trainee should write down five points on addressing grievance effectively at the workplace
- Trainees should also write one case study on how grievance can be addressed properly
- The case study may be on harassment, discrimination, work pressure, an issue with the process, etc.
- The Trainer will check each and every write-up
- The best performers will be appreciated by the class.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

Unit 6.11: Interpersonal Conflicts

Unit Objectives

At the end of this unit, trainees will be able to

- Recognize the interpersonal conflicts

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, checklists, Organizational SOPs, and soft skills PPTs, etc.

Note

This is the thirty-ninth session of the program, which will introduce us to the interpersonal conflicts at the workplace.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- What is interpersonal conflict?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- Interpersonal conflicts refer to any type of conflict among two or more people. The idea mainly refers to the situation when a person or group of employees tries to interfere in some other employee's work.
- Ways to Resolve Conflict at the Workplace
  - Communicate
  - Listen carefully
  - Show empathy

- Never hold back any grudges
- Effective communication skill

Say

Let us now participate in an activity to understand the concept better.

Activity

- The Trainer will provide a scenario where colleagues need to work together casting aside interpersonal conflicts
- The scenario may include working under tremendous pressure during festivals at a food processing hub
- Wok pressure can cause irritation and employees tend to get involved in interpersonal conflicts
- Trainees must work together to come out of the crisis without getting into interpersonal conflict.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

Unit 6.12: Disabilities and Challenges

Unit Objectives

At the end of this unit, trainees will be able to

- Identify the disabilities and challenges

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, checklists, Organizational SOPs, PwD SOPS, and soft skills PPTs, etc.

Note

This is the fortieth session of the program, which will introduce us to disabilities and challenges at the workplace.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- What are the possible challenges one could face at the workplace?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- The challenges to employment can range from a variety of physical and social ones. These can include:
  - Physical barriers
  - Nature of co-workers and stereotyping
  - Communication barriers
  - Policy barriers
- **Physical Barriers:** They can take the form of structural issues in an environment that retrogrades the

basic functioning of disabled people. As an instance, the lack of a wheelchair ramp or an elevator can hamper basic tasks for disabled people or not allow them access to modern equipment that would authorize them to perform tasks.

- **Nature of Co-Workers and Stereotyping:** Judgements and assumptions against people with disabilities are pretty much the norms of our present day society. They tend to prevent disabled people from getting hired or having a positive experience in the workplace. For example, a person might be denied useful resources because their employer believes that they don't tend to possess a learning ability. This is common for people suffering from autism, ADHD or several other 'invisible' disabilities.
- **Communication Barriers:** Communication barriers can create an inefficacy to effectively write, speak, read or understand the necessary requirements for a job. Some examples would involve the inability to use a phone due to hearing disability, lack of braille prints for blind people, and usage of languages that are too technical for people with cognitive impairments.
- **Policy Barriers:** Policy barriers can also be a defining factor for the challenged people to get a job in a cooperative workplace. These include giving people not enough time to complete their tasks.

Say

Let us now participate in an activity to understand the concept better.

Activity

- The Trainer will ask Trainees how they should behave professionally with a co-worker who is:
- Physically impaired
- Suffering from autism
- Specially abled
- Trainees must write down their answers in the notebook
- The Trainer will ask Trainees randomly to stand up and read out loud their answers
- The best performers will be appreciated by the class.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

Unit 6.13: Gender Sensitivity and Discrimination

Unit Objectives

At the end of this unit, trainees will be able to

- Identify the disabilities and challenges

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, checklists, Organizational SOPs, PwD SOPS, and soft skills PPTs, etc.

Note

This is the forty-first session of the program, which will introduce us to gender sensitivity and discrimination at the workplace.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- Why do you think gender equality at the workplace is important to implement?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- Gender sensitivity has also been an ongoing dialogue inside the workplace. The workplace has frequently been referred to as an "inhospitable place" for women due to the multiple decisions taken by the HRs (i.e., policies, decisions and their enactment, training, wage).
- Ways to Build Gender Sensitivity and Eliminate Discrimination
    - Recognizing the workplace's "Gender Equality Maker (GEM)."
    - By being open and informative about it

  - Altering existing policies to make room for gender diversity and equality
  - Strict implementation of the policies
- An open atmosphere in a workplace would help a company and its employees to excel in all directions. Understanding their needs and fulfilling them accordingly would help the employers and workers in a similar manner to achieve a gender-balanced environment.
- For example, having group discussions with men, women, and LGBTQ+ would help people to understand their needs and concerns.
- The "Equal Remuneration Act of 1976" of India has prohibited differential pay to men and women employees for conducting the same work or work of the same nature.
- Lastly, for sexual harassment, implementing strict rules against this kind of behaviour is paramount and shows that a corporation is heading in the right direction

Say

Let us now participate in an activity to understand the concept better.

Activity

- The Trainer will ask Trainees how gender equality can be attained at the workplace
- Trainees must prepare a list of dos and don'ts at the workplace to eliminate discrimination and establish gender equality
- Then the Trainer will ask Trainees to interchange their write-ups
- Participants will check each other's copy and rate them out of 10
- The best performers will be appreciated by the class.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

Unit 6.14: Applicable Legislation, Grievance Redressal Mechanisms

Unit Objectives

At the end of this unit, trainees will be able to

- Discuss the applicable legislations, grievance redressal mechanisms

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, checklists, Organizational SOPs, PwD SOPS, and soft skills PPTs, etc.

Note

This is the forty-second session of the program, which will introduce us to applicable legislations, grievance redressal mechanisms at the workplace.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- What are the key points to remember during grievance addressing?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- The Indian Constitution guarantees equality and prohibits discrimination on the grounds of religion, race, caste, sex, birthplace, and residence.
- Discrimination against or profiling individuals can occur at two stages – pre-recruitment and post recruitment.

- The Constitution guarantees equality of opportunity for every citizen in matters relating to employment or appointment to any office under the state.
- **Internal Committee for Complaints:** According to the sexual harassment of women at workplace "(Prevention, Prohibition and Redressal) Act, 2013" of India (POSH Act), each workplace possessing at least ten employees is required to constitute an Internal Complaints Committee (IC). The IC is required to investigate complaints of sexual harassment of women at the workplace and also provide recommendations to the employers.
- **Grievance Redressal Committee:** According to section 9C of the Industrial Disputes Act, 1947 of India (IDA), each employer recruiting at least twenty workmen, is needed to structure a Grievance Redressal Committee (GRC) for resolution of the conflicts arising out of grievances of the people.
- **Works Committee:** The labour authorities might, under section 3 of the IDA, order an initiation possessing at least one hundred workmen to set up a Works Committee (WC).
- **Committee for Employee's Health and Safety:** Certain states in Indian like Maharashtra need employers to employ at least one hundred workers to structure a Health, Safety and Welfare Committee (HSW Committee). The responsibility of the HSW Committee includes surveying and identifying any accident-prone, hazardous objects or spots in the boundaries, rectifying such spots, conducting healthcare camps once a year.

Say

Let us now participate in an activity to understand the concept better.

Activity

- The Trainer will ask Trainees to open their notebook
- Each Trainee should write down five points on addressing grievance effectively at the workplace
- Trainees should also write one case study on how grievance can be addressed properly
- The case study may be on harassment, discrimination, work pressure, an issue with the process, etc.
- The Trainer will check each and every write-up
- The best performers will be appreciated by the class.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

Unit 6.15: Transacting With Others without Personal Bias

Unit Objectives

At the end of this unit, trainees will be able to

- To administer with others without personal bias

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, checklists, Organizational SOPs, PwD SOPS, and soft skills PPTs, etc.

Note

This is the forty-third session of the program, which will introduce us to administer with others without personal bias at the workplace.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- What is personal bias?
- Why is it unfair to practice personal bias at the workplace?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- **Recognizing an Individual's Own Biases:** Recruitment is known to be an area where unconscious bias may come into play as it has been seen that people may unwittingly tend to favour applicants from their own familiar backgrounds.
- **Focusing on People:** Many organizations are so focused on their processes that they lose sight of their own people. Of course, there is a requirement to find time, for example, to write reports, define job

descriptions, and set up performance appraisals, but it's important that there is also the establishment of expectations communicates plans, and giving as well as receiving feedback from everyone involved in the team.

- **Increasing Exposure to Biases:** Many organizations assume that their policies on avoiding discrimination are robust and work well, so perhaps they fail to weed out some subtle biases. Declaration of the intentions about valuing a diverse workforce is extensively required. Saying words out loud, or writing them down, sends a clear message to everyone with whom an individual is working, as well as is involved in one's own sub-consciousness.

Say

Let us now participate in an activity to understand the concept better.

Activity

- This activity is in the form of Debate Session
- The Trainer will divide the class into two groups
- One group will speak in favour of the notion and the other group against it
- The notion of the session is "personal bias should not be applicable for deserving candidates"
- Each Trainee must speak for the cause of his/ her group
- The Trainer will be the judge of the session
- The best speakers will be appreciated by the class.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

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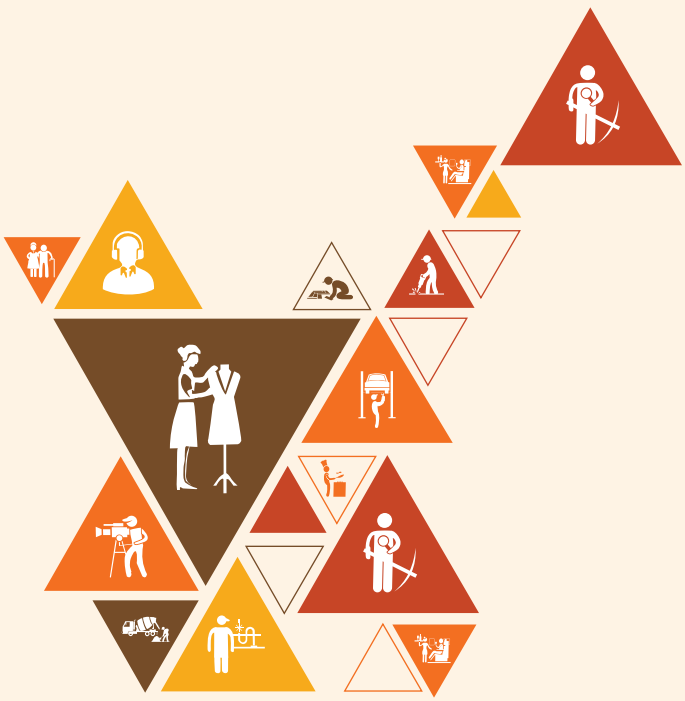
सत्यमेव जयते
GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT
& ENTREPRENEURSHIP

N·S·D·C
National
Skill Development
Corporation
Transforming the skill landscape

FICSI
Food Industry Capacity and Skill Initiative

7. Material Conservation



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Terminal outcome

At the end of this module, trainees will be able to:

1. Identify the ways to handle materials
2. Categorize the workstation layouts, electrical and thermal equipment
3. List the organizational procedures for minimising waste
4. Analyse the practices of efficient and inefficient management
5. Discuss the material and water usage

Unit 7.1: Material Handling

Unit Objectives

At the end of this unit, trainees will be able to

- Identify the ways to handle materials

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, various inventory document samples, materials used at work, workplace SOPs, etc.

Note

This is the forty-fourth session of the program, which will introduce us to the ways to handle materials.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- What is material handling?
- What are common equipment used in material handling in food processing sector?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- Material handling is also known as the integrated system, which involves such activities of the movement, storage, protection and control of types of materials and products throughout the manufacturing, distribution, consumption and disposal.
- **Principles of Material Handling**
    - Planning: The planning requires to be done in order to achieve the approach of the team with the input of consultants, suppliers and the end-users, from the management, engineering, operations, finance, sales and operations.

- **Standardization:** All the material handling equipment, methods, controls, and software requires to be standardized in such a way that it would be able to perform a wide range of tasks in a broad range of operations.
- **Work:** In material handling, the process requires to be clarified by reducing, shortening and eliminating in order to remove the unnecessary movement that would impact productivity.
- **Ergonomics:** Work and work-related conditions are being adapted to support the ability of a worker, which reduces the repetitive and difficult manual labour as well as safety.
- **Unit Load:** Due to the less use of effort and work required to move several individual items together as a single load (e.g., moving of many items one at a time), a Unit load such as containers or pallets is required to be used.
- **Space Utilization:** In order to maximize the effective use of space within a facility, it is extensively crucial to keep the working stations organized and clutter-free to increase the density and availability of the storage area. 5S principle can be implemented for space utilization 5S stands for the 5 steps of this methodology: Sort, Set in Order, Shine, Standardize, and Sustain.
- **System:** In material handling, the movement and the storage are required to be coordinated throughout the process in order to form or receive the inspection, storage, packaging, order selection, production, and shipping, return handling, as well as transportation.
- **Environment:** Energy, which is used in potential environmental impact, have been considered in designing the system with recycling and reusability processes implemented whenever possible, as well as for the establishment of practices for safe handling of hazardous materials.
- **Automation:** To develop operational efficiency and consistency, the automated material handling technologies need to be positioned whenever possible.
- **Life Cycle Cost:** For all the equipment used in material handling for a specified system, the analysis of a life cycle cost is required to be conducted. The areas of considerations require possessing the installations, programming, training, operation, maintenance and also repairing.

- Loading and unloading process can be considered as hazard due to the potential risk involved to the product, property and person.
- Vehicles and containers that transport materials should be used only for the intended purpose and should have both sanitary design and pest control procedures in place.

Say

Let us now participate in an activity to understand the concept better.

Activity

- This activity is in the form of Quiz Session
- The Trainer will divide the class into 4 groups
- Each group will prepare for one particular type of material handling equipment
- The Trainer will then conduct a quiz session
- Groups will be asked questions on their respective topic

- Correct answer carries 10 points and wrong answers carry -5
- In case a question goes unanswered, the group will get no point.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

Unit 7.2: Workstation Layout, Electrical and Thermal Equipment

Unit Objectives

At the end of this unit, trainees will be able to

- Categorize the workstation layouts, electrical and thermal equipment

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, various inventory document samples, materials used at work, workplace SOPs, etc.

Note

This is the forty-fifth session of the program, which will introduce us to workstation layouts, electrical and thermal equipment.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- What are the common electrical equipment found at a workplace?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- During the design of the workstation layout, the following space requirements are taken into considerations:
    - Requires having spaces for racks, bins and conveyor stations that either contain the under processed work or receive the work after it has been completed by the machine.
    - There should be a rectangular space occupied by the length and width of the machine or group of machines. They need to include the space for the travel of moving parts as well as the projected parts of machines which include shafts, levers, pulleys, handles and wheels.

- There requires being a proper workspace for the workers in order to efficiently complete their tasks.
- Requires having clearance space for feeding the work on and off the machine.
- There needs to be a space for tool racks, workbenches, etc., required by the individual machine, if any.
- There needs to be proper floor space for the power source, or if in case of any electric motor, it has to be placed on the floor or within the working area.

- The storage space requirement depends on various factors such as:
  - Quantitative use of raw material per hour
  - Movement of semi-built parts between two machines depending upon the weight and volume.
  - Movement of parts between the departments, depending upon the weight and volume.
  - The dependence upon the scrap weight and volume
  - Vertical heights of the building plants.
  - Production capacity of the assembly.
- Some important aspects which need to be considered while designing the workplace are:
  - Cleanliness
  - Proper lighting
  - Noise
  - Chairs and Workbench
  - Machine design
- The following points require to be considered while designing an electrical workstation.
  - Placement of electricity outlet or strips
  - Power/voltage requirement of different equipment
  - The number of power outlets required
  - Alternative or emergency power source outlets

Say

Let us now participate in an activity to understand the concept better.

Activity

- This activity is in the form of “Prepare a sample checklist and monitor energy usage”
- This activity targets to make the Trainees understand the optimization of energy in the workplace
- The Trainer will divide the class into three groups
- The Trainer will distinguish one particular room for the case study

- Each group will be assigned with the following tasks
  - Count the number of lights, fans and ACs in the case study room
  - Note down the duration of their usage
  - Assess the proper usage and wastage
  - Prepare a checklist to evaluate how to optimize the energy usage
  - Submit a document furnishing observations
- The Trainer will check the documents and declare the best group.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

Unit 7.3: Organisational Procedures for Minimising Waste

Unit Objectives

At the end of this unit, trainees will be able to

- List the organizational procedures for minimising waste

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, various inventory document samples, materials used at work, workplace SOPs, etc.

Note

This is the forty-sixth session of the program, which will introduce us to procedures for minimising waste.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- What could be the possible waste found in a food sector?
- How do you propose to minimize waste at the workplace?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- **Transportation:** Transportation waste refers to the movement of tools, equipment, inventory, raw material, people etc., more than the actual requirement or consumption. Unnecessary or excessive movement of resources leads to unnecessary work, increased wear and tear, increased damaged and defects.
- **Inventory:** Inventory is often considered as an asset to any organisation; however, storing inventory stands to be more than the required leads to unnecessary damage, defects and increased lead time during the production process.

- **Motion:** This includes unnecessary movement of tools or equipment, machinery or people. It also includes repetitive movement that doesn't add value to the work or customer, reaching for raw material, unnecessary walking to fetch tools or equipment and readjusting of installed machinery.
- **Waiting:** It includes equipment or machinery which are kept idle and also the workers waiting for material or equipment. It is majorly caused by unevenness among the various production lines.
- **Overproduction:** Overproduction means manufacturing a product or material in excessive quantity than the actual demand.
- **Defects:** A defect usually refers to a specific product that is of no use. This results in either discarding the product or reworking on them and is capable of incurring the additional operational cost.

Tips

- For having an effective system of food processing implementation of automated statistical process control systems are extensively required
- Maintaining a high level of supply chain visibility is also considered to be important for efficient food processing

Say

Let us now participate in an activity to understand the concept better.

Activity

- This activity is in the form of "Waste management"
- The Trainer will ask every trainee to prepare a sample hazard measurement checklist
- The Trainees should assess the waste management system of the building
- They should prepare a document on the existing waste management system and propose systems to enhance it
- They must be able to segregate between different types of waste and their treatment
- On the merit of the document submitted by the trainees, the Trainer will announce the best reports
- Trainees who furnished best reports will be appreciated by the class.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

Unit 7.4: Practices of Efficient and Inefficient Management

Unit Objectives

At the end of this unit, trainees will be able to

- Analyse the practices of efficient and inefficient management

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, various inventory document samples, materials used at work, workplace SOPs, etc.

Note

This is the forty-seventh session of the program, which will introduce us to practices of efficient and inefficient management.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- Which are the common equipment used in waste treatment?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- Following are the key indicators of inefficient management:
  - Uneven prioritization of work
  - Non-essential work
  - Lack of resource planning
  - Improper justification of resources

- Inefficient productivity management
- Lack of fruitful collaboration

- An efficient management practice refers to those practices which can perform the task with minimal wastage of resources.
- The basic rules of effective management are:
  - Consistency
  - Goal setting
  - Delegation
  - Task prioritization
  - Effective communication
  - Rewards and Recognition
  - Training and development
  - Management Commitment

Say

Let us now participate in an activity to understand the concept better.

Activity

- This activity is in the form of Industrial Visit
- The Trainer will take Trainees to a food processing hub
- Trainees must carry their Student ID, notebook and pen
- The Trainer will take Trainees to the waste treatment department
- Trainees will observe the waste treatment procedure at the food processing hub
- In case they have any query, they should clarify those then and there.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

Unit 7.5: Material and Water Usage

Unit Objectives

At the end of this unit, trainees will be able to

- Discuss the material and water usage

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, various inventory document samples, materials used at work, workplace SOPs, etc.

Note

This is the forty-eighth session of the program, which will introduce us to material and water usage.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- What is different usage of water in food processing sector?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- Material refers to those components or raw goods which are used in producing hard goods like machines and equipment for another industry or end consumer as well as soft goods like food items, chemicals, medicines, apparel, etc.
- In manufacturing Units, water is used for various purposes like fabrication and processing of various materials, cleaning, diluting or as a coolant.

Say

Let us now participate in an activity to understand the concept better.

Activity

- This activity is in the form of Flowchart Preparation
- The Trainer will ask every Trainee to prepare a flowchart on industrial usage of water
- The Trainer will share reference materials on the topic
- Trainees must use pictures and graphs to explain the topic
- The best performer will be appreciated by the class.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

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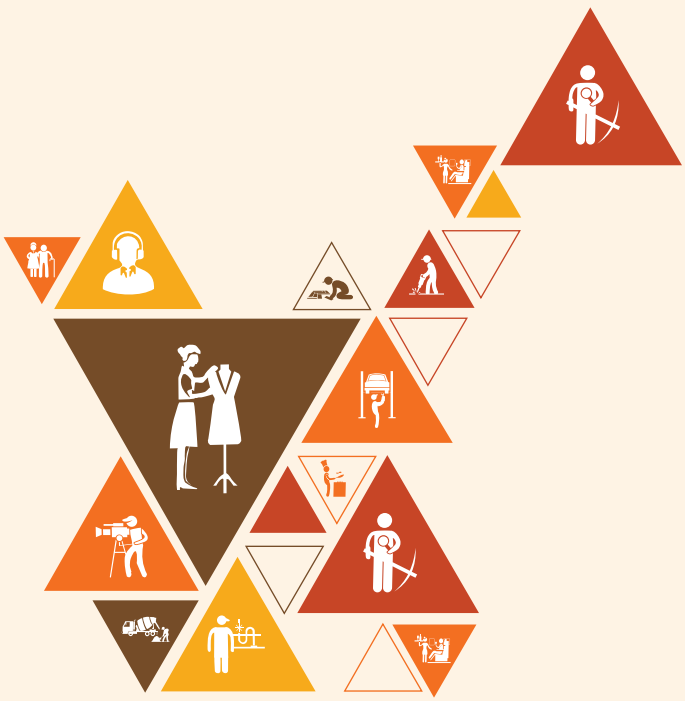
8. Energy and Electricity Conservation

Unit 8.1 - Define Electricity

Unit 8.2: Basics of Electricity

Unit 8.3 - Energy Efficient Devices

Unit 8.4 - Standard Practices for Conserving Electricity



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Terminal outcome

At the end of this module, trainees will be able to:

1. Define electricity
2. State the basics of electricity
3. Identify the energy-efficient devices
4. Explain the standard practices to be followed for conserving electricity
5. Illustrate electrical equipment and appliances

Unit 8.1: Define Electricity

Unit Objectives

At the end of this unit, trainees will be able to

- Define electricity
- State the basics of electricity

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, various work related SOPs, energy saving devices, etc.

Note

This is the forty-ninth session of the program, which will introduce us to the basics of electricity.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- What is electricity?
- What are the common uses of electricity in the food processing sector?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- Electricity stands to be a general form of energy observable in a positive and negative form that takes place naturally (as in lightning) or is generated (as in a generator), as well as that is expressed in terms of movement and interaction of electrons.
- The existence of an electric charge, which is capable of being either positive or negative, creates an electric field. The movement of electric charges leads to an electric current which further generates a magnetic field.

- Electricity is easily put in the flow of electrons in a conductor. Electric current flows in the form of free electrons; thus, the greater the number of free electrons in a material, the better would stand to be its conductivity
- **Conductors –** Materials whose conductivity lies between 104 to 107-ohm m. For example, Iron, Copper, etc.
- **Semi-conductors –** Materials whose conductivity lies between 10-6 to 104-ohm m. For example, Graphite, Silicon, etc.
- **Insulators –** Materials whose conductivity lies between 10-20-to-10-10-ohm m. For example, Paper, Glass, etc.
- There are three primary electrical parameters:
  - Volt
  - Ampere
  - Ohm
- **Volt:** The amount of external force exerted on free electrons is known as "Electromotive Force (EMF)". Volt is the amount of EMF needed to push a current of one ampere through a conductor with the resistance of one ohm.
- **Ampere:** Ampere defines the rate of flow of electric current. For example, when one coulomb of charge flows through a given point on a conductor in a second, it is defined as a current of one ampere.
- **Ohm:** Ohm is the Unit of resistivity of a conductor. Three factors determine the resistivity of a conductor:
  - Size of conductor
  - Composition of conductor
  - Temperature of conductor

Say

Let us now participate in an activity to understand the concept better.

Activity

- This activity is in the form of "Hands On"
- The trainer will divide the class into 4 groups
- Each group will be allotted with the task of building a proper and working electrical circuit
- The trainer will provide the followings to each group:
  - Copper wire
  - Battery (SMPS can be used as the source of power)
  - Capacitance
  - Resistance
  - Bread board

- LED bulb (for testing the connection)

- The trainees will use these equipment to build an electrical circuit and check the connectivity using the LED bulb
- The trainer will check the tasks performed by each group
- The best group will be appreciated.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

(Unit 8.1 contains relevant content on Basics of Electricity which is Unit 8.2 as per PH)

Unit 8.3: Energy Efficient Devices

Unit Objectives

At the end of this unit, trainees will be able to

- Identify the energy-efficient devices

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, various work related SOPs, energy saving devices, etc.

Note

This is the fiftieth session of the program, which will introduce us to the basics of electricity.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- What is energy conservation?
- Why is it necessary to conserve energy?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- The use of energy-efficient devices has proved to be an effective strategy for the economics and planet as a whole, as it cuts down on unnecessary power consumption while also being cost effective.
- From the viewpoint of an energy consumer, the main motivation for saving energy is frequently and simply saving money by decreasing the cost of purchasing energy.
- Devices like LED bulbs, fluorescent lighting or natural skylights reduce the amount of energy required to attain the same amount of illumination compared to using traditional incandescent light bulbs.

Modern appliances such as freezers, dishwashers, ovens, stoves, dryers use significantly less energy than their previous generation models and line-ups.

- Energy conservation is broader in comparison to energy efficiency in including active efforts to decrease energy consumption. For example, through behavioural change it has an addition to using energy effectively. Energy conservation is a challenge requiring stringent policy programmers, technological development and behaviour change to go hand in hand.

Say

Let us now participate in an activity to understand the concept better.

Activity

- This activity is in the form of Lab Session
- The Trainer will take Trainees to a lab where basic electrical equipment such as resistance, capacitor, circuit, battery, switch, etc. are available
- The Trainer will show these equipment to Trainees and explain their usage
- Trainees must note down important points and ask questions if they have doubts.

Say

Let's have another round of discussion. We will dig deep into energy conservation in this session.

Elaborate

In this session, we will discuss the following points:

- Electricity appears to be something most of us understand it for granted. When the individuals need it, you turn to the nearest switch or outlet, and there it is, ready to serve you 24/7.
- Several electrical fire dangers are hidden within the walls of your house or offices or other workplaces. Nevertheless, if the individuals have the knowledge the ways to point the warning signs, the individuals are capable of making proactive — and less expensive — repairs that will also help protect your home in the long run. Here are certain manners to spot common issues and what to do about them.
    - **Unknown odour:** When you detect an odd smell arriving from an electrical store, unplug anything linked to it, as well as don't utilise it again until a qualified electrician has tended to check it.
    - **ARC faults:** Arc faults tend to take place when an electrical circuit veers off its intended path, frequently via a breach in the wiring. Arc faults stand to be preventable via the installation of a tool referred as an arc-fault circuit interrupter (AFCI).
    - **Sparking or warm switches and outlets:** If the individual's light switches stand to be warm to the touch or a store is sparking, call the electrician immediately to see if your wiring needs repairs or the fixture should be replaced.

- **Buzzing sounds:** If you hear any buzzing, cracking or sizzling sounds when you flip a switch or plug into an outlet, turn off the power to that fixture immediately and consult a professional electrician.
- **Flickering lights:** Flickering lights usually indicate a power surge. These power surges don't necessarily have to come from a catastrophic event — more than likely, your appliances are making demands on the electrical system that it cannot handle.
- **Broken light switches and loose outlets:** If switches or outlets stop working or work only intermittently, it could be a sign of loose wiring — and another potential fire hazard. Loose outlets also create a potential for electrical shock.
- **Hot ceiling fixtures:** Occasionally check the area around your ceiling fixtures for warmth that could indicate a lack of sufficient insulation. Also, exceeding recommended bulb wattages can cause overheating. Either issue poses a potential fire hazard. Consider switching to compact fluorescent light (CFL) or light-emitting diode (LED) bulbs as these don't produce as much heat as incandescent bulbs.
- **Circuit breaker problems:** Circuit breakers are designed to trip when a circuit is overloaded. Tripping prevents overheating and eliminates fire hazards. Occasional tripping probably indicates a simple overload, but if it occurs repeatedly, you need to call in an electrician and have them evaluate your entire electrical system.

Say

Let us now participate in an activity to understand the concept better.

Activity

- This activity is in the form of "Prepare a sample checklist and monitor energy usage"
- This activity targets to make the trainees understand the optimization of energy in the workplace
- The trainer will divide the class into three groups
- The trainer will distinguish one particular room for the case study
- Each group will be assigned with the following tasks
  - Count the number of lights, fans and ACs in the case study room
  - Note down the duration of their usage
  - Assess the proper usage and wastage
  - Prepare a checklist to evaluate how to optimize the energy usage
  - Submit a document furnishing observations
- The trainer will check the documents and declare the best group.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

Unit 8.4: Standard Practices for Conserving Electricity

Unit Objectives

At the end of this unit, trainees will be able to

- Explain the standard practices for conserving electricity

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, various work related SOPs, energy saving devices, etc.

Note

This is the fifty-first session of the program, which will introduce us to the standard practices for conserving electricity.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- How can you optimize energy conservation at the workplace?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- Renewable energy sources have received plenty of attention in recent years, but the conservation of electricity is also important for sustainability.
- All systems of power generation have an environmental influence that must be taken into consideration before an investment decision. This is evident while dealing with fossil fuels since their combustion emits a constant stream of greenhouse gases in the atmosphere.
- For an average consumer, saving electricity can be good for the pocket and in turn, it reduces the

increasing stress on the environment.

- Some practices and habits changes which would help in saving electricity are:
  - Turning down the refrigerator
  - Usage of energy-efficient LED bulbs
  - Air drying the dishes and clothes
  - Cooking under the right-sized burner
  - Washing clothes with cold water
  - Using window shades to alter sun rays entering the house
  - Turning off electrical appliances, fans, lights when not in use
  - Using low flow faucets and showerheads

Say

Let us now participate in an activity to understand the concept better.

Activity

- This activity is in the form of Discussion Session
- The Trainer will explain various practices at the workplace to optimize energy conservation
- After that, the Trainer shall ask Trainees to write down at least 10 points in their notebook on the following topic
  - How would you contribute in energy conservation at workplace
- Once Trainees have written their answer, the Trainer will ask them one by one to read out their answer to the class
- The class should discuss on the points read out and the Trainer will guide Trainees throughout the session.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

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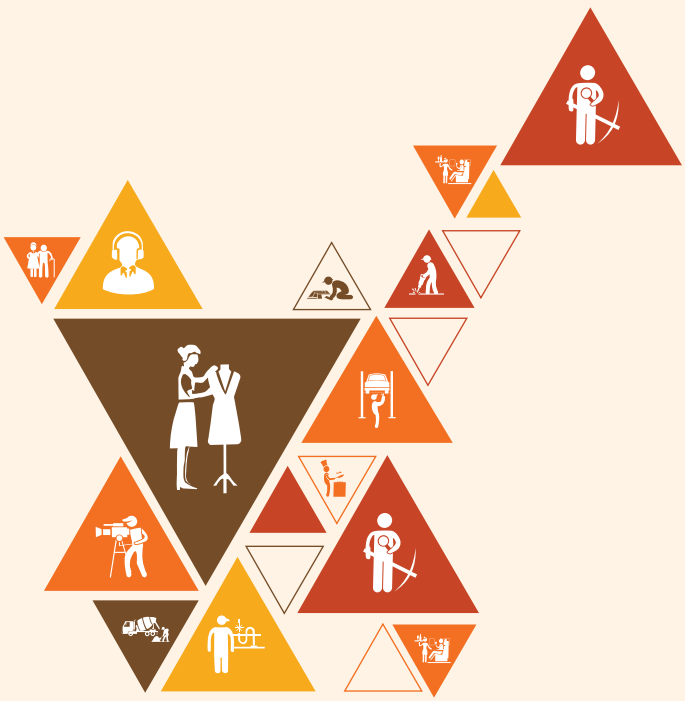
9. Waste Management and Recycling

Unit 9.1 - Types of Waste

Unit 9.2 - Waste Management and Disposal Solutions

Unit 9.3 - Pollution and Remedies



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Terminal outcome

At the end of this module, trainees will be able to:

1. List the types of wastes
2. Describe waste management and disposal solutions
3. Explain pollution and its remedies

Unit 9.1: Types of Waste

Unit Objectives

At the end of this unit, trainees will be able to

- List the different types of waste

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, work related SOPs, different nature of wastes, Non-recyclable, recyclable waste bins, PPEs, etc.

Note

This is the fifty-second session of the program, which will introduce us to the different types of waste.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- What is usual waste at a food processing hub?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- There are different types of waste which are recyclable or non-recyclable. Recycling of waste depends on the scientific progression as well knowledge about different kind of waste handling.

Recyclable waste	Non-recyclable waste
1. Concrete 2. Steel 3. Aluminium	1. Garbage. Mixture of different of garbage makes it hard to recycle. 2. Food-tainted items (such as: used paper plates or boxes, paper towels, or paper napkins)

Recyclable waste	Non-recyclable waste
4. Plastic (PET)	3. Ceramics and kitchenware.
5. Newspapers	4. Windows and mirrors.
6. Corrugated Cardboard	5. Plastic wrap.
7. Plastics (HDPE)	6. Packing peanuts and bubble wrap.
8. Glass	7. Wax boxes.
9. Mixed Papers	8. Photographs
10. Used Motor Oil	9. Medical waste
11. Used oil from food industry	10. Polystyrene or Styrofoam
	11. Hazardous chemicals and chemical containers
	12. Plastic toys or sporting goods equipment
	13. Foam egg cartons
	14. Wood
	15. Light bulbs
	16. Yard waste or garden tools

Table 9.1: Lists of different types of waste

- 'Waste' is any unwanted material. These are objects that have been discarded, either because they do not function as intended or are simply not required anymore. Waste can come in many forms: solid, liquid or even gaseous (although it's mostly solid). There are many types of waste, but the two general ones are:
  - Municipal Waste
  - Hazardous Waste
- **Municipal Waste:** It consists of everyday items discarded by the population. It includes clothes, wires, glass, unwanted food and a multitude of other things. It is further sub-divided into household, commercial and demolition waste.
  - **Household Waste –** Materials like unused food, unwanted paper, empty batteries come under this category.
  - **Commercial Waste –** Waste collected from establishments like businesses, trading factories, schools, etc., comes under this category.
  - **Demolition Waste** – Evident from its name, this type of waste comes from the destruction of buildings or any structure made of concrete, bricks, wood, etc.
- **Hazardous Waste:** It refers to solid, liquid or gaseous waste that has the properties of corrosiveness, ignitability, reactivity and toxicity. Proper disposal and treatment of this waste are necessary as it is unsafe for the well-being and the environment at large. It is further sub-divided into industrial and biomedical waste.
  - **Industrial Waste –** Waste produced by industries such as chemicals, pigments, ashes, metals, etc., come under this category.

Also cafeteria garbage, dirt and gravel, masonry and concrete, scrap metals, trash, oil, solvents.

- **Biomedical Waste –** Waste coming from medical facilities such as hospitals, medical colleges, research centres etc., and come under this category. PPE kits also consider as biochemical waste (specially now a days)

- Ideally every place where we discard waste should have three bins.
  - **GREEN** – for wet waste, which comes from the kitchen/cooking/food, goes to one bin.
  - **BLUE –** Dry recyclable waste such as newspapers, cardboard, packing plastics, bottles, cans, etc., should go to a different bin.
  - **RED –** Reject waste, which does not belong to the above two categories, including bio-waste like diapers and bandages should go into a third bin.

Say

Let us now participate in an activity to understand the concept better.

Activity

- This activity is in the form of "Industry Expert" session.
- The trainer invites to the class, with the help of the Master Trainer / Centre Manager / Program Coordinator, an industry veteran to have an interactive discussion session with the trainees.
- The focus of the discussion is on:
- Resource Optimization to use materials in a workshop to minimize waste
- How to store cleaning equipment safely after use
- How to ensure safe and correct handling of materials, equipment and tools.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

Unit 9.2: Waste Management and Disposal Solutions

Unit Objectives

At the end of this unit, trainees will be able to

- Describe waste management and disposal solutions

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, work related SOPs, different nature of wastes, Non-recyclable, recyclable waste bins, PPEs, etc.

Note

This is the fifty-third session of the program, which will introduce us to the waste management and disposal solutions.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- How will you promote waste management at your workplace?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- Waste management includes the activities as well as actions required to manage waste from its inception to its end disposal.
- Proper management of waste is significant for building sustainable and liveable cities, yet it remains a challenge for many developing countries and cities.
- A few instances of these include plastic straws, sanitary napkins, take-out containers etc. There are plenty of reusable alternatives to them, like glass and metal straws.
- It is apparent that certain technologies are no longer applicable to modern waste reduction as well as recycling, but some organizations continue to rely on them because they appear to be cheap.

- More technologies are evolving or being created to solve waste management problems. These technologies can be used to recycle or up cycle waste, creates alternatives from products that normally produce more waste, or find a way to address the ever-growing problem of waste management.

Say

Let us now participate in an activity to understand the concept better.

Activity

- This activity is in the form of Flowchart Preparation
- The Trainer shall explain the waste management hierarchy
- After that, Trainees will prepare their own waste management hierarchy using pictures and reference content from the internet
- Each Trainee shall participate in the activity
- The best performers will be appreciated by the class.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

Unit 9.3: Pollution and Remedies

Unit Objectives

At the end of this unit, trainees will be able to

- Explain pollution and its remedies

Resources to be used

Participant Handbook, Pen, Writing Pad, Whiteboard, Flipchart, Markers, Laptop, Overhead Projector, Laser Pointer, work related SOPs, different nature of wastes, Non-recyclable, recyclable waste bins, PPEs, etc.

Note

This is the fifty-fourth session of the program, which will introduce us to the pollution and its remedies.

Say

Good day and a very warm welcome to this training program. Before we begin this session, let us have a round of interaction.

Ask

Ask the participants the following questions:

- What is pollution?
- What are different types of pollution and how to encounter those?

Write down the participants' answers on whiteboard/flipchart. Take appropriate cues from the answers and start teaching the lesson.

Elaborate

In this session, we will discuss the following points:

- The term is derived from the La□n word "polluere", which means 'to contaminate any feature of the environment. It may be broadly said to be 'adding to the environment a capably hazardous source or substance of energy faster than the environment can accommodate in it.
- Some common methods for controlling pollution are:
    - Reducing, Reusing, Recycling and Mitigating.

- Water pollution is capable of being controlled by using non-toxic soaps, detergents and cleaning products.
- Limiting the use of artificial fertilizers and pesticides helps in controlling soil and water pollution.
- Promoting and enforcing the use of biological methods for pest control.
- Chimneys should be longer in length so that polluting air is released high up in the atmosphere where it would not harm the surrounding environment.
- Automobiles should be installed with emission and pollution control systems.
- The timely servicing of automobiles also checks for air pollution.
- Carpooling and public transportation should be encouraged.
- Alternative sources of energy like wind, sun, water, geothermal should be harnessed and put to use.

Say

Let us now participate in an activity to understand the concept better.

Activity

- This activity is in the form of Preparing List
- Each Trainee should prepare a list of possible reasons of pollution
- They should write the solutions of each type of pollution as well
- The Trainer will check all the lists
- The best performers will be appreciated by the class.

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your inputs and insight, to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Ask the participants if they have any questions.
- Encourage other participants to answer it and encourage peer learning in the class.
- Answer all the doubts in case any to the participants.
- Ask them to answer the questions given in the participant manual.
- Ensure that all the participants answer every question.

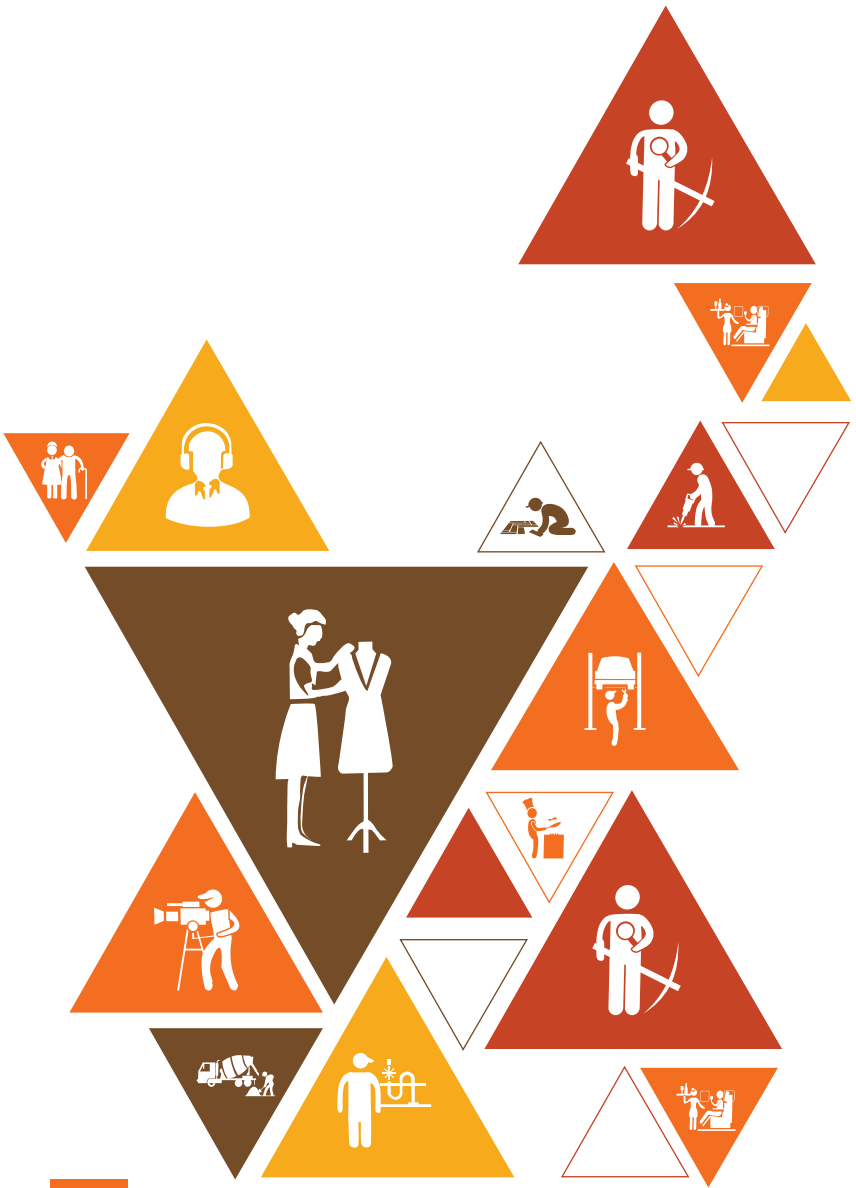
Scan the QR codes or click on the link to watch the related videos

https://www.youtube.com/watch?v=Ta18d6JIO3o

Waste Management

https://www.youtube.com/watch?v=abuousxwRe4

Conservation Reduce, Reuse & Recycle



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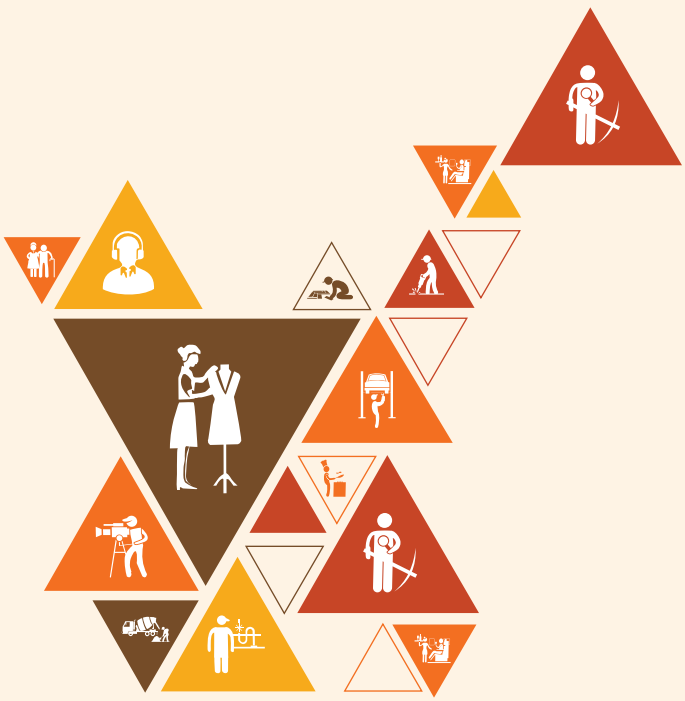
10. Employability Skills



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For Employability skills please click the following link:

https://www.skillindiadigital.gov.in/content/list

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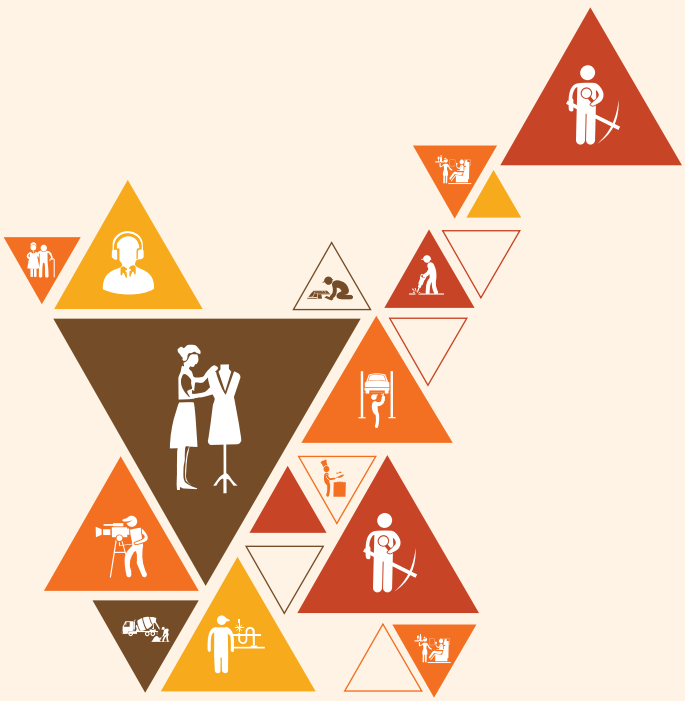
11. Annexures

Annexure I (Training Delivery Plan)

Annexure II (Assessment Criteria)

Annexure III (Video Links)



Annexure I

Training Delivery Plan

Training Delivery Plan			
Program Name:	Fruits & Vegetable Selection In-Charge		
Qualification Pack Name & Ref. ID	Fruits & Vegetable Selection In-Charge - FIC/Q0108		
Version No.	4.0	**Version Update Date**	30/09/2021
Training Outcomes	**1. By the end of this program, the participants will be able to:** **2. Describe the food processing sector in brief** **3. Discuss the career opportunities available to the individual within the food processing sector** **4. Explain the importance of training program and job role of a fruits and vegetable selection In- charge** **5. Describe the food processing industry and its sub-sectors in brief** **6. Discuss the standard practices to be followed to plan for production** **7. Demonstrate the tasks to be performed to prepare for the production process** **8. Discuss the sequence of operations to be performed for sorting and grading the produce** **9. List the various types of tools, equipment and related machinery utilised in the process** **10. Demonstrate the procedure to be followed for sorting, grading, packaging and dispatching the produce** **11. Explain the ways to ensure food safety and personal hygiene at the workplace** **12. Demonstrate the steps to be followed for implementing good hygiene and manufacturing practices** **13. List the various types of accidents and emergencies that can arise at the workplace and the ways to address them** **14. State the importance of proper communication and teamwork at the workplace** **15. Discuss optimal usage of material including water in various tasks/activities/processes** **16. Discuss the importance of minimal waste generation** **17. Demonstrate how to dispose waste as per industry approved standards** **18. Work effectively with others** **19. Use resources at the workplace optimally** **20. Describe the traits of individual at workplace**		

Sl. No	Module Name	Session Name	Session Objectives	NOS Reference	Methodology	Training Tools/Aids	Duration (hours)
1.	**Ice Breaking Session - Introduction to the job role**	**Session 1 Recapitulative session**	• Recognize the food processing industry • Outline the future of food processing	**Bridge Module**	Classroom lecture/ PPT session	Computer, projector, blackboard, classroom, classroom furniture	**1 Hours**
			Practical • Outline the role and responsibilities • Identify the terminologies used	**Bridge Module**	Practical demonstration	Laptop, White Board, Marker, Projector, Audio-Visual Aids	1 Hours
2.	**FIC/N0129 Introduction to food processing sector and the job of 'Fruits and Vegetables Selection In-Charge'**	**Session 1 Introduction**	• Define the term 'food processing' • Discuss the size and scope of the food processing industry in brief • List the various sub sectors of food processing industry • Explain the objective of training individuals for the job of a 'Fruits and Vegetables Selection In-Charge' • Summarise the key role and responsibilities of a 'Fruits and Vegetables Selection In- Charge' • List different methods used for sorting and grading of fruits and vegetables	**FIC/N0129**	Classroom lecture/ PPT session	Laptop, White Board, Marker, Projector, Audio-Visual Aids	1 Hours
			Practical • List the various sub-Units within a fruits and vegetables processing Unit • List the sequence of operations to be • performed in the job	**FIC/N0129**	Practical demonstration	Computer Lab with 1:1 PC: trainee ratio, etc.	1 Hours

3.	**FIC/N9026 Prepare for production**	**Session 1 Plan for Production**	• Discuss the significance of supervisor's work instructions with regards to the production requirements • Describe the relevance of planning and prioritizing the production work • State the importance of planning and arranging the estimated resource requirement • Discuss the significance of resource planning and estimation • Define planning for production	**FIC/N9026 KU 1,2,3,4,5 GS 1,2,4**	Classroom lecture/ PPT session, handbook	Laptop, White Board, Marker, Projector, Audio-Visual Aids	10 Hours
			Practical • Estimate the resource requirement as per the production requirement • Preform mock allocation of responsibilities to the team • Show how to do raw material and manpower estimation	**FIC/N9026 PC 1 , 2, 3, 4, 5,11**	PPT session/ Role Play, Practical demonstration	Computer Lab with 1:1 PC: trainee ratio, cleaning agents and tools, checklists, signages, inventory documents, cleaning SOP, etc.	15 Hours
		Session 2 Cleaning and maintenance	• Identify the signs and symbols used during cleaning work • Show the process of cleaning surfaces • Identify tools and agents used for sanitation and cleaning • Underline the best practices for cleanliness • Discuss the inspection methods for tools and machinery • Identify the methods of waste disposal	**FIC/N9026 KU 6,7,8,9,10 GS 3,5,6**	Classroom lecture/ PPT session, handbook	Laptop, White Board, Marker, Projector, Audio-Visual Aids	10 Hours

			Practical • Practice interpreting various signs and symbols for cleaning and sanitazation work • Practice hygiene standards in FPU • Demonstrate FPU sanitization procedure • Show how to select cleaning agents based on requirement • Practice different forms of cleaning • Prepare maintenance schedule for cleanliness • Role play on cleaning facilities	**FIC/N9026 PC 6,7,8,9,10, 12,13**	PPT session/ Role Play, Practical demonstration	Computer Lab with 1:1 PC: trainee ratio, cleaning agents and tools, checklists, signages, inventory documents, cleaning SOP, etc.	25 Hours
4.	**FIC/N0129 Sort and grade produce**	**Session 1 Quality parameters & tools used**	• List the quality parameters (physical, chemical, microbiological, sensory) required to be evaluated while sorting the agricultural produce • Describe the importance of determining physical and sensory characteristics of the produce • Describe the various types of tests performed to check the quality of agricultural produce • Discuss the procedure of sampling of produce and testing the water for desired levels of suitability	**FIC/N0129 KU 1,2, 3,4, 5, 7,8 GS 1, 2, 3, 4,5**	Classroom lecture/ PPT session, handbook	Laptop, White Board, Marker, Projector, Audio-Visual Aids	8 Hours
			Practical • Show how to receive the agricultural produce • Practice working with the tools and equipment required for washing, drying, sorting and grading of fruits and vegetables	**FIC/N0129 PC 1, 2, 3, 4, 5**	PPT session/ Role Play, Practical demonstration	Computer Lab with 1:1 PC: trainee ratio, Caps, Aprons, Safety Goggles, Safety Boots, Mouth Masks,	16 Hours

			• Practice determining physical and sensory characteristics of the produce • Perform chemical and microbial testing on the produce • Prepare a list of GMP and GHP diemnsions			Sanitizer, Food Safety Manual, tools and equipment relevant for the module	
		Session 2 Receiving, washing, sorting and grading the produce	• State the importance of grading fruits and vegetables • Discuss the steps to be performed for receiving agricultural produce from the supplier/vendor • Explain the technique used for washing fruits and vegetables as per industrial practices • Describe the role of GMP and GHP at the workplace	**FIC/N0129 KU 9 to 21 GS 6, 7,8**	Classroom lecture/ PPT session, handbook	Laptop, White Board, Marker, Projector, Audio-Visual Aids	10 Hours
			Practical • Demonstrate the procedure to be followed for washing and cleaning the agricultural produce • Demonstrate the process of drying the washed produce • Show how to inspect the washed produce to ensure drying • Show how to apply waxing on agricultural produce • Demonstrate the use of various equipment by setting controls for washing, drying, sorting and grading the produce • Show how to measure the specified quantity of chlorine and dosage in water	**FIC/N0129 PC 6,7, 8,9,10, 11, 12, 13,14, 15, 16, 17, 18, 19**	PPT session/ Role Play, Practical demonstration	Computer Lab with 1:1 PC: trainee ratio, Pump, Water, Spray System, Sorting Line Conveyor, Grading Line Conveyor, Electronic Sorting Machine, Packaging Machine, Protective Gloves, Head Caps, Aprons, Safety Goggles, Safety Boots, Mouth Masks, Sanitizer, Food Safety Manual	22 Hours

			• Demonstrate the steps followed to prepare the chlorinated water • Perform relevant steps for sorting and grading the agricultural produce				
		Session 3 Packaging and storage of produce	• Describe the storage procedure to store the incoming produce, packaging materials and packed produce safely • Describe the techniques used for determining the quality of the product • Explain the standards to be followed for handling various grades of agricultural produce • List the various types of packaging material used in the job • Discuss the types of defects and procedure to handle rejected materials appropriately • Explain the methods used to store and organize pallets appropriately	**FIC/N0129 KU 22 to 29 GS 9,10**	Classroom lecture/ PPT session, handbook	Laptop, White Board, Marker, Projector, Audio-Visual Aids	8 Hours
			Practical • State the importance of labelling on package • List the information to be verified on the label • Use relevant tools and equipment to test the quality of produce at various stages and take appropriate action in case of variances • Apply standard practices to move the materials from place to another	**FIC/N0129 PC 20, 21 to 30**	PPT session/ Role Play, Practical demonstration	Computer Lab with 1:1 PC: trainee ratio, Pump, Water, Spray System, Sorting Line Conveyor, Grading Line Conveyor, Electronic Sorting Machine, Packaging Machine,	22 Hours

			• Show how to calibrate the equipment as required at various stages • Use best practices to move products in the packaging machine			Protective Gloves, Head Caps, Aprons, Safety Goggles, Safety Boots, Mouth Masks, Sanitizer, Food Safety Manual	
		Session 4 Post production and other activities	• State the importance of following defined maintenance procedures • Explain the importance of following standard operating procedures for production, cleaning and use of machine or equipment • State the importance of evaluating the quality of produce for further processing • Explain the importance of performing chemical and microbiological tests on the produce and techniques used • Elucidate the cleaning practices to be followed in the job	**FIC/N0129 KU 30 to 33**	Classroom lecture/ PPT session, handbook	Laptop, White Board, Marker, Projector, Audio-Visual Aids	8 Hours
			Practical • State the importance of labelling on package • List the information to be verified on the label • Use relevant tools and equipment to test the quality of produce at various stages and take appropriate action in case of variances • Apply standard practices to move the materials from place to another • Show how to calibrate the equip	**FIC/N0129 PC 20, 21 to 30**	PPT session/ Role Play, Practical demonstration	Computer Lab with 1:1 PC: trainee ratio, Pump, Water, Spray System, Sorting Line Conveyor, Grading Line Conveyor, Electronic Sorting Machine, Packaging Machine, Protective Gloves,	22 Hours

			ment as required at various stages • Use best practices to move products in the packaging machine			Head Caps, Aprons, Safety Goggles, Safety Boots, Mouth Masks, Sanitizer, Food Safety Manual	
		Session 4 Post production and other activities	• State the importance of following defined maintenance procedures • Explain the importance of following standard operating procedures for production, cleaning and use of machine or equipment • State the importance of evaluating the quality of produce for further processing • Explain the importance of performing chemical and microbiological tests on the produce and techniques used • Elucidate the cleaning practices to be followed in the job	**FIC/N0129 KU 30 to 33**	Classroom lecture/ PPT session, handbook	Laptop, White Board, Marker, Projector, Audio-Visual Aids	8 Hours
			Practical • Show how to check the product labels to confirm appropriate packing and display of required information • Show how to pack the product and eliminate the packaging defects • Carry out secondary packaging as per standard practices • Operate packaging machine, printing machine and labelling machine effectively • Apply standard methods to store the produce appropriately	**FIC/N0129 PC 31,32,33**	PPT session/ Role Play, Practical demonstration	Computer Lab with 1:1 PC: trainee ratio, Pump, Water, Spray System, Sorting Line Conveyor, Grading Line Conveyor, Electronic Sorting Machine, Packaging Machine, Protective Gloves, Head Caps, Aprons,	22 Hours

			• Demonstrate the procedure to be followed for cleaning the work area and machinery • Roleplay a situation on how to escalate issues beyond own scope, address issues at work, etc. • Show how to attend to minor repairs and equipment faults			Safety Goggles, Safety Boots, Mouth Masks, Sanitizer, Food Safety Manual	
5.	**FIC/N9901 Implement Health and Safety Practices at the Workplace**	**Session 1 Introduction to food safety & FSSAI requirement**	• Define hazards and risks • Identify contamination and cross contaminations signs • Define food storage concepts • Identify food transportation principles	**FIC/N9901 KU 7,8,11, 23,24 GS 4**	Classroom lecture/ PPT session, handbook	Laptop, White Board, Marker, Projector, Audio-Visual Aids	1 Hours
			Practical • Employ appropriate techniques to prevent product contamination and cross contamination • Practice food storage methods • Show methods to transport food without contamination • Evaluate HACCP, TACCP, VACCP, control measures, critical control point, critical limit	**FIC/N9901 PC 1, 2 ,3,4**	PPT session/ Role Play, Practical demonstration	Computer Lab with 1:1 PC: trainee ratio, PPEs, SOP samples, flash cards, etc.	2 Hours
		Session 2 Personal hygiene	• State the importance of preventive health check-ups for ensuring personal hygiene • State the importance of storing food at specified temperature • Discuss the importance of sanitising self and the work area safely and appropriately	**FIC/N9901 KU 9,10,12 GS 3,5,6,7**	Classroom lecture/ PPT session, handbook	Laptop, White Board, Marker, Projector, Audio-Visual Aids	2 Hours

			• Recall the ways to store the sanitizing materials appropriately				
			Practical • Show how to treat injuries such as cuts, boils, skin infections and grazes appropriately • Apply suitable methods for disinfecting the work area and equipment thoroughly • Demonstrate how to wash hands and use alcohol-based sanitisers appropriately	**FIC/N9901 PC 4, 5 to 10**	PPT session/ Role Play, Practical demonstration	Computer Lab with 1:1 PC: trainee ratio, PPEs, SOP samples, flash cards, etc.	4 Hours
		Session 3 Health safety	• Recall the various types of health and safety equipment available in an organization • Discuss the relevant health and safety standards to be followed in the job as listed in 'The Food Safety and Standards Act, 2006'	**FIC/N9901 KU 1 to 6 KU 13 to 22 GS 1,2**	Classroom lecture/ PPT session, handbook	Laptop, White Board, Marker, Projector, Audio-Visual Aids	2 Hours
			Practical • Show how to wear personal protective equipment such as gloves, hairnets, masks, ear plugs, goggles, shoes etc. properly ensuring adequate protection • Prepare a sample report consisting of information such as illness to self and others • Role play against various health safety hazards	**FIC/N9901 PC 11 to 16**	PPT session/ Role Play, Practical demonstration	Computer Lab with 1:1 PC: trainee ratio, PPEs, SOP samples, flash cards, etc.	4 Hours
6.	**FIC/N9901 Managing Accidents and Emergencies**	**Session 1 Standard practices and precautions**	• Identify the types of hazards, risks as well as accidents • Categorize the standard precautions and practices in workplace	**FIC/N9901 KU 8**	Classroom lecture/ PPT session, handbook	Laptop, White Board, Marker, Projector, Audio-Visual Aids	1 Hours

			Practical • Show the signs to identify hazards • Show how to prevent various hazards • Evaluate standard precautions with role play	**FIC/N9901 PC 5,6,7**	PPT session/ Role Play, Practical demonstration	Helmet, gloves, rubber mat, ladder, neon tester, leather or asbestos gloves, flame proof aprons, flame proof overalls buttoned to neck, cuff less (without folds) trousers, reinforced footwear, helmets/ hard hats, cap and shoulder covers, ear defenders/ plug, safety boots, knee pads, particle masks, glasses/ goggles/visors, hand and face shields, machine guards, residual current Devices, shields, dust sheets, respirator, etc.	2 Hours
		Session 2 Usage of PPE and electrical equipment	• Examine the utilization of the electrical equipment • Identify equipment and their precautions • Discuss use of PPE in workplace	**FIC/N9901 KU 6,8,20**	Classroom lecture/ PPT session, handbook	Laptop, White Board, Marker, Projector, Audio-Visual Aids	1 Hours

			Practical • Show proper use of electrical wirings • Show how to protect self from electrical hazards • Practice wearing and working with PPE	**FIC/N9901 PC 5,11,12**	PPT session/ Role Play, Practical demonstration	Same as session 1	2 Hours
		Session 3 Fire and toxic prevention	• Define EHS • Identify various toxics used and their ill effects • Identify the concept of fire prevention • Identify different types of fire extinguishers	**FIC/N9901 KU 13**	Classroom lecture/ PPT session, handbook Laptop, White Board, Marker, Projector, Audio-Visual Aids	Laptop, White Board, Marker, Projector, Audio-Visual Aids	1 Hours
			Practical • Practice the basics of EHS • Show how to use fire extinguisher • Demonstrate various fire safety drills • Demonstrate toxic prevention measures	**FIC/N9901 PC 8,9**	PPT session/ Role Play, Practical demonstration	Same as session 1	2 Hours
		Session 4 Health prevention, First Aid and CPR	• Define First Aid • Identify items of first aid • Define CPR • Identify the use of CPR • Identify evacuation measures and signs	**FIC/N9901 KU 16,17,18**	Classroom lecture/ PPT session, handbook	Laptop, White Board, Marker, Projector, Audio-Visual Aids	1 Hours
			Practical • Practice emergency evacuation • Show how to use CPR • Practice various first aid steps • Practice collating evacuation reports and incident reports	**FIC/N9901 PC 10, 13**	PPT session/ Role Play, Practical demonstration	Same as session 1	2 Hours
		Session 5 Mobility precaution and injury prevention	• Define mobility • Evaluate the concept of fall prevention • Identify types of injuries at workplace	**FIC/N9901 KU 19 to 22**	Classroom lecture/ PPT session, handbook	Laptop, White Board, Marker, Projector, Audio-Visual Aids	1 Hours

			Practical • Show injury prevention steps • Practice fall prevention • Demonstrate mobility sessions at workplace	**FIC/N9901 PC 16**	PPT session/ Role Play, Practical demonstration	Same as session 1	2 Hours
7.	**FIC/N9902 Working Effectively in an Organization**	**Session 1 Organizational policies and procedures**	• Define policies and procedures • Categorize the organizational policies • Identify workplace legislations, standards, policies, and procedures	**FIC/N9902 KU 1,2 GS 2**	Classroom lecture/ PPT session, handbook	Laptop, White Board, Marker, Projector, Audio-Visual Aids	2 Hours
			Practical • Practice abiding various workplace policies • Demonstrate how to follow reporting hierarchy	**FIC/N9902 PC 6, 7**	PPT session/ Role Play, Practical demonstration	Computer Lab with 1:1 PC: trainee ratio, sample documents.	4 Hours
		Session 2 Task prioritization and functions	• List the inter dependent functions • Discuss the impact of harassment and discrimination • Identify regular tasks and how to prioritize them	**FIC/N9902 KU 3 GS 1**	Classroom lecture/ PPT session, handbook	Laptop, White Board, Marker, Projector, Audio-Visual Aids	2 Hours
			Practical • Monitor the ways of prioritizing the task • Role play on how to handle harassment at workplace	**FIC/N9902 PC 5,6**	PPT session/ Role Play, Practical demonstration	Computer Lab with 1:1 PC: trainee ratio, sample documents.	3 Hours
		Session 3 Communication, teamwork and discipline	• Identify types of communication skills • Discuss the process of workplace communication • Discuss the importance of discipline at workplace • Evaluate the ways of carrying out a teamwork • Evaluate the concept of ethics and discipline	**FIC/N9902 KU 4,5,6 GS 3,4,5,6**	Classroom lecture/ PPT session, handbook	Laptop, White Board, Marker, Projector, Audio-Visual Aids	2 Hours

			Practical • Role play a situation on how to obtain information, seek clarifications, reciprocate understanding and provide information accurately and clearly • Roleplay a situation on how to use inclusive language (verbal, non-verbal and written) • Show how to consult and assist others to maximize effectiveness and efficiency at work • Show effective team handling skills	**FIC/N9902 PC 1 to 4, 8**	PPT session/ Role Play, Practical demonstration	Computer Lab with 1:1 PC: trainee ratio, sample documents.	5 Hours
		Session 4 Conflict management	• Define grievance and it's solutions • Define conflict management at workplace • Illustrate methods of conflict management • Identify various challenges related to disabilities	**FIC/N9902 KU 7,8,9**	Classroom lecture/ PPT session, handbook	Laptop, White Board, Marker, Projector, Audio-Visual Aids	2 Hours
			Practical • Role play on conflict management • Role play on disability care at workplace • Demonstrate skills to handle grievance	**FIC/N9902 PC 7**	PPT session/ Role Play, Practical demonstration	Computer Lab with 1:1 PC: trainee ratio, sample documents.	4 Hours
		Session 5 PwD and gender sensitivity	• Define PwD sensitivity • Discuss the applicable laws, acts and provisions defined for PwD by the statutory bodies • State the importance of gender sensitivity and equality • Discuss the applicable legislations, grievance redressal mechanisms, and penalties against	**FIC/N9902 KU 10 to 14**	Classroom lecture/ PPT session, handbook	Laptop, White Board, Marker, Projector, Audio-Visual Aids	2 Hours

			harassment at the workplace • State the importance of transacting with others without personal bias				
			Practical • Role play a situation on how to use inclusive language (verbal, non-verbal and written) that is gender, disability and culturally sensitive while interacting with others	**FIC/N9902 PC 9, 10, 11**	PPT session/ Role Play, Practical demonstration	Computer Lab with 1:1 PC: trainee ratio, sample documents.	4 Hours
8.	**SGJ/N1702 Optimize Resource Utilization at Workplace**	**Session 1 Material Conservation**	• List the types of hazards, risks and threats associated with handling different materials • Discuss the role of workstation layout, electrical and thermal equipment used in the material conservation • Discuss organisational procedures for minimising waste • Identify methods of efficient and inefficient management and utilization of material and water at the workplace	**SGJ/N1702 KU 3,4 GS 3,5**	Classroom lecture/ PPT session, handbook	Laptop, White Board, Marker, Projector, Audio-Visual Aids	4 Hours
			Practical • Show how to check for spills and leakages in various materials applicable in the job • Role play a situation on how to solve issues related to repair of spills and leakages	**SGJ/N1702 PC 1 to 4**	PPT session/ Role Play, Practical demonstration	Computer Lab with 1:1 PC: trainee ratio, materials and tools and equipment used at work	6 Hours
9.	**SGJ/N1702 Optimize Resource Utilization at Workplace**	**Session 1 Energy/ Electricity Conservation**	• Define electricity • Discuss the basics of electricity • List the energy efficient devices that are used in the job • Discuss the standard practices to be	**SGJ/N1702 KU 5,6,7,8 GS 4,6**	Classroom lecture/ PPT session, handbook	Laptop, White Board, Marker, Projector, Audio-Visual Aids	4 Hours

			followed for conserving electricity				
			Practical • Apply suitable techniques to check the machinery for desired level of functioning • Employ appropriate methods to rectify faulty equipment/ machinery safely • Role play a situation on how to report equipment faults and maintenance lapses	**SGJ/N1702 PC 5 to 8**	PPT session/ Role Play, Practical demonstration	Computer Lab with 1:1 PC: trainee ratio, materials and tools and equipment used at work	6 Hours
10.	**SGJ/N1702 Optimize Resource Utilization at Workplace**	**Session 1 Waste Management/ Recycling**	• List the various types of recyclable, non-recyclable, and hazardous waste • Identify different coloured dustbins • List the different types of waste to be segregated • State the importance of waste management • Discuss the standard methods for waste disposal • List the sources of pollution.	**SGJ/N1702 KU 9,10, 11, 12 GS 1, 2, 7,8**	Classroom lecture/ PPT session, handbook	Laptop, White Board, Marker, Projector, Audio-Visual Aids	4 Hours
			Practical • Demonstrate the standard practices to be followed for segregating waste into respective categories • Show how to dispose non-recyclable waste appropriately and safely • Demonstrate the standard practice for depositing recyclable and reusable materials • Show how to dispose hazardous waste safely	**SGJ/N1702 PC 9 to 13**	PPT session/ Role Play, Practical demonstration	Computer Lab with 1:1 PC: trainee ratio, materials and tools and equipment used at work	6 Hours

11.	**Employability Skills**	**NA**	NA	**DGT/VSQ/ N0102**	NA	NA	Theory: 24:00 Practical: 36:00
Total Duration							**300 Hours**

Annexure II
Assessment Criteria

Job Role	**Fruits & Vegetable Selection In-Charge**
Qualification Pack	**FIC/Q0108, Version 4.0**
Sector Skill Council	**Food Processing**

Guidelines for Assessment

1. Criteria for assessment for each Qualification File will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC.
2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC.
3. Assessment will be conducted for all compulsory NOS, and where applicable, on the selected elective / option NOS/set of NOS
4. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below)
5. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criterion
6. To pass a QF, a trainee should score an average of 70% across generic NOS' and a minimum of 70% for each technical NOS
7. In case of unsuccessful completion, the trainee may seek reassessment on the Qualification File.

Assessment Outcomes	Assessment Criteria for Outcomes	Total Marks	Out Of	Marks Allocation	
				Theory	Skills Practical
1. FIC/N9026: Prepare for Production	***Plan for production***	**100**	**36**	**11**	**25**
	PC1. identify work requirements by obtaining instructions from the supervisor. Instructions: process chart, product flow chart, formulation, chart, etc.		9	3	6
	PC2. plan and prioritize tasks as per work schedule.Tasks: inspect, clean, maintain, verify, etc.		7	2	5
	PC3. estimate manpower and material requirements as per work requirement. Material: raw materials and packaging materials		6	2	4
	PC4. ensure required quantity of raw materials, packaging materials, equipment, and manpower for production		7	2	5
	PC5. plan capacity utilization of machinery with respect to the processing time, production order, and batch size for each product		7	2	5

	Clean and maintain work area, machineries, and tools for production		**46**	**14**	**32**
	PC6. clean and maintain the work area as per organizational procedures		10	3	7
	PC7. clean and maintain the machines and tools and sanitize them as per the organization's specifications and standards		10	3	7
	PC8. dispose of the waste material at designated place safely. Waste material: hazardous waste, food waste, packaging waste, etc.		10	3	7
	PC9. inspect the tools, equipment, and machinery to ascertain suitability for use		9	3	6
	PC10. report information such as faulty tools and equipment to the concerned authority		7	2	5
	Organize for production		**18**	**5**	**13**
	PC11. organize tools and equipment		9	2	7
	PC12. receive and organize production materials appropriately. Production materials: raw materials, packaging materials, etc.		6	2	4
	PC13. allot responsibilities/work to the assistants and helpers		3	1	2
		Total	**100**	**30**	**70**
2. FIC/N0129: Sort and Grade Produce	***Wash and dry the produce***	**108**	**36**	**15.5**	**20.5**
	PC1. receive agricultural produce from internal warehouse/cold storage		3	1.5	1.5
	PC2. • check the quality by evaluating the physical and sensory parameters • Physical parameters: shape, size, weight, volume, surface area, density, porosity, appearance, colour, taste, smell, texture, maturity, specific gravity, foreign material contamination, pest infestation, etc.		1	0.5	0.5
	PC3. set controls for float tank/water tank and pump the water level for washing produce		1	0.5	0.5
	PC4. add specified quantity of chlorine in the water tank to kill parasites, bacteria, and viruses as per organization standards		2	1	1
	PC5. set controls such as speed and height of conveyor to lift the agricultural produce from the covered floor, racks or containers		1	0.5	0.5
	PC6.		3	1	2

	• dump the produce in the float tank/water tank for the removal of impurities • Impurities: soil, pesticides, dirt, plant debris and rotting parts				
	PC7. adjust the pressure of the spraying system to for removal of chlorine from the surface of fruits and vegetables		9	3.5	5.5
	PC8. • set controls for drying line conveyor and allow washed fruits and vegetables to pass through the drying tunnel • Controls: temperature, air speed etc.		5	2	3
	PC9. • set controls of the brushing conveyor to clean produce which is unsuitable for water treatment • Controls: speed, brush type, rotation of brushes etc.		4	2	2
	PC10. transfer the fruits and/or vegetables to the brushing conveyor to remove soil and dirt from the surface of the produce		3	1	2
	PC11. • set controls of the dryer to dry the produce thoroughly • controls: temperature, humidity, etc.		2	1	1
	PC12. apply waxing treatment depending on the type of produce to reduce water loss and improve appearance		2	1	1
	Sort and grade produce		**30**	**9.5**	**20.5**
	PC13. move the produce to the sorting table to remove the severely damaged produce		4	1	3
	PC14. place the mesh inside the mechanical sieving machine as per produce requirements to separate the unwanted material from the produce		4	1	3
	PC15. remove dry foliage attached to the bulb of onion and garlic with illige or sickle and place the produce on measurement rings of known diameter to sort them on the basis of their size		3	1	2
	PC16. calibrate the electronic colour sorter and mention the readings against each produce for sorting it based on their colour		3	1	2
	PC17. operate the grading line conveyors with mesh screens		3	1.5	1.5

	/diverging belts / rollers/weight sensitive trays for grading based on diameter ,length, weight and size as per the requirement				
	PC18. • send the samples to quality lab for analysis of quality parameters as per the requirement • Quality parameters: TSS, acidity, etc.		4	1	3
	PC19. place baskets, tubs, or crates below discharge outlets of each lane or machine to collect the sorted and graded fruits and/or vegetables		4	1	3
	PC20. report any malfunctions and discrepancies to the supervisor and implement the corrective action as suggested immediately		5	2	3
	Package and transport produce		**32**	**10.5**	**21.5**
	PC21. move the containers with sorted and graded produce to the packaging area safely		1	0.5	0.5
	PC22. feed the produce into the hopper of automatic packing machine after sorting and grading		4	1	3
	PC23. load the packaging materials in the machine and set control of packaging machine for packing the produce		3	1	2
	PC24. • store and pack the produce after sorting and grading into appropriate materials • Materials : cartons , gunny bags, wraps, net, mesh, plastic molded trays, thermoformed PVC trays etc.		3	1	2
	PC25. • provide labelling information packaging label as per FSSAI guidelines and pass though the shrink wrap machine to wrap with shrinkable plastic films • Labelling information: product name, brand, size, grade, variety, net weight, count, grown by, packed by, , batch code, date of packing, best before date or used by date, allergen declaration, storage conditions and country of origin etc.		4	1	3
	PC26. perform secondary packaging as per the product requirement		4	1	3
	PC27. place protective material such as paper, straw, etc. in carton, place packed trays in the carton and seal, strap carton if required and weigh the packed cartons		4	1	3

	PC28. place cartons on the pallets safely to shrink wrap palletized cartons for bulk packaging		2	1	1
	PC29. move the packed cartons/ pallets to storage area and store them as per standard organization practices		3	1	2
	PC30. follow standard practices to dispatch the packed produce to final destination as per suitable transportation method		4	2	2
	Storage and post production cleaning and regular maintenance of equipment		**10**	**3.5**	**6.5**
	PC31. clean and disinfect the work area, machineries, equipment and tools using recommended cleaning agents		4	1	3
	PC32. attend minor repairs/faults of all machines (if any)		4	1	3
	PC33. ensure periodic maintenance of all machines and equipment following the organisational SOP and instructions as mentioned in manufacturer documents		2	1.5	0.5
		Total	**108**	**39**	**69**
3.FIC/N9901 Implement Health and Safety Practices at the Workplace	***Ensure food safety and personal hygiene***	**100**	**26**	**7**	**19**
	PC1. follow relevant practices to avoid cross contamination at all stages of food processing operations		5	1	4
	PC2. follow organizational procedures for handling items that may cause allergic reactions		5	1	4
	PC3. follow Good Manufacturing Practices (GMP) at the workplace. Good Manufacturing Practices: location and layout (ergonomics), cleaning and sanitation, equipment and containers, pest control, facilities (lighting, water supply, drainage and waste disposal, air quality and ventilation), food storage, transportation, and distribution (Source: Schedule IV, FSSAI Licensing and Registration, 2011)		10	3	7
	PC4. follow Good Hygiene Practices (GHP) at the workplace appropriately. Good Hygiene Practices: use of gloves, hairnets, masks, ear plugs, goggles, shoes etc; washing hands regularly; treating injuries such as cuts, boils, skin infections and grazes; preventive health check-ups ; getting vaccinated		6	2	4

	whenever required. (Source: Schedule IV, FSSAI Licensing and Registration, 2011)				
	Follow safety measures to avoid accidents		**35**	**11**	**24**
	PC5. use protective clothing/ equipment for specific tasks and work conditions		6	2	4
	PC6. identify job-site hazardous work and possible causes of risk or accident at the workplace		6	2	4
	PC7. deal with hazards safely and appropriately to ensure safety of self and others as per organisational protocol		6	2	4
	PC8. use various types of fire extinguishers effectively		6	2	4
	PC9. respond promptly and appropriately to an accident situation or medical emergency		5	1	4
	PC10. provide cardio-pulmonary resuscitation (CPR) as per the requirement (e.g. cardiac arrest)		6	2	4
	Follow emergency procedures		**18**	**6**	**12**
	PC11. follow workplace emergency and evacuation procedures		6	2	4
	PC12. use safe methods to free a person from electrocution		6	2	4
	PC13. administer appropriate first aid to victims in case of cuts, bleeding, burns, choking, electric shock, poisoning etc.		6	2	4
	Manage infection control		**21**	**6**	**15**
	PC14. use appropriate disinfectants to disinfect thework area and equipment as per organisational protocol		10	3	7
	PC15. ensure personal hygiene by washing hands regularly using alcohol based sanitisers and wearing personal protective equipment (PPE)		5	1	4
	PC16. report illness of self and others to the supervisor or concerned authority		6	2	4
		Total	**100**	**30**	**70**
4. FIC/N9902 Work Effectively in an Organisation	***Communicate effectively***	**61**	**21**	**8**	**13**
	PC1. obtain complete information and instructions from designated personnel		5	2	3
	PC2. reciprocate understanding and seek clarifications whenever required		5	2	3
	PC3. provide information accurately and clearly		5	2	3
	PC4. use inclusive language (verbal,		6	2	4

	nonverbal and written) that is gender, disability and culturally sensitive				
	Work in a team effectively		**22**	**8**	**14**
	PC5. plan tasks to be performed as per priority and need		6	2	4
	PC6. consult with and assist others to maximize effectiveness and efficiency at work		5	2	3
	PC7. escalate problems and grievances beyond own scope to the concerned authority		5	2	3
	PC8. take appropriate action to resolve conflicts at the workplace		6	2	4
	Respect diversity		**18**	**6**	**12**
	PC9. maintain a gender-neutral behaviour with everyone at the workplace		6	2	4
	PC10. empathise with People with Disabilities (PwD) and offer help, if required		6	2	4
	PC11. recognise and report incidents of harassment and discrimination to appropriate authority		6	2	4
		Total	**61**	**22**	**39**
5. SGJ/N1702 Optimize Resource Utilization at Workplace	***Material conservation practices***	**39**	**12**	**4**	**8**
	PC1. identify ways to optimize usage of material including water in various tasks/activities/processes		3	1	2
	PC2. check for spills/leakages in various tasks/ activities /processes		3	1	2
	PC3. plug spills/leakages and escalate to appropriate authority if unable to rectify		3	1	2
	PC4. carry out routine cleaning of tools, machines and equipment		3	1	2
	Energy/electricity conservation practices		**12**	**4**	**8**
	PC5. identify ways to optimize usage of electricity/ energy in various tasks/ activities/processes		3	1	2
	PC6. check if the equipment/machine is functioning normally before commencing work and rectify wherever required		3	1	2
	PC7. report malfunctioning (fumes /sparks/emission/vibration/noise) and lapse in maintenance of equipment		3	1	2
	PC8. ensure electrical equipment and appliances are properly connected and turned off when not in use		3	1	2
	Effective waste management/ recycling practices		**15**	**5**	**10**

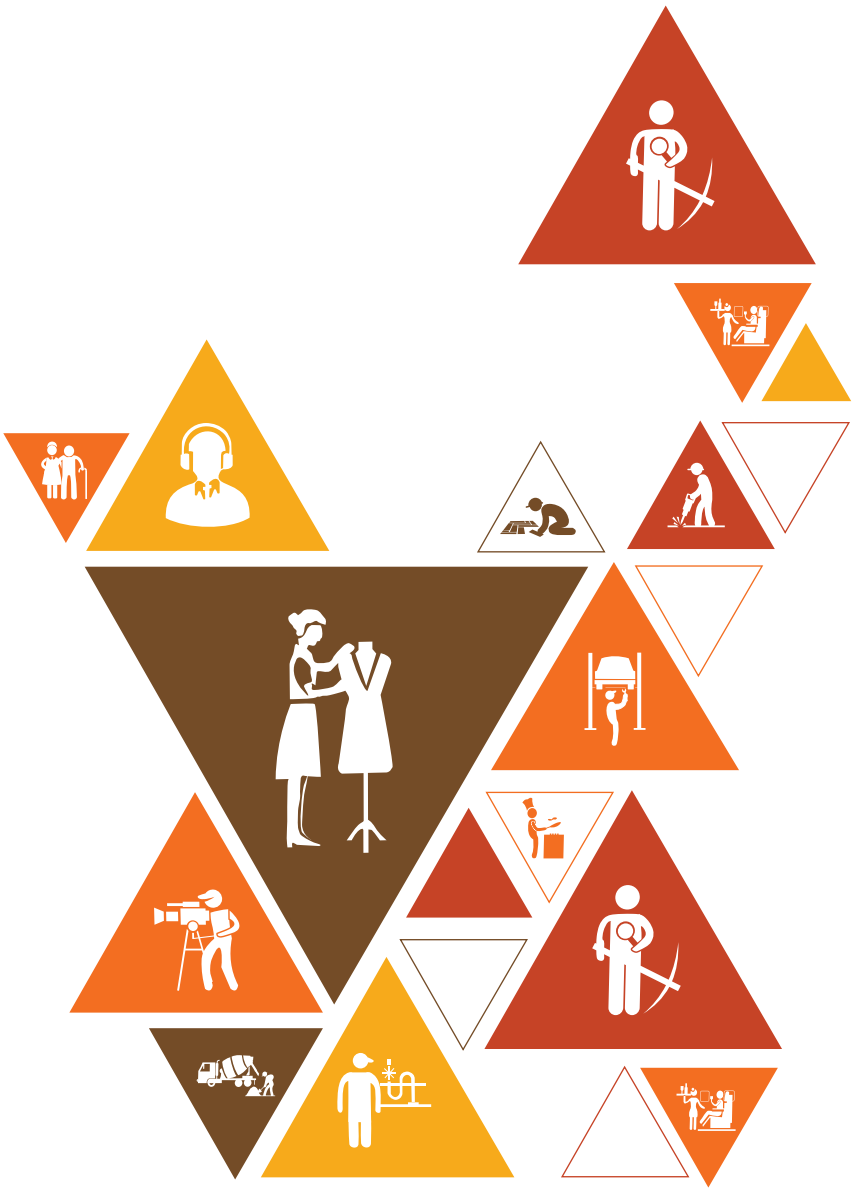
	PC9. identify recyclable and non-recyclable, and hazardous waste generated		3	1	2
	PC10. segregate waste into different categories		3	1	2
	PC11. dispose non-recyclable waste appropriately		3	1	2
	PC12. deposit recyclable and reusable material at identified location		3	1	2
	PC13. follow processes specified for disposal of hazardous waste		3	1	2
		Total	**39**	**13**	**26**
6. DGT/VSQ/N0102 Employability Skills	***Introduction to Employability Skills***	**50**	**2**	**1**	**1**
	PC1. understand the significance of employability skills in meeting the job requirements		-	-	-
	Constitutional values – Citizenship		**2**	**1**	**1**
	PC2. identify constitutional values, civic rights, duties, personal values and ethics and environmentally sustainable practices		-	-	-
	Becoming a Professional in the 21st Century		**4**	**1**	**3**
	PC3. explain 21st Century Skills such as Self- Awareness, Behavior Skills, Positive attitude, self-motivation, problem-solving, creative thinking, time management, social and cultural awareness, emotional awareness, continuous learning mindset etc.		-	-	-
	Basic English Skills		**5**	**2**	**3**
	PC4. speak with others using some basic English phrases or sentences		-	-	-
	Communication Skills		**2**	**1**	**1**
	PC5. follow good manners while communicating with others		-	-	-
	PC6. work with others in a team		-	-	-
	Diversity & Inclusion		**2**	**1**	**1**
	PC7. communicate and behave appropriately with all genders and PwD		-	-	-
	PC8. report any issues related to sexual harassment		-	-	-
	Financial and Legal Literacy		**7**	**3**	**4**
	PC9. use various financial products and services safely and securely		-	-	-
	PC10. calculate income, expenses, savings etc.		-	-	-
	PC11. approach the concerned authorities for any exploitation as per legal rights and laws		-	-	-
	Essential Digital Skills		**10**	**4**	**6**
	PC12. operate digital devices and use its features and applications securely		-	-	-

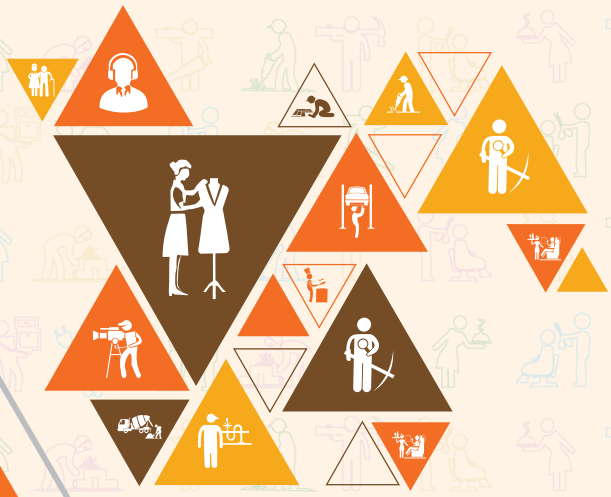
	and safely				
	PC13. use internet and social media platforms msecurely and safely		-	-	-
	Entrepreneurship		**8**	**3**	**5**
	PC14. identify and assess opportUnities for potential business		-	-	-
	PC15. identify sources for arranging money and associated financial and legal challenges		-	-	-
	Customer Service		**4**	**2**	**2**
	PC16. identify different types of customers		-	-	-
	PC17. identify customer needs and address them appropriately		-	-	-
	PC18. follow appropriate hygiene and grooming standards		-	-	-
	Getting ready for apprenticeship & Jobs		**4**	**1**	**3**
	PC19. create a basic biodata		-	-	-
	PC20. search for suitable jobs and apply		-	-	-
	PC21. identify and register apprenticeship opportUnities as per requirement		-	-	-
		Total	**50**	**20**	**30**

Annexure III
Video Link

Sr. No	Module No.	Topic Name	Page No.	URL	QR Code (s)
1	Module 1: Introduction to the program and overview of the Food Processing Industry	Scope of food processing in India with National and International perspective	8	https://www.youtube.com/watch?v=5VlY-w38hCxU	
		Overview of Food Processing Industry	8	https://www.youtube.com/watch?v=J-2EiM-VNtpM	
2.	Module 2: Prepare for production	Procedure for production planning	25	https://www.youtube.com/watch?v=MiUgO-zXfUYs	
3.	Module 3: Carry Out sorting and grading of fruits and vegetables	Packaging and storage of food	25	https://www.youtube.com/watch?v=Ta18d-6JIO3o	
		Storage of finished products	25	https://www.youtube.com/watch?v=HcI3v1d-22CM	
		FSSAI regulations	25	https://www.youtube.com/watch?v=q8nE0r-RnJOY	

Sr. No	Module No.	Topic Name	Page No.	URL	QR Code (s)
4.	Module 4: Ensuring Food Safety And Personal Hygiene	Personal Hygiene	78	https://www.youtube.com/watch?v=6WXc6cH_gII&t=1s	
		General Requirement on Hygiene and sanitation	78	https://www.youtube.com/watch?v=d5kn5ns0zWM	
5.	Module 9: Waste Management and Recycling	Waste Management	199	https://www.youtube.com/watch?v=Qyu-fZ8BOnI	
		Conservation Reduce, Reuse & Recycle	199	https://www.youtube.com/watch?v=abuousxwRe4	
6.	Module 10: Employability Skills	Employability Skills		https://www.skillindiadigital.gov.in/content/list	





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