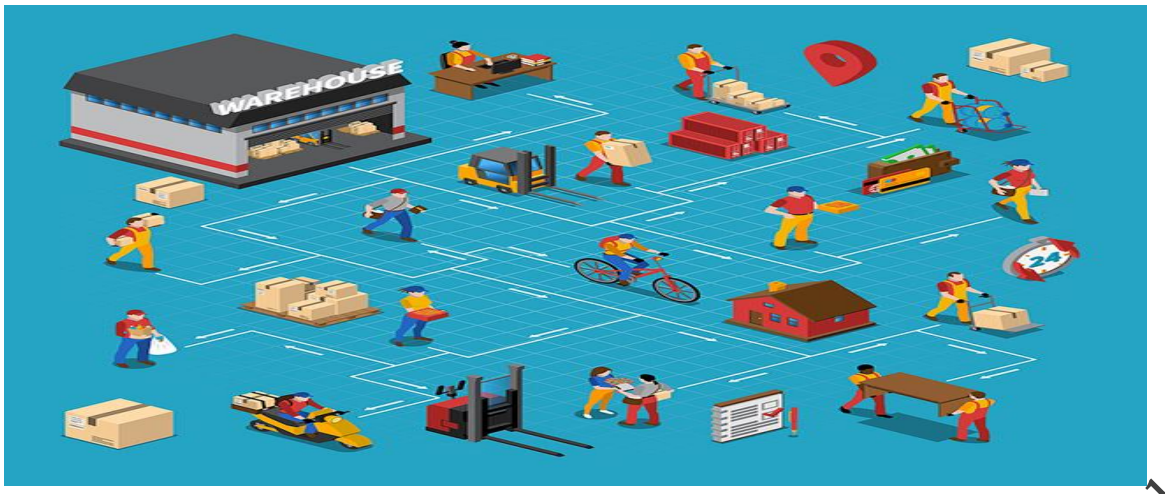
Draft Study Material



WAREHOUSE BINNER

(Qualification Pack: Ref. Id. LSC/Q2105)

Sector: Logistics

(Grade X)

PSS CENTRAL INSTITUTE OF VOCATIONAL EDUCATION

(a constituent unit of NCERT, under Ministry of Education, Government of India)

Shyamla Hills, Bhopal- 462 002, M.P., India

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Preface

Vocational Education is a dynamic and evolving field, and ensuring that every student has access to quality learning materials is of paramount importance. The journey of the PSS Central Institute of Vocational Education (PSSCIVE) toward producing comprehensive and inclusive study material is rigorous and time-consuming, requiring thorough research, expert consultation, and publication by the National Council of Educational Research and Training (NCERT). However, the absence of finalized study material should not impede the educational progress of our students. In response to this necessity, we present the draft study material, a provisional yet comprehensive guide, designed to bridge the gap between teaching and learning, until the official version of the study material is made available by the NCERT. The draft study material provides a structured and accessible set of materials for teachers and students to utilize in the interim period. The content is aligned with the prescribed curriculum to ensure that students remain on track with their learning objectives.

The contents of the modules are curated to provide continuity in education and maintain the momentum of teaching-learning in vocational education. It encompasses essential concepts and skills aligned with the curriculum and educational standards. We extend our gratitude to the academicians, vocational educators, subject matter experts, industry experts, academic consultants, and all other people who contributed their expertise and insights to the creation of the draft study material.

Teachers are encouraged to use the draft modules of the study material as a guide and supplement their teaching with additional resources and activities that cater to their students' unique learning styles and needs. Collaboration and feedback are vital; therefore, we welcome suggestions for improvement, especially by the teachers, in improving upon the content of the study material.

Deepak Paliwal

(Joint Director)

PSSCIVE, Bhopal

Date: 20 June 2024

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MODULE 1	IDENTIFY BINNED ITEMS FOR ERRORS

Module Overview

In warehouse, binning is a significant activity. After binning, Binner maintains records, prepares reports and done several activities which comes under post binning activities. The Binner has to be careful to perform post binning activities. After binning of goods the biggest challenge is to manage the items in condition they were kept at time of binning. All this is done through the post binning activities. Verification of item also comes in it.

The binned goods are located and taken out by the Binner on need. Time to time the goods are matched and checked. All these activities are performed by the Binner and are the subject matter of post binning activities.

In this module, we incorporate four sessions. In these sessions, the student will be confident in post binning activities, which are important in the job role of Binner. The first session covers identify binned items for errors. Second session deals with report to supervisor about damages. Third session focuses on stacking and provides the overview of checking and identifies binned items for errors binning activities with GRN and ERP list and fourth session report status of inventory binned to supervisor checklist.

Learning Outcomes

After completing this module, you will be able to:

- To accurately inspect binned items to identify and document any errors or discrepancies.
- To effectively communicate and report any damages to items or inventory to their supervisor.
- To apply proper stacking techniques and to ensure the safety and stability of stored items.
- To accurately report the status of binned inventory, including counts, conditions, and any issues.

Module Structure
Session 1: Identify Binned Items for Errors
Session 2: Report to Supervisor about Damages
Session 3: Stacking
Session 4: Report Status of Inventory Binned

Session 1: Identify Binned Items for Errors

Discrepancies in inventory stock control relate to situations in which real factory inventory or in-store inventory varies from the information of inventories. When the anticipations based on information for inventory doesn't match the real matters in inventory, there is a difference.

TYPES OF DISCREPANCIES

- Stock loss as the result of damage
- Stock is in the incorrect location
- Human error during stock taking process
- Stock loss because of theft
- Stock is labelled with incorrect identification
- Stock mistaken for similar product
- Inbound stock not recorded accurately
- Faulty inventory management software or stock taking equipment
- Incorrect unit of measurement was counted

REASONS OF DISCREPANCIES

- Incorrect information access during receiving/inbound
- Misplaced stocks
- Inadequate managing of broken and returned stocks
- Stock mixing
- Stock reduction due to theft
- Human mistake during inventory taking process
- Incorrect device of statistic used
- Not upgrading the inventory system

- Stock wrongly labeled
- Stock wrong for the identical product
- Supplier fraud

BINNING ACTIVITIES

After binning is successfully done, it is now turn for post binning activities. A Binner should have idea of stock recording systems and procedures along with knowledge of organizational procedures. He/she must prioritize and execute tasks within scheduled time limits. After binning he/she should maintain high concentration levels throughout the shifts.

He/she has to pay attention to quality and understand the team dynamics he/she is working with. If he/she is aware of roles and responsibilities of colleagues on the shop floor he/she can report immediately any kind of concern in any part of binning process and can be instrumental in necessary corrections.

STEPS OF POST BINNING ACTIVITIES

Following are the steps of post binning activities-

1. **Checking binned items for errors:** It is important to identify error if there are any discrepancies such as damaged /misplaced (Fig. 1.1) item in the received load.

Fig. 1.1: Checking the Binned goods and recording

Source: t.ly/9orE

2. **Stock recording system:** Binner records the stock and updates it time to time. A stock recording system needs to be implemented for easy location of items.
3. **Information and Reporting:** It is significant to notify supervisor of any damages for potential fixes and as per company policy and the nature of product he/she has to report the status of the entire inventory. In case storage location is not specified in the binning list he/she has to convey the noted location of binned items to system executive /data entry operator. It is a part of his/her profile to inform supervisor of any difficulties in task or time limits.

Fig. 1.2: Reporting to the Supervisor

Source: t.ly/PWnT

4. **Re-order:** For some items, it becomes important to notify administration for any additional orders needs to be placed to replace misplaced / irreparable damaged items.
5. **Documentation:** It is required in post binning to document each step and involved after items are binned. Keep a record of documents / lists, Goods receipt note, list of misplaced / damaged items etc.

Thus, it is the biggest challenge after binning to manage the items in the conditions they were kept at the time of binning. Through post binning activities Binner makes sure that all the goals of warehousing are met.

GRN AND GRN LIST: MEANING

The Goods Received Note (GRN) completed in warehouse where goods are received. Once registered goods received then can be put into stock or issued from warehouse. Binner works in the warehouse to complete this transaction. Goods Received Note creation/fields are -

Main section

Goods Received Note screen shot is given here as under:

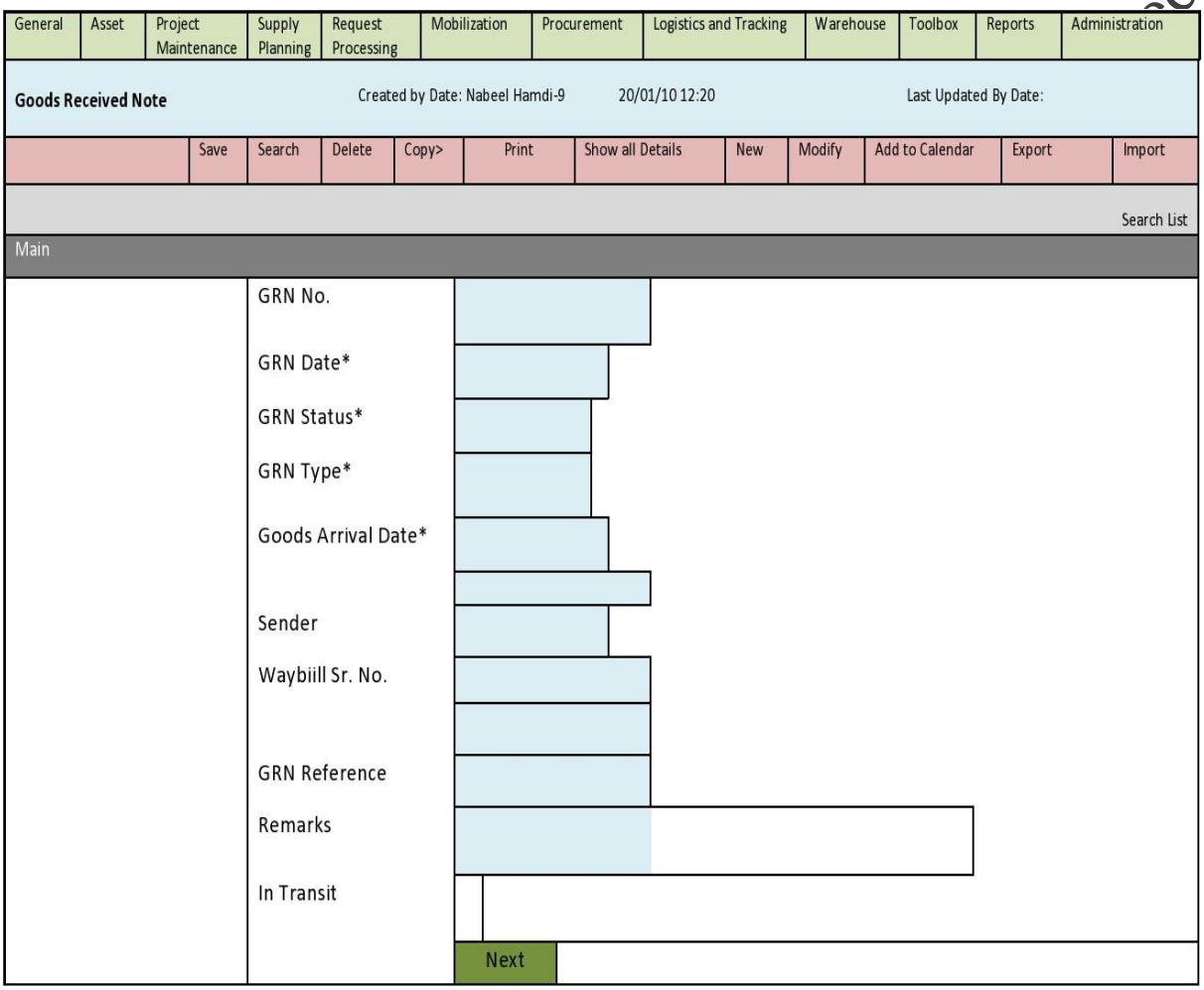


Fig. 1.3: Goods Received Note screen

GRN Number

This is the Goods Received Note number. This number is automatically generated when you save – leave blank.

GRN Date

This is the date that the Goods Received Note is entered in the system. Use the calendar button starting with the month, year followed by date.

GRN Status

This is the status of the transaction in the system. The options are:

Draft – can be used for incomplete transactions but cannot be progressed to other transactions.

Active – can be used when the transaction is complete and ready to be progressed to the next stage.

Cancelled - a transaction might have been created and progressed to the next stage therefore it cannot be deleted. Instead, the transaction is cancelled but cannot be used in new transactions. This status cannot be reversed.

Closed – this is used to indicate when the GRN demand is met. The transaction might have been used in subsequent transactions but cannot be referred in new transactions. This status cannot be reversed.

When the GRN is created, the status can be either Draft or Active. The draft status should however be changed to active when it is ready to be progressed to the next level.

GRN TYPE

This specifies the kind of GRN that is being created. This is a mandatory dropdown list with options; Stock Return, Internal Movement, Ambiguous.

- When a GRN is copied from Waybill where Waybill Type is Distribution, GRN Type should be Stock Return.
- When a GRN is copied from Waybill where Waybill Type is Internal Movement, GRN Type should be Internal Movement.
- When a GRN is copied from PO/IKD, GRN Type should be PO/IKD.

If a GRN is not copied from any of the above, then GRN Type should be 'Ambiguous'. This happens especially when the items being received do not have a Purchase Order or IKD. In most cases, the goods are unsolicited (have not been asked for and is a one-off donation).

GRN Type should be non-modifiable when copying from a previous transaction.

Check that the correct type has pulled through.

Goods Arrival Date

This is the actual date that goods are received. Enter the date that the goods arrived at the final destination (could be earlier than the GRN date if the GRN is created at a later date).

Sender

This identifies the Supplier or the party sending the goods and is pulled through from the Purchase Order or IKD.

Waybill Serial Number

This is the serial number (line item number) of the item in the Stock Issue/Waybill. In some instances, e.g. for goods that are being moved from one Outcome Unit to another, an internal movement Stock Issue/Waybill is used. The process starts with a GRN, followed by a Waybill and then a GRN to end the process. The last GRN would bear the Waybill Sr. No.

When GRN Type is Stock Return, only Distribution Waybills are selected through Waybill Active Search.

When GRN Type is Internal Movement, only Internal Movement Waybills are selected through Waybill Active Search.

When GRN Type is PO/IKD, the Waybill Sr. No. field is disabled.

When GRN Type is Ambiguous, the Waybill Sr. No. field is disabled.

GRN REFERENCE

This is a reference field that would be used to identify the GRN – this field is not mandatory.

Remarks

This refers to any additional information that the creator of the transaction might find useful for themselves or other users to know regarding the GRN or the items therein.

MEANING OF ERP

Enterprise Resource Planning refers to business management software that combines key areas and performs company procedures across all divisions of a company like buys, sales, marketing, recruiting, services, stock, financial control, etc., and enhances flow of data in company. When ERP application programs are applied in the company, all the divisions can access modified and distributed details. In addition to this, the enterprise is also able to evaluate the performance and assets at any time.

ERP application has many of the same abilities as WMS (Warehouse Management System) application such as monitoring the process of stock items – selected, packed, and delivered. We should know that ERP application programs are an all-in-one solution. It's not compulsory to add in other systems with ERP application. Often, it becomes very significant in several programs from different providers handling functions. Having several programs will decrease performance and performance through copy records. That is why and ERP package with integrated WMS and other segments is the preferred choice of the majority of the companies around the world.

Activities

Activity 1: Visit a warehouse near by your location and take a note of their activities.

Material required: Check list, Notepad, pen /pencil, etc.

Procedure:

1. Reach the warehouse in time with group.
2. Meet the executive, greet them and tell the purpose of visit.
3. Note the following with their help -
   a) Are there any systematic operational procedures defined for binning and post binning activities?

      Yes ( ) No ( )

   b) What is the basic processes involved at the post binning level?
   c) Is the Binner aware about his operations during binning and post-binning processes?

      Yes ( ) No ( )

   d) What kinds of documents are used during the post-binning activity?

      _____
      _____
      _____
      _____
      _____

   e) Observe the following and answer:

      A. Stock recording system-
         i. Present- Yes ( ) No ( )
         ii. Automated ( ) Manual ( )
      B. Information and Reporting
         i. Present- Yes ( ) No ( )
         ii. Automated ( ) Manual ( )
      C. Re-ordering system
         i. Present- Yes ( ) No ( )
         ii. Automated ( ) Manual ( )
4. Review with friends, finalize with executive and prepare a report

5. Present the report in class with permission of the teacher.

Activity 2: Prepare a chart containing post binning activities performed by the Binner and use the various images to explain briefly.

Material required: Check list, Notepad, pen /pencil, drawing sheet etc.

Procedure:

1. Purchase or arrange a drawing sheet
2. Collect the materials required to draw
3. Draw a chart containing post binning activities performed by the Binner in a sheet
4. Check the activities from the textbook and teacher taught in class
5. Ensure about your work completion
6. Discuss with the classmates in front of your teacher.
7. Write the conclusion of it.

Check Your Progress

A. Fill in the Blanks

1. _____ activities are performed after binning activities.
2. _____report is made for registering the items lost/ damaged/ missing after binning.
3. A stock recording system needs to be implemented for easy _____ of items.
4. _____ is the date that the Goods Received Note is entered in the system.
5. _____ is business management software that integrates key areas and automates business processes across all departments of an organization like purchases, sales, and marketing.

B. Multiple Choice Questions

1. Which one is not a post-binning activity:
   a) Stock recording
   b) Documentation
   c) Despatch

d) Information and reporting

2. What is full form of GRN –
   a) Goods received note
   b) General received note
   c) Goods renewal note
   d) GPS Received notification
3. Which one is not the content of GRN –
   a) Status
   b) Goods arrival date
   c) Delivery date
   d) GRN date
4. What is full form of ERP –
   a) Enterprise resource planning
   b) Ethernet data planning
   c) Enterprise product planning
   d) Enterprise price planning
5. Who has to be notified in case on any errors or damages:
   a) Manager
   b) Line staff
   c) Supervisor
   d) Nobody
6. In case of misplace or irreparably damaged items, what needs to be done:
   a) Report
   b) Reorder
   c) Nothing
   d) Both a) and b)

C. Short Answer Questions

1. What are the various steps involved in post binning activities?
2. What should be done if certain items are found missing or damaged during post binning process?

3. What is GRN, explain its content?
4. Explain about ERP?

D. Check Your Performance

1. Prepare chart on GRN and ERP
2. Demonstrate steps of binning.

Session 2: Report To Supervisor About Damages

Goods which are broken cracked or with an expiry date are considered as damaged goods.

TYPES OF DAMAGES

The damaging category of goods has following basis:

a. Physically damaged like Crockery, Bottles, Television, washing machine etc.
b. Chemically Damaged due to non-cleanliness, getting wet or higher or lower temperature than required; like food items such as vegetables, grains, etc.

There is always a threat of damaging of goods during warehousing at the time of receiving, storage and movement of goods. The quantity of damaged goods depends on how carefully warehouse manages the entire operation.

Thus, it is the biggest challenge to check each product's conditions during and after binning that weather products are damaged or not. This is to manage the items in the conditions they were kept at the time of binning. Through post binning activities Binner make sure that all the goals of warehousing are met.

DAMAGES FOR POTENTIAL FIXES

It is essential to notify supervisor of any damages for potential fixes and as per company policy and the nature of product he/ she has to report the status of the entire inventory. In case storage location is not specified in the binning list he/she has to convey the noted location of binned items to system executive /data entry operator. It is a part of his/ her profile to inform supervisor of any difficulties in task or time limits.

NOTIFY SUPERIOR ABOUT DAMAGES

In post binning activities, it is required to document each step and involved items after binned. Keep a record of documents/lists of misplaced /damaged items etc.

IMPORTANCE OF IDENTIFYING THE DAMAGES IN BINNED ITEMS

1. The proper specification and classification of goods is required to be placed in storage.
2. Layout formatting and design of warehouse should be according to the planned specification and classification of goods store in warehouse.
3. Efficiency and performance of involved manpower is also important factor in maintaining goods in fit and fresh condition.
4. Equipment is also important factor in preventing goods from damages.
5. Proper procedure and planning required in management of receiving and storing of goods in warehouse.
6. Proper and sufficient lighting is required at the place of storage of goods so that it is visible.
7. Place of storage for goods should be cleaned for keeping goods fit.
8. Proper care and supervision are required at the time of movement of goods within the area of storage from one place to another.
9. Installations of safety equipment are necessary at the right place of storage to prevent goods timely.
10. Goods should be prevented from manual touching as much as possible for keeping undamaged.
11. Protection and maintenance of doors, building and infrastructure of storage time to time is also important.

LOSS/DAMAGE REPORT

WHS 08

PROVINCE: COMMODITY: PROJECT NO.
DISTRICT SHIPMENT NO:

LOCATION: Donor id No:

1. Detail TIME, PLACE and TYPE of loss or damage:_____
2. Describe amount lost below

////////////////////////////////	Number of Units	Net Kgs. Each	TOTAL
1. Units Damaged (Potential Loss)			
2. Quantity Recovered			
3. Loss by Damage (1-2)			
4. Missing Entirely			
TOTAL LOST (3+4)			

3. Nature and extent of loss, Damage or Misuse:_____

4. Who were the persons or agency having possession at the time of Loss or Damage?_____

5. Detail the circumstances under which the Loss or Damage took Place:_____

6. Current location or disposition of commodities:_____

7. What actions have been taken to effect recovery or restitution?_____

8. What actions have been taken to preclude further losses and/or damages?_____

9. Other Countries:_____

Prepared by:_____ Date:_____

Checked by:_____ Date:_____

Approved by:_____ Date:_____

Fig. 1.4: Sample format of Loss and Damage Report

BINNED GOODS

Maintenance of binned goods at its location effectively, it must carry out to ensure that its contents are protected from damage and loss. Warehouse Binner should know about the location of goods binned in the warehouse. When it comes to huge drug warehouse, the value of the medicine that is saved in the service may well surpass the value of developing itself. Unfortunately, tallying of products is often ignored and underfunded in human resource industry. Problems acquire and if they are worked with at all, this occurs at

the same time. It focuses on location of binned goods so that Binner can easily reach to the goods and tally, if required.

IMPORTANCE OF BINNED GOODS

Regular maintenance of binned goods is required because;

- Housekeeping actions such as cleaning and pest control, even though they are planned, are generally regarded as part of routine day-to-da
- operations rather than maintenance – a clean bin is not necessarily a well-maintained bin.
- In order to the function, both financially and operationally, inspection and precautionary service activities are designed. If an efficient servicing is in place, remedial servicing performs only any small part.
- Planned alternative helps to ensure that components of bin structure are replaced when they reach the end of their specific support lifestyle.
- Organized alternative reduces the need for emergency service and stops the resulting damage.
- Preventive service helps to ensure that components of bin are in good shape and they really achieve their specific support.

IDENTIFY LOCATION OF BINNED PRODUCT

BIN Location is simply a location name or in other words, an address of where the products are placed. Titles are essential for both placing the product and accessing them in the least possible time to hurry up fulfilments.

BIN location (Fig. 1.5) opens up the misunderstandings in finding the product by giving the actual place of storage space right from warehouse to the display it is in. Creating clear and simple places within a warehouse is quite challenging but can be done when a proper process is followed.

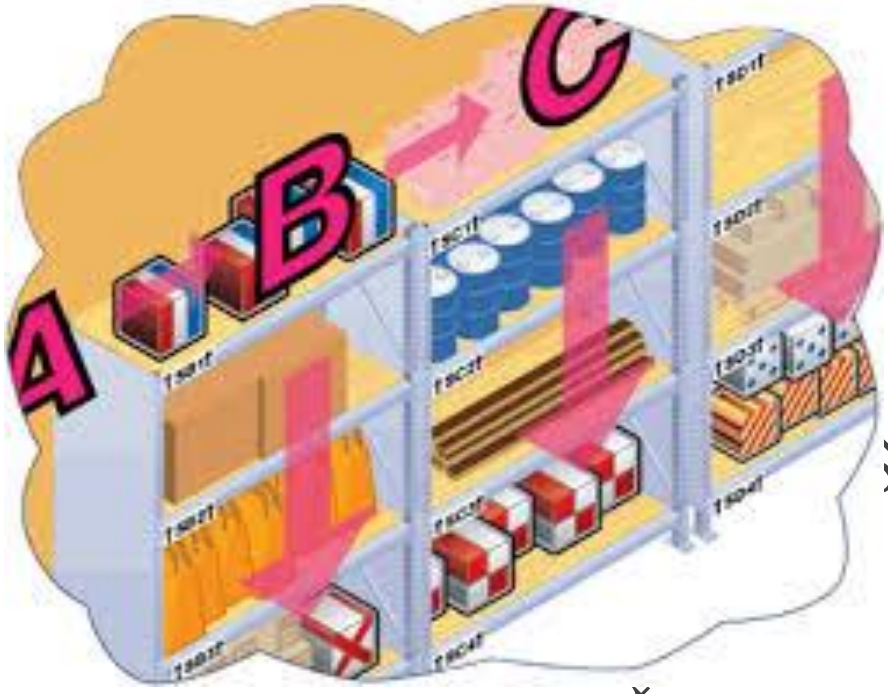


Fig. 1.5: Location of Binning Goods

Source: t.ly/VSvt

CREATE INVENTORY LOCATION NAMES

There are certain points to be occupied into consideration before beginning to name the location. Irrespective of whether warehouses are using an actual area or not, every single actual area should be given a location name. Every place name should be exclusive and marked.

- Marking should be done in such a way that it contains the finish name of the position and have arrows directing the position as well.
- If warehouse have different segments (rooms) in manufacturer, try to determining them as personal places.
- Each place name should be reduced, mostly with only one letters and should be described in the manufacturers containing the finish position name.
- Within a place, according to the product contract system, the position name should begin with either staying to right or go to legs. Here are 3-step guide to identify the location for both putting and retrieving the products in warehouse properly.

Step 1: Isolating a location space into altered sector

Segment a warehouse area into small places is very important, especially when it is large. Apart from, dividing storage area into small places, warehouse

can includes the functions like office, circulating, appearance etc., to be divided into areas. For instance, look at the figure 1.6 given below.

Fig 1.6: Dividing a location space into different zones

Source: http://bit.ly/2Q9gKUj

Here the storage area places can be given a spot name based on the guidelines they face.

So, the acronym are Eastern – E, Western – W, Northern – N, Southern – S and the main functional area can be shortened as O – denoting the workplace.

By splitting down a bigger area for storage area into different places and make several controllable places. Now, it will be easier to find without any confusions.

Step 2: Separate out Zone into Section

Now, it is the time to place a space into smaller sized designs, 'Sections'. In order to name a section, it need appropriate procedure which should be followed for segmenting all the places in a storage space, to prevent confusions while discovering products. Here Figure 1.7 is an idea on how to name a section.

A storage area space with several racks can be easily separated by labelling each display as an area. Brand using alphabets or figures but make sure the labelling is done clockwise – Remaining to right. And to begin with the labelling process, choose the display that is closest to approach as and when Binner gets into an area.

After getting done with splitting storage area space into areas and segments, let's see how a product's actual place can be monitored using this two information.

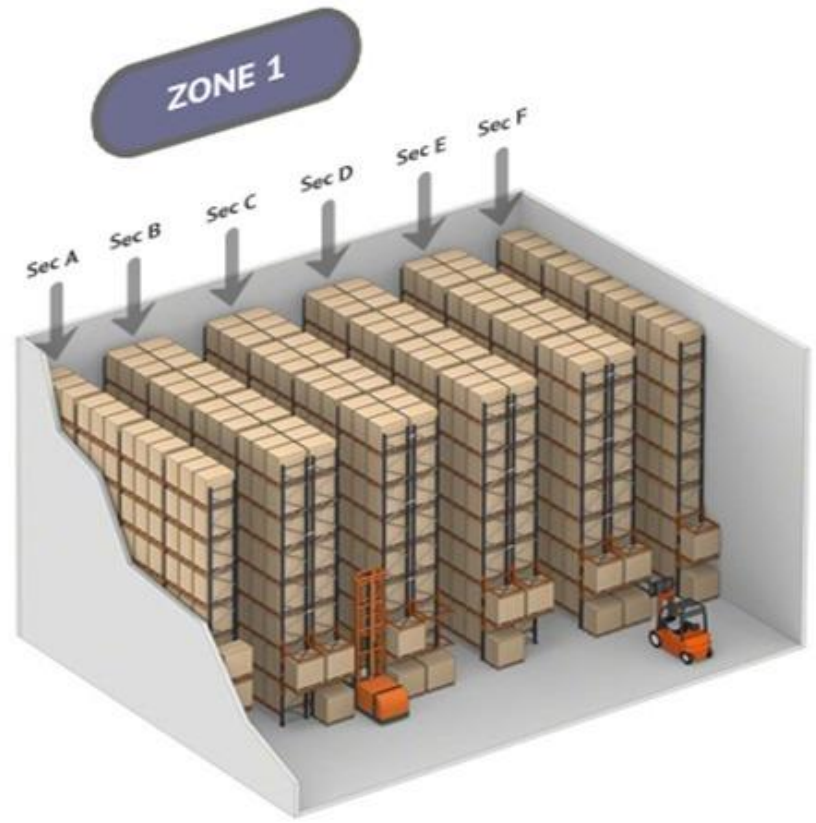


Fig. 1.7: Segregating zones into sections

Source: http://bit.ly/2Qa19Ux

Step 3: Drilling down to the last step, the 'exact location'

The 'exact location' of an item is our key plan and so far we are done with two requirements in accomplishing it.

While referring to a place within a particular area and create by using figures. The variety should be done in such a way that it begins with the top and transcends all the way until the end.

It reveals a portion in which the racks throughout have been known as with figures. Now an item with a finish bin place name NB4 can be seen in the 'North Zone', 'Shelf 'B" and in the '4th Rack' from the top. This is the way to interpret a product's actual place in a warehouse.

How it helps in picking products quickly using 'Bin Location'?

Stock control system has a perfect supply that up-dates bin place of every product in an order to the group in quest for satisfaction.

While initiating shipments, 'Pick List' feature can use to generate the **BIN CARD** (Fig. 1.8) which contents all details like locations of all the products so

that the fulfilment team can ideally be instructed to the actual places to recover the products quickly.

COMPANY

Physical Address:

P.O. Box:

Tel:

BIN CARD

Depositor Name:.....Stake No:.....

Date:.....

Balance Brought Forward.....

Date	PDN/ORDER Number	Bags Received	Weight Received (Kgs)	Bags Issued	Weight Issued (Kgs)	Total on the Stake	W/Supervisor Signature

Total Carried Forward.....

Fig. 1.8: Bin Card

Activities

Activity 1: Visit a warehouse to learn how to identify the location of binned goods.

Material required: Check list, Notepad, pen /pencil.

Procedure:

1. Reach the warehouse in time with group
2. Meet the executive, greet them and tell the purpose of visit.
3. Note the following with their help -
   a) Is there any system of procedure defined for location of binned goods?

      Yes ( ) No ( )

   b) Is the Binner responsible for the identification of location for binned goods?

      Yes ( ) No ( )

   c) Is there any training provided for identification of location for binned goods?

      Yes ( ) No ( )

   d) Is the identification of location for binned goods process recorded?

      Yes ( ) No ( )

   e) What is the identification of location for binned goods process?

      Yes ( ) No ( )

   f) What kind of basic operations are applied on binned goods in the warehouse?

_____

_____

_____

_____

_____

4. Review with friends, finalize with executive and prepare a report
5. Present the report in class with permission of the teacher.

Activity 2: Visit a warehouse and collect information from many sources on location of binned goods and explain it with the help of PPT images.

Material required: Check list, Notepad, pen /pencil, drawing sheet, internet and computer/laptop.

Procedure:

1. Collect many figures from different sources i.e. magazine, internet etc.
2. Arrange the Figures or images collected from various sources.
3. Try to paste the Figures stepwise.
4. Explain in details about those Figures.
5. Discuss more in details about it in a class.
6. Submit it to the teacher.
7. Teacher will conclude the session.

Check Your Progress

CHECK YOUR PROGRESS

A. Fill in the Blanks

1. A storage space with several shelves can be easily divided by labelling each shelf as a _____
2. Dividing a warehouse space into _____ is important especially when it is large.
3. Every location name should be unique and _____.
4. _____ is simply a location name or in other words, an address of where your products are placed.
5. A larger storage space into different zones then divides into _____.

B. Multiple Choice Questions

1. Location name should begin from either or top to bottom.
   a) left to right
   b) top to bottom
   c) a) and b)
   d) None of these
2. BIN CARD contents –
   a) Bin Card Number
   b) Product name

c) Location name

d) All of the above

3. Which one is not the step of identifying location of binned goods –

a) Divide space in zones

b) Zones into segments

c) Recoding receiving goods

d) Exact location by card Bin

4. _____ are also 'emergency maintenance':

a) Corrective

b) Preventive

c) Protective

d) None of these

5. Warehouse safety education involves:

a) Dressing in proper uniform

b) Equipment safety usage

c) Common warehouse hazards

d) All of the above

6. Maintenance of binning space does not include:

a) Sorting

b) Picking

c) Shining

d) Sustaining

C. Short Answer Questions

1. What is the importance of maintenance of binned goods?
2. Describe the process of identifying location for Binned Goods in warehouse?
3. How to pick binned goods easily?
4. What is Bin Location?

D. Check Your Performance

1. Make a chart sharing location of the goods in warehouse.
2. Demonstrate the process to identify location for binned goods.

Session 3: Stacking

Storage space features are usually the extra time of receiving division responsibilities. The basic features of storage activity is receiving items from the docking station area to having place and quantity, and upgrading of storage records so that the product can be found easily when it is needed. Recovery of items from having places may also be allocated to storage features and/or may be a function of choosing features.

Cargo space area normally consumes most available warehouse area. This is being so warehouse manager might find it best way to lay out the whole building for storage before trying to find out area needs for other warehouse features. Once the best storage structure is established, simply eliminate areas of it to provide the more features.

Before choosing device for storage, the Binner must know size and loads of device to be managed. Normally boxes placed on wooden pallets through appropriate device. The pallet used by decides the size and detail of the device fill. The conventional pallet is 40 inches wide and 48 inches wide strong. The size of pallet plus size of boxes placed on the pallet figure out size of device fill. Because the size of boxes usually differs, Binner will need to set the size at level that best serves the various carton levels. Once you know the device fill specifications, he/she can work with devices providers to decide which pallet shelves and raise vehicles best meet the needs. Generally, it is best to pick devices that somewhat surpasses the weight specifications. The added degree of safety is well worth slightly higher cost.

The dimensions of the product obtained usually are different from a few boxes to a few pallets. If this is situation, warehouse binner might consider setting up storage area space to provide the various amounts because it will make better use of the storage area room. We use the 80/20 concept in reverse when it comes to the length of places in the storage area program. Approximately 20% of complete pallet places have been reduced high by one foot, and we store less than pallet plenty in them. As previously mentioned, locator codes allow the complete pallet places to be divided for having up to three products. These simple changes add places in storage area program without demanding additional floor area and enable to use current area more effectively.

PROCESS OF STACKING

There are two basic methodologies for setting up a storage system:

Warehouse binner can simply use a ground, coating pallets up in series and putting pallets of like item on top of each other. This technique is usually known as a large storage area. This can be real choice for a warehouse with a

very low roof. It can also be great choice for saving many pallets of the same item.

Warehouse binner can set up pallet holder and/or racks in series. This commonly approved technique, usually known to as holder storage area, usually makes excellent use of the available area and is affordable so long as the roof size allows at least three stages of full pallet storage area. The greater the roof, the more cost-effective holder storage area usually becomes. One popular method of storing inventory is ground pallet putting or prevent putting.

Block putting is form of palletized storage space which doesn't need several type of storage space. Pallets with load are placed on ground. Binner arranges the stacks for maximum storage space height. Lanes are formed to ensure access to inventory keeping units (SKUs).

The heights of stacking determined by different factors like:

- Pallet conditions.
- Load weight.
- Load stability.
- Load strength.
- Safety limits.
- Weather (humidity, wind, water can weaken pallets and soften loads).
- Warehousing clearance heights.

Each factors must considered for safe stacking levels are selected.

The key constraint of prevent putting SKU's are limited in LIFO (Last in First out) method. Ground putting is extremely area intense and hence needs very huge areas for saving bulk of inventory.

When plenty are eliminated from the storage area paths, under-used area is designed cannot use until entire road is eliminated. This is called honeycombing. Therefore, consideration to road duration and detail (determine storage area capacity) must ensure that an advanced level of usage on each lines are obtained, for example each range size needs organized based on expected and current inventory outcome levels for each SKU.

Following items and points to be considered in stacking -

Lumber: Adhere to Occupational Safety and Health Administration (OSHA) for stacking heights: 16 feet (manually); 20 feet (forklift) maximum stacked heights. Remove screws and nails.

Bags: Collection them in inter lock series. Take one step back levels of baggage as they're placed, and cross-key at least every 10 levels.

Bars and Pipe: Don't store in main shelves, to avoid making a threat to people moving by as plenty are eliminated either by hand or forklift. Using a well-designed cantilever owner framework and using good people protection and visitors control techniques. Collection and avoid (or chock) these round plenty to help alleviate problems with slanting. Cautious if Warehouse binner chooses to use a building line for these reasons. If Warehouse banner do use content, colour them to indicate the highest possible size a placed fill can achieve. See "Picking Bar Stock, Metal, or Pipe: Rack Storage space Options" for more information.

Barrels and drums: Shelves are more secure for these items, and allow higher storage solidity. Warehouse binner must selection percussion, selection them consistently. Prevent the pants to avoid moving. Use ply board, panels or pallets between each placed level to create a firm and flat working surface for the next part when warehouse binner putting on finishes. Chock the bottom part to help avoid moving.

Bales: Bales of cloths or baled document should be saved within, not outside. Keep not less than 18 inches wide between bales and surfaces or other service components such as assistance content. Keep sufficient space (18″) between top of a bundle collection and landscape sprinkler leads. Be sure that sufficient flame protection actions are taken with these plenty.

Boxed materials: Group, cross-tie with plastic fibers connections, or stretch-wrap containers to help ensure loads of them will remain constant. The collection like size bins together whenever possible.

Pallets: Pallets are regularly placed in warehousing functions as components undergo surgery. Managing placed pallets is a subject in and of its own. See the information putting on pallets for more information.

Sheet metal and heavy flat items: Sheets of steel or other materials are thick and difficult to store. They do offer themselves to relatively simple putting but are hard to load/unload. Since they are large, relatively simple to harm, and have distinct sides, they're an ergonomic office and safety problem. See "Sheet Metal Storage space Alternatives" for more information.

Fig. 1.9: Sheets of steel or other metals

Source: http://bit.ly/2P6Xmes

Stacking can be dangerous – but there are ways to safely stack most items

As it is applicable to the warehouse, putting is a challenging way to store factors from an area viewpoint. Most items, particularly palletized ones, don't offer themselves to the kind of straight area usage holder storage does. When properly done, lots of products are all fairly safe, so long as the plenty are constant and aren't too high. But, as OSHA says, "stacking components can be dangerous, if employees avoid safety guidelines. Dropping components and crumbling plenty can grind or pin employees."

ADVANTAGES OF FLOOR STACKING

- Low setup costs
- Flexible

DISADVANTAGES OF FLOOR STACKING

- Low density storage area space (Requires large storage area space service to store only bit of stock).
- Poor ventilation of products.
- Storage size uses numerous factors.
- Only single SKU can efficiently be stored on street, empty pallet created that cannot utilize efficiently until an entire street is cleared.
- To move the top pallet to get to the pallet below (LIFO).

Activities

Activity 1: Visit the warehouse to understand the storage system and stacking process

Material required: Notepad, pen/pencil, drawing sheet etc.

Procedure:

1. Visit the nearest warehouse at your place.
2. Meet and greet the warehouse employees.
3. Note down the list of storage methods and process of stacking in writing
4. Ask about the stacking procedure.
5. Write down all points in your note book.
6. Discuss the things in a class learnt at warehouse.
7. Submit a note on stacking process learnt at warehouse and collected images and figures from various sources.
8. Teacher will conclude and explain the outcome of visit.

Activity 2: Visit a warehouse and write a report about what kind of storage equipment is used for different purpose for stacking the goods.

Material required: Notepad, pen /pencil, checklist

Procedure:

1. Reach the nearest warehouse in time near your place.
2. Meet and greet the warehouse manager and tell the purpose of visit.
3. With the help of the executive note the answers of following questions-
   a) What is stacking?
   b) What are different types stacking?
   c) What is a pallet?
   d) Explain the use of Storage equipment's.
   e) What are disadvantages of stacking?
   f) Give your suggestion for same process.
4. Review with friends, finalize with executive and prepare a report
5. Present the report in class with permission of the teacher.

Check Your Progress

A. Fill in the Blanks

1. _____ functions are usually an extension of receiving department duties.
2. The Binner must know the _____and _____of the unit loads to be handled.
3. The height of pallet plus height of cartoons stacked on pallet determine the height of _____.
4. One popular method of storing stock is floor pallet stacking or _____.

B. State whether following statements are True of False

1. Shelves are not secure for the items, and don't allow higher storage solidity.
2. A pallet is positioning equipment.
3. Positioning equipment is used for handle material at single location.
4. Pallets are routinely stacked in warehousing operations.
5. Sheets of steel or other metals are notoriously difficult to store.

C. Short Answer Questions

1. What is stacking?
2. Explain the type of stacking?
3. Explain type of storage?

D. Check Your Performance

1. Demonstrate stacking procedures.
2. Draw a chart with Types of stacking.

Session 4: Report Status of Inventory Binned

After binning is successfully done, it is now turn for post binning activities. A Binner should have idea of stock recording systems and procedures along with knowledge of organizational procedures. He/she must be able to prioritize and execute tasks within scheduled time limits. After binning he/she should be able to maintain high concentration levels throughout the shifts.

He/she has to pay heed to quality and understand the team dynamics he/she is working with. If he/she is aware of roles and responsibilities of colleagues

on the shop floor he/she can report immediately any kind of concern in any part of binning process and can be instrumental in necessary corrections.

LOCATION AND DIFFICULTIES IN BINNED ITEMS

Following are the post binning activities steps -

1. **Checking binned items for errors:** It is main step to identify if there are any discrepancies such as damaged/misplaced item in the received load.
2. **Stock recording system:** Binner records the stock and updates it time to time. A stock recording system needs to be implemented for easy location of items.
3. **Information and Reporting:** It is urgent to notify supervisor of any damages for potential fixes and as per company policy and the nature of product he/she has to report the status of the entire inventory. In case storage location is not specified in the binning list he/she has to convey the noted location of binned items to system executive /data entry operator. It is a part of his/her profile to inform supervisor of any difficulties in task or time limits.
4. **Re-order:** For some items, it becomes important to notify administration for any additional orders that placed to replace misplaced /irreparable damaged items.
5. **Documentation:** It is required in post binning to document each step and involved after items are binned. Keep a record of documents/lists, Goods receipt note, list of misplaced /damaged items etc.

Thus, it is the biggest challenge after binning to manage the items in the conditions they were kept at the time of binning. Through post binning activities Binner makes sure that all the goals of warehousing are met.

REPORT ON DAMAGE AND ACCIDENTS OF BINNED ITEMS

The warehouse Binner plays an important role in finding out damages and its reporting to the competent authorities. He/she scrutinizes the inbound goods and find out damages in it. He/she also compares the goods from the desired product specification (packing, weight, size shape etc.) with purchase order. He confirms the fitness of goods. If the product fails to meet the ordered specifications or standard quality norms than it is termed as damaged goods. The role of Binner is to inform the supervisor about the damages and ensure its replacement. As it involves the movement of goods so a formal process of reporting the damages and replacement is followed by every organization. A detailed report of damaged goods and accident is prepared in specific format designed by the organization. The report includes:

- Details of damages like product name, lot size, number of units damages.
- Damages description includes Reasons of damages like length of storage, environmental issue and date of quality testing, type of damage.
- Action needed to be taken like repairs, movements of goods, replacement of goods etc.
- Recording of goods in respective registers and updating the record of damages related documentation.

The process of acknowledging high quality has been requested for many years. Quality is the result of removing problems. It is important to avoid complicated amount with high quality. Warehousing people, by the actual of their tasks, deal in quantity-based action. A highly effective factory function that has high mistake rates, unsystematic and undependable service could decline to the point where the volume of outcome is diminished than inadequate people. Therefore, proper keeping track and tallying of products on time is very necessary.

Activities

Activity 1: Prepare a poster on status of inventory

Material required: Check list, Drawing sheet, Notepad, pen /pencil, etc.

Procedure:

1. To prepare the poster based on the student must have the knowledge of following
   a) How to prioritize and execute tasks within scheduled time limits
   b) How to maintain high concentration levels throughout the shifts?
   c) Why it is necessary to know about quality and understand the team dynamics, he is working with?
   d) Awareness of roles and responsibilities of colleagues.
   e) Submitted poster to the class teacher.

Activity 2: Visit a warehouse and write a report on difficulties in placing of binned items

Material required: Check list, Drawing sheet, Notepad, pen /pencil, etc.

Procedure:

1. Visit to the warehouse nearby the learning centre

2. Meet warehouse employee and take the permission.
3. Ask him/ her to explain that what difficulties they face at the time to placing the binned items
4. Understand the precautions taken before placing binned goods
5. Ask warehouse executive to give a demonstration on placing binned items, before and after.
6. Make a complete list of difficulties in placing of binned items.
7. Make the report for the same and discuss in the class.
8. If any suggestions received by the class fellows and teacher then writes in report.
9. Submit the report to class teacher for further improvement.

Activity 3: Visit a warehouse and observe discrepancies in warehouse

Material required: Check list, Notepad, Pen, Pencil.

Procedure:

1. Meet warehouse manager and take the permission.
2. Ask him/her to explain the reason of discrepancies.
3. List out the common causes of discrepancies.
4. Request the supervisor to demonstrate a report on discrepancies send to the superiors.
5. Make complete notes on discrepancies like vice; meaning, type, common causes, proforma of report
6. Presented the report in class and collect feedback
7. Submit the report to class teacher.

Check Your Progress

A. Fill in the Blanks

1. _____ is important part of quality control.
2. Stock counting and _____ is a process where one physically needs to count the entire stock.
3. _____ and tallying of goods are performed minimum once in a year.
4. The preparation of _____ is very critical as it involves whole shift of operations.

5. The _____ of store needs to be prepared first.
6. The _____ and departmental manager is responsible for pre-stock.

B. Multiple Choice Questions

1. What is full form of PDT:
   a) Data Terminal scanner
   b) Post-dated transport
   c) Pre-documentation test
   d) None of these
2. What is full form of SKUs:
   a) Questionnaire and check lists
   b) Quality circles
   c) Quality formats
   d) Stock keeping Units
3. Which one is the method of counting and tallying?
   a) Physical counting
   b) Counting with the help of PDT
   c) Both (i) and (ii)
   d) None of the these

C. Short Answer Questions

1. What is the importance of counting and tallying in warehousing?
2. What is the process of counting and tallying?

D. Check Your Performance

1. Demonstrate the process of counting and tallying in warehouse.
2. How should a quality control sheet be prepared?

Module 2	Operational and Documentation Procedure

Module Overview

Warehouse activities are the tasks involved in handling inventory. They include, counting, adjusting and re-classifying items and their serial/lot numbers, as well as moving items between bins within the warehouse. In warehouse activities, it is common to pick, assemble, and pack inventory items in kits just before selling or alternatively assembling kits to stock. Apart from these warehouse activities, for healthy and safe work environment some other activities are also performed, they are housekeeping activities; regular cleaning is done for neat and safe work practices and records are maintained to monitor the management for appropriate actions.

Discrepancies in inventory stock control relate to situations in which real factory inventory or in-store inventory varies from the information of those inventories: When the anticipations based on information for inventory doesn't match the real matters in inventory, if there is a difference. These discrepancies must be reconciled (analyzed, described and paid for). There are some standard steps to be taken during a study in inventory control that is designed to attack inventory stock discrepancies.

The role of Binner is very crucial in housekeeping activities carried out in the warehouse. The Binner must be alert to sort options to clean up out-of-the-way places too, such as shelves, basements, sheds, and boiler rooms. The organized agreement of functions, tools, equipment provides is also significant part of a good house cleaning program. Timely scheduling the activities to be performed also defines the responsiveness and proactive nature of the Binner. Many times, there are very minute errors which, when not taken care on time, create unwanted risks and can also reflect to the negligence part in housekeeping activity. Such situations cause a negative impression upon the working profile in the warehouse. Therefore, the Binner must be aware with the procedures of cleaning in the warehouses. Proper recording of the housekeeping activities is also an essential activity of the Binner in a warehouse.

In this module, we incorporate four sessions. The first session deals with material handling equipment in warehouse, second session explains the optimum utilization of space, the third session intricate the report

discrepancies to supervisor and the fourth session focus on the ensure binning as per clients requirements.

Learning Outcomes

After completing this module, you will be able to:

- To identify and describe different types of material handling equipment used in various industrial settings.
- To understand the principles of effective space planning to maximize the use of available space in storage and work areas.
- To develop the ability to accurately identify and communicate discrepancies in inventory and operations to their supervisors.
- To organize and bin inventory according to specific client requirements, ensuring accuracy and client satisfaction.

Module Structure

Session 1: Material Handling Equipment

Session 2: Optimum Utilization of Space

Session 3: Report Discrepancies to Supervisor

Session 4: Binning as per Clients Requirements

Session 1: Material Handling Equipment

Handling equipment deals with the mechanical equipment used aimed at the movement, storing, control and shield of materials, and products through process of Binning.

TYPES OF MATERIAL HANDLING EQUIPMENTS

The various types of material treatment equipment categorized into six types;

1. **Transport equipment:** Transport equipment's are used to interchange material from one place to another (e.g., among workplaces, among a loading dock as well as storage area). The major sub-categories of transportation equipment are conveyors, industrial trucks and cranes. Material can also remain transported manually using without equipment. Some transport equipment's are shown in Fig 2.1.

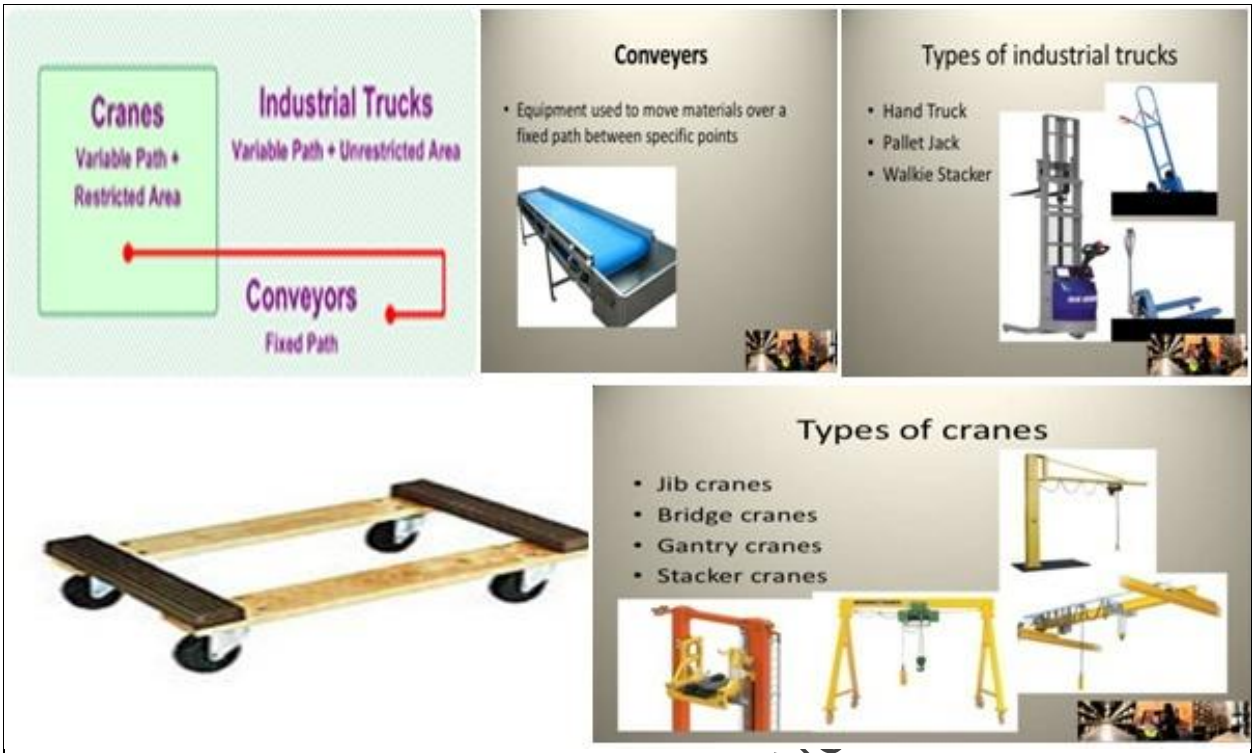


Fig. 2.1: Transport Equipment's

Source: http://bit.ly/2ETk0C8

It is used to move heavy boxes, equipment, and other large items with steel or wood dollies.

2. **Positioning equipment:** Positioning equipment is utilized to handle material by a single location. It can remain used at a workstation to orient, feed, load/unload, or then manipulate materials consequently that is in the accurate position for successive handling, transport, machining, or storage. As compared to physical handling, the usage of positioning equipment may raise the output of each worker as soon as the frequency of treatment is high progress product quality and control damage to materials.

Fig. 2.2: Positioning Equipments (Industrial Robot)

Source: http://bit.ly/2ETk0C8

Examples of positioning tools/machinery include lift/turn/tilt tables, balancers, hoists, industrial robots and manipulators as given in Fig 2.2.

3. Unit load formation equipment: Unit load creation equipment is utilized to restrict materials as a result they maintain their truthfulness when handled a solitary load during transport as well as for storage. If products are self-restraining (example a single part/ interlocking portions), then they can formed into a piece load without any equipment. Examples of piece load creation equipment include slip sheets, pallets, skids, cartons, bins/baskets, bags, and crates. A pallet is a stage (Fig 2.3) made of wood, rubber, paper, plastic, metal with sufficient clearance beneath its upper surface (or face) towards insertion of splits for subsequent handling purposes.

Fig. 2.3: Unit Load Formation- A pallet

Source: http://bit.ly/2Rrcj7G

Pallet Jacks: Move heavy loads up to 6,000 lbs. Handle includes a three-position (raise, lower, neutral) lever for fingertip control and one-hand operation. (Figure 2.4)

Fig. 2.4: Pallet Jacks

A slip-sheet is a dense piece of paper, ridged fibre, or plastic which a consignment is placed and takes tabs that may be grabbed by distinct push/pull lift lorry attachments which is shown in Figure 2.5.

Fig. 2.5: Slip Sheet

They are utilized in place of pallet for reducing weight and volume, however loading/unloading is normal.

4. **Storage equipment**: Storage equipment is utilized for holding materials for longer period of time. The design of every type of storing equipment is such that it makes material easily available, and maximizes the utilization of space. (Fig 2.6 a, b)

Fig. 2.6 (a): Storage Equipment's

Source: http://bit.ly/2RyERwf

If materials are loaded directly on the store floor, then no storing equipment is necessary, but, on average, both different pieces in storage will require a stack only partial full; to increase dice utilization, storage racks would be used to permit multiple stacks of divorced items to lodge the same store floor space at altered levels.

Fig. 2.6 (b): Push back rack

Source: http://bit.ly/2DeMdlj

The utilization of racks becomes superior to floor storage by way of the number of elements per item needful to storage decreases. Similarly, the depth by which elements of an item be situated of stored affects dice utilization in fraction to the more number of elements per item required for storage. For separate piece storage, bin shelving, carousels, storage drawers, and A-frames would be used.

5. Scales and check weighs: These scales include separate floor scales to completely automated high speediness in-motion check-weighs. Scales and check-weighs can be fully combined with barcode scanners, conveyor controls, and almost some other type of software systems or equipment/machinery.

Fig. 2.7 (a) Floor Scale

Source: http://bit.ly/2CULJQj

Fig. 2.7 (b) Small Parts Scale

Source: http://bit.ly/2SBnsEm

a. **Floor Scales:** Floor scales can be utilized to measure pallets and skids for both shipping and receiving. (refer Figure 2.7 a & b)

b. **Small Parts Scale:** Small parts scales can be utilized to verify inventory, packing parts in containers, or shipping. (Fig 7)

Fig 2.8(a): Conveyer Scales

Source: http://bit.ly/2PGdV0h

Fig. 2.8 (b): Track Scales

Source: http://bit.ly/2RqOn4s

c. **High-Speed Check-weighing Conveyor Scale:** Scales like CASI 970 Conveyor Scale would be used for high accuracy systems, high speed in distribution places. They are typically used in random check-weighing and freight manifesting applications

Fig. 2.9: Pallet Scale

Source: http://bit.ly/2CWdb0d

d. Pallet Scale: Pallet jack scales would be used aimed at on the spot weigh up of loads. Selectable measure adjusts to the dimension of load.

6. **Safety Equipment:** These are the equipment to ensure safety of the binner and operations post binning. These include;

a. Emergency Wash Station: Emergency wash station shower is triggered via a three-cornered pull handle, even though the eyewash stimulates with a metal push handle.

Fig. 2.10: Emergency Wash Station

Source: http://bit.ly/2JvBp2v

b. Anti-fatigue Mats: Exceptionally buoyant rugs feature elevated deck-plate surface provided that exceptional slip-resistance. Cushions legs and spine growing employee morale, productivity and physical wellbeing. Grease- and chemical-resistant.

Fig. 2.11: Anti Fatigue Mat

Source: http://bit.ly/2QZLafg

c. **Barrier Rails:** Easy-to-install barricades protect valuable equipment and workers from hazards in the workplace. 11 guage steel components absorb impact of a 13,000-lb. load at 4 mph.

Fig. 2.12: Barrier Rails

Source: http://bit.ly/2CQhGcB

d. **Bollards:** Heavy-duty bollards made available a physical barrier among valuable equipment and fork trucks. This short post, normally 3-5 feet in tallness, is used to create either a visual or protective perimeter.

Fig. 2.13: Barrier Rails

Source: http://bit.ly/2OiqJ8g

Fig. 2.14: Column Protectors

Source: http://bit.ly/2OkGyv4

e. **Column Protectors:** Universal rack protects guard's posts from damaging outcome that can be triggered by heavy machinery.

f. **Wire Partitions:** Wire attachments work well as instrument rooms, security cage, or hazardous material.

Fig. 2.15: Wire partitions

Source: http://bit.ly/2DgweTN

Fig. 2.16: Traffic visibility mirrors

Source: http://bit.ly/2Ojol0M

g. **Traffic Visibility Mirrors:** Wide angle convex glasses designed to increase security, surveillance, and promote safety.

h. **Handrails:** Safety guardrails make overhead walkways and mezzanines safe with easy to install guardrails.

Fig. 2.17: Handrails

Source: http://bit.ly/2OkQMM9

Fig. 2.18: Caution Boards

Source: http://bit.ly/2zmYrDR

7. Miscellaneous Equipment: A wide range of goods fall into this category include: Floor signs, waste containers, chairs, shop stools, and tables). An automatic retrieval/storage system (AS/RS) is a combined computer-controlled storage system, which combines transport mechanism, storage medium, and controls with numerous levels of automation aimed at fast and perfect random storage of merchandises and materials.

Activities

Activity 1: Visit the warehouse and understand how to handle functional equipment's used at the period of binning process.

Material required: Check list, Notepad, pen /pencil, drawing sheet etc.

Procedure

1. Visit the nearest warehouse at your place.
2. Greet the peoples available at warehouse.
3. Enlist the equipment's used for binning.
4. Request people at warehouse to demonstrate the usages of equipment's.
5. List the process of handling the equipment's.
6. Discuss the things in a class learnt at warehouse.
7. Submit a note sheet of handling equipment's learnt at warehouse and collected images and Figures from various sources.
8. Teacher will conclude the session.

Activity 2: Fill the following chart in which picture of equipment is given and you has to write the name of equipment and uses of equipment

Material required: Check list, Notepad, pen /pencil, drawing sheet etc.

Procedure:

1. Take a printout of chart or draw a given chart in a paper
2. Name the equipment's listed in a chart
3. Use pencils
4. Name the equipment's
5. Write the uses of equipment's

S. N.	Picture of equipment	Name of equipment	Uses of equipment
1			
2			
3			
4			

5			
6			
7			

Check Your Progress

A. Fill in the Blanks

1. Handling equipment's deals with the _____ equipment used aimed at the movement, storing, control and shield of materials, and products through the process of Binning.
2. Transport equipment's are used to interchange _____ from one place to another.
3. Positioning equipment is utilized to handle material at a _____ location.
4. _____used for positioning of material.
5. Pallet is _____ equipment.

B. State whether the following statements are True or False

1. Material handling equipment cannot be classified in to any category
2. A pallet is positioning equipment.
3. The function of Warehouse stores is to only receive goods.
4. The use of equipment saves both our time and labour.

C. Multiple Choice Questions

1. Principle of 'Unit load' states that
   a) Materials should be moved in lots
   b) One unit should be moved at a time
   c) Both a) and b)
   d) None of the above
2. Fork lift truck is used for
   a) Lifting and lowering
   b) Vertical transportation
   c) Both a) and b)
   d) None of the above
3. Cranes are used for
   a) Lifting and lowering
   b) Vertical transportation
   c) Industrial goods
   d) All of these
4. Special purpose material handling equipment's are used in
   a) Process layout
   b) Line layout
   c) Both a) and b)
   d) None of the above
5. A good material-handling system will enhance the_____ in logistics.
   a) Productivity potential
   b) Efficiency
   c) Delivery reliability

d) Speed to market

D. Short Answer Questions

1. What type of handling equipment is used in warehouses?
2. What are the functions of transport equipment?
3. Make a list of safety equipment used in a warehouse.

E. Check Your Performance

1. Spell out the list of transport equipment.
2. Demonstrate how to operate material handling equipment with their Figures.

Session 2: Optimum Utilization Of Space

Have ever you heard someone say "the warehouse is at full capacity"? If you can open the door and walk in, it is not at complete potential. What the person is actually saying is that warehouse systems are by full capacity.

The issue in space scheduling is to give ways to utilize excellently and/or to upsurge usable cubic floor space in warehouse. As warehouse binner plan, always pay care to unused space overhead the systems he/she installs. Warehouse binner might not essential it now, but he/she should set up his/her systems to position its utilization in the future. Walkways are required, but they do leftover a huge cubic space. Typically, they lodge 60% of total cubic store space, and they may lodge much more. As he/she lay out their warehouse, keep the more number of aisles in a minimum space. Running aisles, the length of building in its place width usually decreases the number of mandatory aisles. How narrow the aisles will depend together on how much they can invest for the higher-priced machinery/equipment required for utilize in the narrow aisles then on their opinion of the protected operating such machinery/equipment in a congested-aisle environment.

SPACE PLANNING AT WAREHOUSE

The time to prepare, plan, and make required changes is now, when the warehouse space or its systems not yet reaches capacity. Warehouse binner should project their warehouse capacity desires five years keen on the forthcoming and update their projection annually. For the reason that the more number of line products he/she keep in warehouse is very expected increasing, ultimately they will reach the capability of their warehouse systems. By way of a rule, increasing a prevailing warehouse space takes for four to five years. Simply put, if warehouse binner fails to project their needs and to design a plan uninterruptedly to meet them, he/she is the person who declares the warehouse building is at complete capacity.

Warehouses are costly for companies to function. The cost of machinery, land, building, labour and the goods stored in warehouse would amount to a noteworthy sum of money. Most companies would interested to maximize the storage operation of warehouse, by streamlining the location and picking of goods, decreasing the time goods be located in the warehouse for storage, or automating as considerable as possible to decrease labour costs, whereas improving accuracy.

Companies can also decrease their costs and recover the effectiveness of their warehouse space by maximizing the place utilization, safeguarding that it is probable to store as more products as possible in topmost space.

IMPROVING SPACE

Consuming a large warehouse space is not always respectable business practice. A large warehouse space means that a commercially can store bulky items there, which completely have a cost related with them. In other words, a large warehouse space means the warehouse binner is not observing to consume space efficiently and which can cause unreasonably long travel times among locations, causing extra fuel costs, labour costs, and delays in filling or unloading trailers.

Smaller warehouses can cause firms to be more resourceful in their thinking that may lead to refining space utilization at warehouse leading to tiny travel times, enhanced loading and unloading as well as overall efficiency improvements. Space utilization can be improved by using following points –

- Warehouse place that is often ignored when warehouse space remains not an issue but to guarantee that warehouse space stays consistent with the goods to be stored. For example, if finished product is packaged in vessel 3 by 3 feet, at that moment the area where products are stored should imitate that size. The frame of bin position was designed to agree to take 4 by 4 feet box; there is a more empty space while a 3-foot four-sided box is engaged there.
- By creation that the bin place is suitable for product, the change can permitted up space in warehouse, and company is not extended paying money towards store air from place to place an item.
- Another area that would maximize space consumption is to use vessels in warehouse that turns the product that there stored. Quite often, a portion is not packed and will requirement to be positioned in a storage vessel before it is warehoused on the racks.
- Make the most of space utilization can benefit with keeping inventory noticeable and easy to locate. Some warehouses with inadequate space can cram products on a shelf that they believe is serving with space

utilization; nevertheless in fact, which can be damaging as some products can become inflexible to find if bigger items are positioned in front.

- We can develop a space use percentage in several ways. Often, we have to begin with a labour-intensive method, till the cubic capacity of the SKUs takes been calculated and accessible in computer system.

UTILIZATION OF STORAGE SPACE

The main important is to implement resolutions that improve storage and streamline dissemination.

1) **Select Space Effective Storage Equipment:** It can be cooperative to conduct a study of warehouse current inventory levels as well as cubic order action to find the maximum space efficient decision.
2) **Take Benefit of Vertical Space:** By way of storing up relatively than out warehouse binner eliminate unused vertical storage and create use of each cubic foot on the way to free up floor place for other uses.
3) **Design with Operator Safety in Mind:** In place of a system that may accommodate large, bulky items too heavy to be moved by hand, while ensuring the facility runs at peak efficiency, the answer is an automated storage and retrieval system (AS/RS).
4) **Consider Present and Prospect Needs:** Excellent inventory management systems, which offer the greatest tractability to meet the present and prospect demands of warehouse business.

Activities

Activity 1: Visit a warehouse and observe space utilization for storage activities and procedures.

Material required: Note Book, Pen/Pencil (The teacher has to fix a visit of the class to a warehouse for observation of space utilization in warehouse for storage activities and procedures)

Procedure:

1. Reach the warehouse along-with the class.
2. Meet Warehouse Binners/staff and greet them.
3. Take a round of the whole warehouse and note the spaces utilised for storage.
4. Look for the followings or ask the executive (s) and note:

S. No.	Activity or Situation/ questions	Observation /answer of questions asked to warehouse Binner
1.	What is the area of warehouse?	
2.	How much area is used for storage?	
3.	What are Methods of storing the goods for optimum utilization of space?	
4.	What are advantages and disadvantages of methods used by warehouse	
5.	If not optimum utilization of space is not done by warehouse then what is your suggestion	

5. What discrepancies in activity performed from record keeping?
6. Show answer of questions asked by you to the Binner and confirm.
7. Prepare a report on same and submit to the teacher

Activity 2: Make plan for space utilization in warehouse for storage activities and procedures.

Material required: Note Book, Pen/Pencil, Drawing Sheet, Make a group of 2-4 students

Procedure:

1. Take a white drawing sheet.
2. Assume an area of 500 square feet with the 30 feet height for storage.
3. Plan the space for goods to be stored.
4. Assume any type of goods to be stored.
5. Discuss the space with the help of teacher.
6. Submit the sheet to the teacher for valuation.

Check Your Progress

A. Fill in the Blanks

1. Use of _____space helps in optimum space utilization.
2. Optimum space utilization _____cost of warehouse.

3. Material handling becomes easy when _____space utilization is done.
4. _____movements kept in mind while planning for space utilization.
5. Workers _____should easy in warehouse.

B. State whether the following statements are True or False

1. Companies can also reduce their costs and improve the efficiency of their warehouse by maximizing the space utilization.
2. 100% area should be used for storage.
3. Un-systematic space plan slow the picking and delivery of goods to customer.
4. User safety is important while planning for space utilization.

C. Multiple Choice Questions

1. Which one of the following is not the solution for optimum utilization of available space in warehouse?

   a) Use of Vertical Space

   b) Use efficient storage equipment

   c) Use current and future need of goods stored

   d) All of the above

2. What is full form of SKUs

   a) Stock keeping unit

   b) Stock keeper in unit

   c) Stock out keeping unit

   d) None of these

3. Optimum space utilization is useful for-

   a) Cost saving

   b) Easy access

   c) Easy handling

   d) All of the above

4. Which of the following is not considering while planning for space utilization is useful?

   a) User safety

   b) Easy access of material handling equipment

c) Maximum storage

d) Worker resting time

D. Short Answer Questions

1. What is space utilization in warehouse?
2. What are solutions for optimum utilization of provided space?
3. What is importance of space utilization in warehousing?

E. Check Your Performance

1. Enlist the solutions for optimum utilization of available space.
2. Develop checklists for housekeeping activities conducted in your school.

Session 3: Report Discrepancies To Supervisor

A discrepancy in inventory stock management denotes to situations in that actual warehouse record or in-store inventory diverges from the registers of those inventories. At what time the expectation founded on records intended for inventory doesn't equal to the actual records of inventory called as discrepancy. These discrepancies must be reconciled (analysed, accounted and explained for). There are some standard stages maintain during investigation in store management that are planned to attack inventory warehouse stock discrepancies.

A discrepancy occurs if the actual volume of stocks on-hand stands different from the volume recorded in warehouse inventory system for particular product. This is a problem everyone task to keep and regulate inventory is met with. Discrepancies, if not detected or avoided, will bring about several results such as:

- damage of sales
- build-up of stocks
- customer dissatisfaction

THE COMMON REASONS OF DISCREPANCIES

Though most reasons of discrepancies can occur either be human mistake or procedural mistake, the list below resolve about possible root-causes. Though, keep in attention that there are further causes of discrepancies, which may not be recorded here, which may hang on the industry in addition method used in possession inventory records.

- Incorrect data entry for the period of receiving/inbound
- Misplaced stocks
- Inadequate handling of spoiled and returned stocks
- Stocks mixing and Stocks loss due to theft
- Human error for the period of stock takes process
- Incorrect product measurement used
- Not bring up-to-date the inventory system
- Stocks incorrectly labelled
- Stocks mistaken for same product
- Human error for the period of order processing (e.g. picking)
- Supplier fraud

AVOID DISCREPANCIES

The best way towards tackle discrepancies stays to endeavour to establish steps in the direction of avoid it from equal happening. General practices to escape discrepancies include:

1. Maintain records of stock and its locations. Especially supportive if binner require lot of produce lines (e.g. diverse coloured shirts with diverse styles and structures), a simple spread sheet, which contains all stocks then their corresponding storage places within the warehouse resolve finding stocks from a lot easier.
2. At all times, place similar stocks in one place. For instance, all sizes of shape (e.g. S-2XL, 3XL-9XL,) of a produce line (e.g. blue shirts) with the same style and design, should be put in the same location. Different product lines would be placed in same location, though clear boundaries have to be placed to discriminate one from other.
3. Establish passable (check) procedures and properly orient staff. Having a definite and well-thought system in every procedure will greatly upsurge work efficiency.
4. Staff training is also necessary so that procedures and processes are executed effectively.
5. Records entered all stock movements. When stocks are occupied from the inventory, the inventory system needs to be updated accordingly. The Stocks added in the inventory like returned products considered still suitable, re-worked products, mislabelled products, etc., and are

added en route for the inventory need to be recorder.

6. Continuously inspect other reasons of discrepancies. The more grounds of discrepancies are recognized, the better the structure of catching them will create. In certain cases, root-causes can actually be eliminated.

REPORT DISCREPANCIES TO THE SUPERVISOR

The utmost common way to detect stock discrepancies is by doing counting or tallying on a regular/cycle basis. How often this is done will depend is taking place the company's circumstances.

If discrepancies are found, accomplish the following steps below first before making any changes to the inventory system.

- Check for computation errors.
- Make sure the product tallied is correct.
- Stocks totalled may have been incorrect for a related product.
- Re-count the warehouse stocks with discrepancies.
- Check for mixed products. Particularly if products or packing is very similar to every other product, mixing can simply occur.
- Check for related stocks in other places. Though related stocks should be put together, there is quiet the possibility that related stocks may have existed misplaced.
- Make assured that the piece of measurements used is consistent.
- Verify unsettled orders. There may vital for find out unsettled orders that were billed buy not elite yet.
- Once the discrepancy has been situated with legalized and whether or wit out the root-cause have determined, it is quiet best to modernize the inventory level consequently.
- Report to the supervisor for same.

The process of identifying quality has been pragmatic for various decades. Superiority is the outcome of eliminating shortcomings. It is significant to avoid unclear quantity with quality. The people of warehousing, by nature of their occupations, deal in quantity-based activity. A highly productive warehouse procedure that has high fault rates, unsystematic and unreliable service could weaken to the point wherever quantity of productivity is less significant and poor quality. Therefore, proper counting and calculation of goods on time is very necessary.

Activity

Activity 1: Visit to a warehouse for observation of discrepancies in warehouse.

Material required: Note Book, Pen/Pencil, Check list (The teacher has to fix a visit of the class to a warehouse of the locality to understand about the discrepancies in ware house)

Procedure:

1. Reach the warehouse along-with the class.
2. Meet Warehouse Binners /staff and greet them.
3. Ask the following questions to the Binner/executive and write the answers-
   a) Which are discrepancies in ware house generally faced by them?
   b) What kind of process they adapt for reporting discrepancies to supervisor?
   c) What are the reasons behind the discrepancies?
   d) How are they avoiding discrepancies in ware house?
4. Show the notes to the Binner and confirm.
5. Prepare a report on the same and submit to the teacher.
6. Explain the report in class

Activity 2: Visit to a warehouse for identifies the discrepancies in warehouse.

Material required: Note Book, Pen/Pencil, Check list.

Procedure:

1. Reach the warehouse along-with the class.
2. Meet Warehouse Binners /staff and greet them.
3. Identifies the causes for discrepancies in warehouse and write the reasons-

   Misplace stock

   a) Meaning:

   .....

   .....

   b) How to find this discrepancy:

.....

.....

c) How to avoid this discrepancy:

.....

.....

Stocks incorrectly labeled

a) Meaning:

.....

.....

b) How to find this discrepancy:

.....

.....

c) How to avoid this discrepancy:

.....

.....

Stocks mixing

a) Meaning:

.....

.....

b) How to find this discrepancy:

.....

.....

c) How to avoid this discrepancy:

.....

.....

Check Your Progress

A. Fill in the Blanks

1. Record keeping is necessary for _____ products in efficient manner.
2. Scarp and waste materials are kept in separate_____ in warehouse.
3. Housekeeping inspection _____ can help prevent wounds and improve productivity.
4. Housekeeping record log book is to inspect staff _____.

B. State whether the following statements are True or False

1. Especially if packaging or products are much related to each other, fraternization can easily occur.
2. Similar warehouse stocks may have remained misplaced during storage.
3. Checklists are maintained in a warehouse to record activities.
4. No need to establish suitable procedures and properly orient staff
5. It is vital to avoid unclear quantity with superiority in warehousing.

C. Multiple Choice Questions

1. Discrepancies, if not detected or avoided, which of the subsequent is not result-
   a) Damage of sales
   b) Build-up of stocks
   c) Customer dissatisfaction
   d) Removing hazards
2. Which of the bellow is not a type of discrepancies?
   a) Stocks mixing
   b) Stocks loss due to theft
   c) Human error for the period of stock take process
   d) All of these
3. Which of the bellow is not for avoiding discrepancies?
   a) Use trained manpower
   b) Proper space planning
   c) Take care of company profit
   d) Good monitoring

D. Short Answer Questions

1. What are discrepancies in warehouse?
2. How can discrepancies be avoided?
3. What are the causes for discrepancies in warehouse?
4. How to report about discrepancies in warehouse to supervisor?

E. Check Your Performance

1. Enlist the discrepancies in warehouse.

2. Demonstrate the solution of discrepancies in warehouse.

Session 4: BINNING AS PER CLIENTS REQUIREMENTS

Storing the goods in a systematic manner into bins is obtainable in the warehouse. Space saving can be accomplished by process which is called 'binning'. Storage of goods could vary with requirement of clients and type of goods. Many a times the storage bins are available immediately for the regularly goods but at times the storage place and bins have to be allocated and designed for the goods that are rarely produced.

The six-step binning process is designed to help companies review their internal processes in the warehouse with a view to develop under used potential:

CLASSIFICATION OF INVENTORY AS PER CLIENT'S REQUIREMENTS

How exactly the inventory would be classified hang on a whole sort of factors as per client. The key features to deliberate in classifying the inventory are the size as well as weight of the stock filled goods and the occurrence with that they are retrieved.

ALLOCATING THE RIGHT STORAGE SOLUTIONS TO THE INVENTORY

Steps to be followed by a binner, to organize the storage of inventory, this helps them to know the location of the goods stored.

a. Sticker all product with an information as label (as per client's requirements) - This ensures that when inventory clerks are going through their inventory, they can easily track and store it. For example, if their inventory is labelled by stock-keeping unit (SKU) number and labelled as such, along with the type of product and a description, then when warehouse binner is searching for products, he/she can look agreeing to labels, instead of guessing at what you need.

b. Put similar products in the same place. When inventory clerks have an abundance of inventory, it helps to keep the same types of products in the same place, so that warehouse binner can more easily find what he/she need. For instance, if he/she is wandering around the warehouse looking for microwaves.

c. Stack items vertically as a replacement of horizontally. This saves space in warehouse and creates it look neater, meanwhile boxes and products would be neatly loaded on one another. Exception to this exists furniture and utilizations, which must frequently be situated one after the other. However, if we keep products together, this should still make for an orderly warehouse.

d. Keep walkway clear. The more cluttered the warehouse with walkway are the stiffer it will be on the way to find what warehouse binner need. Assign one individual to keep aisles perfect. At any given period, any staff member should be capable to walk through the warehouse looking for something without running into roadblocks in the aisles.

e. Place digital images on boxes so warehouse binner know what is there inside the boxes. Clutter and messiness is made when he/she have half-open boxes since warehouse binner had to see inside of each box to control what's inside. If he/she have a digital picture on the each box, the necessity to do this be there eliminated and every box can be closed, making for more systematic warehouse space.

AUTOMATING PROCESSES

Larger quantities of products can be stored then retrieved more speedily and with greater exactness with the assistance of automated processes, in that way significantly increasing productivity. The advantages include:

a) Fewer spaces needed acknowledges to the usage of high storage that makes optimal usage of the available ceiling height

b) Higher picking correctness of up to maximum level.

c) Better monitoring and managing options acknowledges to software-based control systems.

d) Superior inventory management – least stock levels and lost stock are recognized more quickly.

e) Better-quality ergonomics in the workstation, because the products are transported straight to the warehouse. This puts a stop to recurrent lifting and winding movements.

IDENTIFYING THE OPTIMAL STORAGE LOCATION FOR GOODS

The better the way in which the various goods are stored, the more efficiently their retrieval can be managed. In addition, the width of storage space required and the distance occupied by employees can exist minimized through skilful distribution of the products. This also brings about progresses in terms of:

a) Recovery times

b) Picking accuracy

c) Work processes

d) Search times

However, in direction to find the ideal position for each specific product surrounded by the warehouse, more data is mandatory in addition to statistics about the goods (weight, size, etc.):

a) Retrieval frequency

b) Number of recover units in each case

c) Number of units to be stored

d) Product-specific storage requirements

e) Turn around frequency

f) Warehouse management software then allocates the optimal location to the goods based on this data.

OPTIMIZING PICKING PROCESSES

Once the goods require classifying and assigned towards the right storage structure, the picking procedure has to be enhanced. This is of particular interest to e-commerce businesses, because thousands of products are picked every day and even small improvements can thus make a significant difference. Three selection strategies in specific can be mentioned here:

a) The creation of lots (batch picking) exists a noble way of beginning processes more efficiently. Particularly in case of products which are recovered less often, pick them in a lot presents an imaginary opportunity to protect time, for the warehouse employee would work through several guidelines on one single voyage.

b) Zone picking offers an opportunity to split the storage area mad about various segments (zones) and assign separate employees to every zone. Here they process the separate orders, but solitarily the products placed within the zone near which they have existed assigned. Afterwards the placed order is passed on en route for the next segment where once again the relevant goods are picked.

c) Parallel picking the combination of both strategies outlined above is known as parallel picking. Here the individual orders are processed at the similar time in all zones and forwarded to a central station where they are put together ready for shipping. Due to its complex structure, this approach is mainly suitable for firms which holder a large quantum of orders on daily basis and requires a comprehensive assortment of stock which needs diverse storage systems and zones.

IMPLEMENTING A COMPREHENSIVE SOFTWARE SOLUTION

This is finally about carrying the various prevailing software solutions in organized warehouse with in one roof. The firm's ERP (Enterprise Resource Planning) systems necessary to merged with the databases for monitoring the storage in warehouse and excellently tuning the picking progressions.

After all, only while all the systems remain linked in a technique that allows warehouse binner to communicate efficiently with his/her supervisor and be

retrieved centrally can the progressions within the warehouse and be present transparently organized and professionally managed. This binning process is very much successful and productive in warehouse management.

Activities

Activity 1: Visit to a warehouse ensuring binning as per client's requirements.

Material required: Checklist to Visit notes, notebook and pen/pencils

Procedure:

1. Visit to a warehouse near your location.
2. Take a note of their activities, functions and keenly observe the premises.
3. Mention the appropriate option (Yes, No and give reasons/remarks)

S. No	Activity and Functions	Yes	No	Reasons/ Remarks
1	Looking at the records, are the goods received regularly at the warehouse.			
2	Do they maintain format for the inward/outward of goods.			
3	Is the procedure of inward/outward clear with all the needed information?			
4	Is the location of the storage clean and tidy?			
5	Are the staffs responsible at storage bins?			
6	Did you observe any uncleanness in the warehouse?			
7	Is the storage in to bins made as per the inventory list?			
8	Is the inventory data recorded and maintained systematically?			
9	Is there any professional development training given to the staff if needed?			

10	Is the work done at Binner level properly recorded at managerial level?			
11	Is there any efficiency report maintained in use of materials and labour?			

Activity 2: Prepare an assignment on following questions

Material required: Checklist to Visit notes, notebook and pen/pencils

Procedure:

1. Make an assignment using various sources
2. Draw or paste Figures if possible
3. Submit it to the teacher

Make the assignment on following questions:

a) What is process for binning in warehouse

_____

_____

_____

b) Are Packing, Labelling and coding differences and colours, signs and symbols required involved in the binning while ensuring clients requirement.

_____

_____

_____

c) What is your suggestion for ensuring binning as per client's requirements?

_____

_____

_____

_____

Check Your Progress

A. Fill in the Blanks

1. Binner is the individual whose role is to _____ in to the storage bins, according to an inventory list.
2. Binner at times responsible for moving cargo, repacking and _____ the items.

3. The key topographies to consider in classifying the inventory are the _____and _____ of the stored goods.
4. Larger quantities of products can store and recovered more rapidly and with greater correctness with the assistance of_____ thereby significantly processes, increasing productivity.

B. State whether the following statements are True or False

1. Bread is kept in a dust/rubbish bin.
2. The storage of the goods could vary based on the requirement and type of goods.
3. Warehouse Clerk is an individual whose role is to bin/store the items into the storage bins.
4. It is not necessary to put similar items at the same place.

C. Multiple Choice Questions

1. Which are the key competencies of a Warehouse Binner?
   a) Knowledge of the types of goods being handle
   b) Understanding the methods, sequence and materials
   c) In-depth knowledge of the procedures
   d) All of these
2. Allocating right storage solutions to the inventory means;
   a) Putting like products in the same place
   b) Contacting the right company for storage
   c) Unloading the products properly
   d) None of these
3. Automating processes is;
   a) Higher picking truthfulness of up to 99.9%.
   b) Improved checking and management options acknowledges towards software-assisted control structures.
   c) Enhanced inventory management – least stock levels and lost stock are recognized more quickly.
   d) All of these
4. Picking method of dividing the storage place into various sections is known as;
   a) Batch Picking

b) Zone Picking

c) Parallel Picking

d) None of these

D. Match the Columns

	Column A		**Column B**
1	Binner	**a**	Working knowledge of technology/equipment used for scanning products and binning goods.
2	Competencies of a Binner	**b**	Sticker all product with an information label
3	Track and store	**c**	Higher picking correctness of up to 99.9%
4	Automating processes	**d**	to bin/store the items into the storage bins according to an inventory list

E. Short Answer Questions

1. How the goods received at warehouse can be classified?
2. Explain importance of binning process at warehouse?
3. State the functions of a Binner?

F. Check Your Performance

1. Spell out observations and suggestions from the practical session in visit to warehouse.
2. Mention end to end procedures followed in the warehouse while performing goods inward and outward activity.
3. Demonstrate key competencies that each student possesses after the practical session.

MODULE 3	HOUSE-KEEPING ACTIVITIES

Module Overview

Housekeeping need to pay attention to layout of workplace, aisle marking, sufficient storage facilities and maintenance. An effective housekeeping is continuous operation and requires certain practices to be adopted to attain the best results and performance.

The role of a Binner is very crucial in respect to the housekeeping activities carried out in the warehouse. The Binner must be very alert to sort options to clean up out-of-the-way places too, such as shelves, basements, sheds, and boiler rooms. The orderly arrangement of operations, tools, equipment and supplies is also an key part of good housekeeping program. Timely scheduling the activities to be performed also defines the responsiveness and proactive nature of the Binner. Many times there are very minute errors which, when not taken care on time, can create unwanted risks and can also reflect to the negligence part in housekeeping activity. Such situations cause a negative impression upon the working profile in the warehouse organization.

The most effective part of any housekeeping program is inspection. It is the only way to check for deficiencies in the activities completed so that changes can be made. The documents on workplace inspection provide the checklists of work finished while performing the post housekeeping activity.

This module consists of four sessions dealing with best housekeeping practices and also in maintaining a standard level of proficiency in dealing with all the activities involved in warehouse management.

The first session covers the preparations for housekeeping and spotlight to have a clean and hygiene practices by maintaining a clean environment. Second session deals with tools and equipment's for housekeeping. Third session focuses on performing daily housekeeping activities. Fourth session specifies about managing the post housekeeping activity.

Learning Outcomes

After completing this module, you will be able to:

- To understand how to effectively prepare for housekeeping tasks by organizing supplies and planning their activities to ensure efficiency and thoroughness.

- To identify and correctly use various tools and equipment essential for housekeeping, ensuring their effective and safe use.
- To gain the ability to perform a range of housekeeping activities, including cleaning, organizing, and maintaining spaces, to a high standard.
- To learn the proper post-cleaning procedures, including tool maintenance, waste disposal, and final inspections to ensure the quality and safety of the cleaned areas.

Module Structure

Session 1: Preparations for Housekeeping Activities

Housekeeping is a major activity in any business that adds spotlight to have a clean and hygiene practices by maintaining a clean environment. In a warehouse, person responsible for care taking the housekeeping process must be aware of keeping work areas neat, clean and remove waste materials (like paper, cardboard, etc.) and other fire hazards at workplace.

Fig. 3.1: Preparation for housekeeping activities

Source: t.ly/S0Gq

INSPECTION OF AREA FOR CLEANING

While inspecting the area for cleaning; one should ensure that the material is loaded securely, blocked or interlocked. All storage areas are marked. All workers must know procedure of material handling and storage. Materials are stored in place that does not hinder for workers or flow of materials. Hazardous materials are stored in appropriate containers and keep far from fire sources.

Cleaning is the process of get rid of dust, dirt and any other undesirable things like stains, contents of ashtray, spots, etc.

There are many areas in a warehouse that considered for cleaning, including:

- Floors
- Furniture and other surfaces
- Articles and accessories
- Tiles, sinks, toilets
- Drains

MATERIAL REQUIRED FOR CLEANING

Cleaning materials used will vary for each product depending on the suitability and adaptability of product category and premises conditions. Multi-products of similar category kept in same racks / storage shelves can be cleaned with similar cleaning agents. Materials utilized for cleaning must be of perfect quality, so that no hindrance or hazards be caused.

For example – If racks with plastic products are kept then easy vaporizing cleaning agents must be used and if racks are arranged with iron / metal

Products then non-moist cleaning must be done, to avoid oxidation / erosion of products.

- **Risk:** Cleaning chemicals often are hazardous and can be identified as such from the label. Many tools or items of equipment requiring cleaning are equipped with guards to protect the operator. Equipment should never be operated without the guard in place and the manufacturer's guidelines must be followed to ensure safe use of equipment.
- **Time:** This is not possible to clean rooms completely by removing all the furniture every day. Because that would require lot of time and labour which cannot be devoted every day. Then how to do the cleaning? For this, it is essential to follow a certain schedule of cleaning.

  Every day, a general cleaning of the open surfaces like floors, furniture and other such surfaces is required. Once in a month, deep cleaning does and probably move heavy furniture and cleans under the carpets.

Once in half yearly or yearly, clean the room by removing whole furniture and washing, polishing, washing walls, ceiling etc.

- **Efficiency:** It should kept in mind the competence and effectiveness of workers, equipment's and cleaning material at the time of preparing the cleaning schedule.
- **Type of Stain:** Chemical, Milk or Egg Products, Blood, Ink- Ballpoint, Ink- Felt Pen, Perspiration, Deodorants, Mayonnaise, Scorching, Margarine, Mildew, Grease, Butter, Oil, Ice Cream, Chocolate, Cosmetics, Gravy, Ketchup, Mustard, Other Tomato-Based Products, Fruit-Flavoured Drinks, Juices, Vitamins, Liquid Pain Relievers.

All housekeeping equipment must be stored safely and securely and according to the manufacturer's instructions where appropriate. This will ensure a safe environment for staff, customers and any other visitors to the store. Cleaning equipment varies from store to store. However, some equipment is used in all retail outlets.

ALTERNATIVES OF CLEANING

Housekeeping means keeping work place neat and organized. It keeps floors free from slip hazards. It removes waste materials like paper, cardboard and other hazards like fire from workplace. It pays attention to essential information like layout of workplace, aisle marking, maintenance and adequacy of storage facilities. The basic part of good housekeeping is prevention from accident and fire.

Good housekeeping reduces accidents and injuries in workplace. Employees can build safe workplace by knowing and adopting safety habits, work environment awareness and dangers related with it.

CLEANING EQUIPMENTS

The housekeeper will come across with following equipment's during process of cleaning.

a) **Duster:** It is made by soft cotton, flannel or synthetic feathers attached on stick. It is use to clean dust and wiping various surfaces. Housekeeper should use different dusters for dusting different surfaces like mirrors, kitchen slabs, dining table, etc. It should be wash and dry after use.

b) **Dustpan:** It is made by plastic. It is rounded at sides. It is useful in taking dust particles in it after sweeping with the help of broom. Dustpans help in collecting dust particles from each room separately and disposed it simultaneously. Dustpans must clean after use.

c) **Mop:** It is made of thick woven cotton cloth. It is used to wipe dust from floors. It dipped in clean water and squeezed before wiping the floors.

Housekeeper must change water after each mopping. Housekeeper should wash mop and spread for drying after use.

d) **Polishing cloth:** It is made of soft absorbent cloth such as flannel. Dry polishing cloth supports to clean and shine surfaces by rubbing.

e) **Broom:** These are soft and also available in hard. The soft brooms use to sweep floors whereas hard broom used to wash floors.

f) **Brushes:** It is available in various sizes and shapes. It is made of different materials. Different brushes are used for specific purpose. Nylon or plastic bristles brushes are used for cleaning carpets or furniture. Metal brushes are used to clean wire mesh in the windows. Round feather brushes are used to remove dusts. Housekeeper has special nylon brushes to clean toilets.

g) **Buckets or basins:** Metal or plastic buckets with suitable sizes use for carry water, detergents and chemicals so that there will be no spills.

h) **Dustbins:** It is available in plastic with a lid. It must line with paper so that garbage does not stick on surface. All contents must remove and wash daily.

i) **Vacuum cleaner:** It works on electricity and has a fan. This sucks dirt and dust from the surfaces and stores it in a disposable bag inside. Dust must be removed regularly.

Fig. 3.2: Cleaning Equipments

CLEANING MATERIAL

There are various types of materials and mixtures, which use for cleaning, rubbing and polishing surfaces. Housekeeper must be familiar with commercial preparations for cleaning. Some of them are.

- Water
- Detergents
- Abrasives
- Acids
- Alkalis
- Bleaches
- Solvents
- Polishes

PERSON

Housekeeping actions such as cleaning and pest control, even though they are planned, are generally regarded as part of routine day-to-day operations rather than maintenance – a clean bin is not necessarily a well-maintained bin.

To maintain the housekeeping workforce management can appoint different person like:

1. Housekeeping Associate
2. **Housekeeping Supervisor**

SEQUENCE OF CLEANING

1. Develop draft procedures to ensure all materials are defined. It included procedures, keeping in mind order of cleaning process and also cleaned equipment are not being re-contaminated by successive cleaning activity.
2. Validate draft procedures and confirm required level of cleaning is met, as per step-1.
3. Finalize procedures and associated documentation, such as records of cleaning, sign off etc.
4. Relevant staff to be trained for maintaining systematic cleaning process.
5. Complete on-going monitoring and verification.

WHY WE SEQUENCE CLEANING PROCESS?

Develop effective cleaning procedure is very important. The procedures designed for specific area. A common standard procedure can provide effective standard of cleaning.

Set essential standard of cleaning as per legislation, customer desires, industry best practice etc.

Activities

Activity 1: Visit a warehouse near your location for observation of inspections of area for cleaning.

Material required: Check list, Notepad, pen /pencil, etc.

Procedure:

1. Reach the warehouse in time with group members.
2. Meet the executive, greet them and tell the purpose of visit.

3. Note the following with their help -

a) How they identify the area for cleaning? Know the process.

b) Are there any systematic procedures for cleaning?

Yes ( ) No ( )

c) What is the sequence involved in cleaning processes?

d) Is the Binner aware about cleaning equipment's? Make a list of cleaning equipment's.

Yes ( ) No ( )

e) What kinds of stain are there?

Activity 2: Demonstrate how to check equipment.

Material required: Check list, Notepad, pen /pencil, drawing sheet etc.

Procedure:

Carry out the following during activities your visit in warehouse and take the help of supervisor

1. List the equipment use for cleaning in warehouse.

2. Understand working condition of equipment and note down.
3. Follow the procedure to check the equipment's.
4. Make sure about your work completion.
5. Discuss the notes with the classmates in front of your teacher.
6. Write the conclusion of it, in the guidance of teacher.

Activity 3: List out of the sequence of cleaning.

Material required: Text-Book, reading material/notes, Notepad, pen /pencil, drawing sheet etc.

Procedure:

1. Listing the sequence of cleaning
2. Match it with other student of your class
3. Make correction if needed
4. Get it checked with the teacher

Check Your Progress

A. Fill in the Blanks

1. A role of a Binner is very crucial in respect to the _____carried out in the warehouse.
2. Hazardous materials are stored in _____ and away from _____ sources.
3. Set required standard of _____ to consider legislation, customer requirements.
4. Cleaning chemicals often are _____ and can be identified as such from the _____.
5. Relevant staff to be trained for maintaining systematic _____.

B) Multiple Choice Questions

1. Which one is not a type of stain?
   a) Tomato-Based Products
   b) Fruit-Flavoured Drinks
   c) Juices, Vitamins
   d) Liquid Pain Relievers

e) None of these

2. Which one is not a common equipment of cleaning?
   a) Vehicle
   b) Trolleys
   c) Hazard Warning Signs
   d) Ladders
   e) Cleaning Chemicals
3. Complete ongoing monitoring and verification is
   a) The documentation process
   b) Process to arrange the good
   c) A sequence process
   d) Record keeping procedure
   e) None of the above
4. Which is not the area in store that needs to be considered for cleaning?
   a) Point of sale area
   b) Counters
   c) Walkways/aisles
   d) Merchandise
   e) None of the above
5. Housekeeping is a major activity in any business that not adds spotlight to have a
   a) Clean and hygiene practices
   b) Maintaining a clean environment
   c) Keeping work areas neat and orderly
   d) Removing of waste materials
   e) None of the above

C. Short Answer Questions

1. Why we sequence the cleaning process?
2. Is good safety housekeeping reduce accidents and injuries in any type of work environment?
3. While inspecting the area for cleaning; one should ensure that the material is loaded securely, blocked or interlocked, why?

D. Check Your Performance

1. Prepare a chart of cleaning equipment.
2. Demonstrate the sequence of cleaning.

Session 2: Tools and Equipment's for Housekeeping

Effective housekeeping can eliminate some workplace hazards and help get a job done safely and properly. Poor housekeeping is responsible for accidents by hiding dangers that cause injuries.

USE OF EQUIPMENT'S AND TOOLS FOR CLEANING

It is a broad term that is used for both indoor cleaning as well as outdoor tasks like washing windows, sweeping doormats etc. Workplace cleanliness is a key part of warehouse.

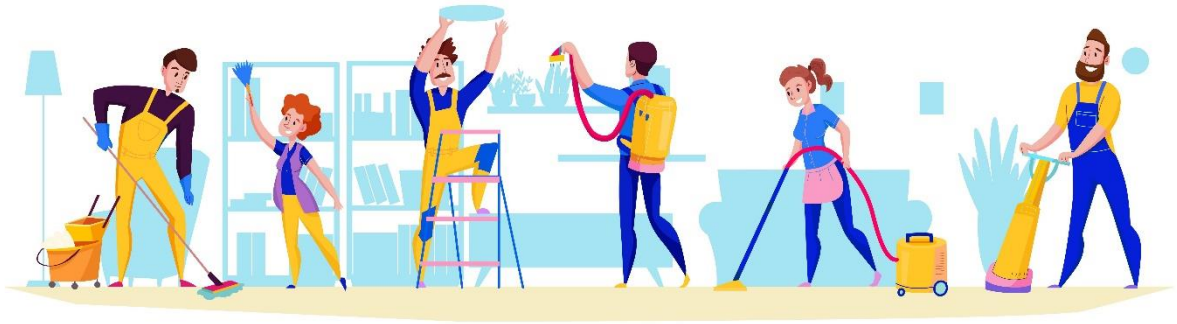


Fig. 3.3: Housekeeping Activities

Source: t.ly/EK17

Housekeeping includes workplace must be neat, clean, organised. It helps in maintaining halls and floors slip free. Good housekeeping also reduces hazards and removing waste materials like paper, cardboard. It needs giving attention to essential details like workplace layout, aisle marking, the adequacy of storage facilities, and maintenance.

CHECK THE EQUIPMENTS

The equipment that is used for cleaning and other purpose of work must be always in a ready to use condition. Ensure that there is no shortfall of the supplies or equipment's. Supervisor has to confirm that all the cleaning equipment's are in good working order, with all necessary guards or safety features operational or in place. All the equipment's, tools and machinery are inspected regularly for wear and leaks. These equipment's, machines and tools are cleaned regularly.

REPORT OF CLEANING TO THE RESPONSIBLE PERSON

The role of a Binner is very crucial in housekeeping activities carried out in the warehouse. The Binner must be alert to sort options to clean up out-of-the-way places too, such as shelves, basements, sheds, and boiler rooms. The organized agreement of functions, tools, equipment, and provides is also a significant part of a good house cleaning program. Timely scheduling the activities to be performed also defines the responsiveness and proactive nature of the Binner. Many times, there are very minute errors which, when not taken care on time, create unwanted risks and can also reflect to the negligence part in housekeeping activity. Such situations cause a negative impression upon the working profile in the warehouse organization.

Therefore, the Binner must be aware with the procedures of cleaning in the warehouses. Proper recordkeeping of the housekeeping and know the procedure to submit the report of cleaning to the superior authority.

SIGNAGE AND ITS IMPORTANTANCE AND TYPES

These are various signs that are out across in the warehouse which caution the worker about the safety rules to be followed in that area. It helps in saving the workers from the potential hazard such as slipping, tripping, chemical reaction etc.

Fig. 3.4(a): Safety Sign **3.4(b): Safety Sig**

NEED OF VENTILATION

Proper ventilation is a key to maintaining safe working environment in a warehouse. To maintaining suitable temperature, it is suggested that sufficient ventilation must provide. Furthermore, store room must free from un-insulated steam and water pipes, water heaters, transformers, refrigeration condensing units, steam generators or other heat producing equipment.

PERSONAL PROTECTIVE EQUIPMENT'S (PPE'S)

Personal protective equipment (PPE) is used to protect the employee's body from injury. These include protective cloths, helmets, goggles, equipment etc.

Protective equipment's helps in overcoming hazards like chemicals, physical, electrical, biohazards, and airborne particulate matter.

These are used as per the specifications or requirements. For example, if one is working in a high intensity light area, should wear protective glasses. If one is handling food, then he/ she must wear an apron and polythene gloves for maintaining hygiene.

- Save from any potential risks of accident or collision.
- Saves from any biological hazard such as allergies, asthma, cut/wound, infection etc.
- Provides a safe working environment in the warehouse.
- Helps in fulfilling the work norms.

Fig. 3.5: PPE in warehousing operations

TYPES OF PPE'S

Following are equipment used for safety:

1. **Safety vest/jackets:** It is used when working around moving equipment such as forklifts and vehicles.
2. **Work gloves and safety shoes:** These are used when handling garbage or working in storage areas.
3. **Disposable gloves:** Disposable gloves should be worn when working in a grocery or cleaning bathrooms.

4. **Cut-resistant gloves:** These should be worn while using knives and sharp equipment or during cleaning operations also.
5. **Eye protection and gloves:** These can be worn for protection from excessive light and chemicals.
6. **Hearing protection:** It is worn for protection from loud noise.
7. **Safety Boots:** It is worn for toe protection. It could be from wet and slippery floor, electric shocks.

Fig. 3.6: Types of PPE

Activities

Activity 1: Visit a warehouse to understand that what types of tools and equipment's used in housekeeping activates.

Material required: Check list, Notepad, pen /pencil, drawing sheet etc.

Procedure

1. Make following observations and prepare notes in the guidance of supervisor.

a) What kind of tools and equipment's are used in the housekeeping?

_____

_____

b) What is the procedure to check the equipment's before use?

c) How is the Binner trained for using the equipment's?

d) What kind of signage is use and what its importance?

e) Why ventilation is required in a warehouse?

2. Discuss the notes with your classmates and make the corrections if needed
3. Write the conclusion of it, in the guidance of teacher.
4. Prepare a report and submit to your teacher.

Activity 2: Ascertain Signage used in housekeeping activities

Material required: Check list, Notepad, pen /pencil, drawing sheet etc.

Procedure:

1. Prepare a chart of signage used in housekeeping activities in warehouse.
2. Write the use of each kind of signage in front of it in the list.
3. Make a practical exercise with classmates.
4. Discuss with the other student in the class in group.
5. Prepare a report and submit to your teacher.

Activity 3: List out the equipment's and tools of personal protective equipment (PPE)

Material required: Check list, Notepad, pen /pencil, drawing sheet etc.

Procedure:

1. Prepare a list of the personal protective equipment and tools of PPE.
2. Write their use and importance.
3. Make a practical exercise with classmates.
4. Discuss the notes with other students in the class.
5. Prepare a report and submit to your teacher.

Check Your Progress

A. Fill in the Blanks

1. _____are used when handling garbage or working in storage areas.
2. _____is worn for toe protection. It could be from wet and slippery floor, electric shocks.
3. Benefits of using _____save from any potential risks of accident or collision.
4. Proper _____is a key to maintaining safe working environment in a warehouse.
5. The equipment that is used for cleaning and other purpose of work must be always in a _____.

B. State whether the following statements are true or false

1. Good safety housekeeping reduces accidents and injuries in any type of work environment.
2. Cut-resistant gloves are used when handling garbage or working in storage areas.
3. Safety vest/jackets can be worn for protection from excessive light and chemicals.
4. Ventilation is not necessary to maintaining safe working environment in a warehouse.

C. Short Answer Questions

1. What are the benefits of using PPEs?
2. Why there is a need of ventilation in warehouse?
3. How signage can prevent accident in warehouse?
4. Why checking of tools and equipment's is require before housekeeping activities?

D. Check Your Performance

1. Prepare a chart of PPE.
2. Make a list of tools and equipment's use in housekeeping.
3. Write a note on good safety housekeeping reduce accidents.

Session 3: Housekeeping Activities

Cleaning the storage premises in a warehouse is usually a necessary process in each industry. Several companies involved in warehouse cleaning, maintain a clean environment to keep the storages as well as adhere to standards in having an eco-friendly premise on regular basis. So, understanding process of cleaning in warehouse along with pest control management must carry with much care and safety. There are four major types of warehouses – that stores food products (refrigerated or canned), non-food products (FMCG products, furniture, etc.), and metallic products and chemicals products. As a result, thorough cleaning of warehouses is extremely important.

Fig. 3.7: Cleaning a warehouse

Source: t.ly/5Mmq

Looking upon the need of cleaning process, it is important to focus on the procedures that are included in cleaning techniques, and the products such as the equipment, building or the premises that needs cleaning, or how often these needs to be cleaned and what are the methods used for cleaning.

Specific attention is desirable when there are similar items, to ensure that cleaning on correct schedule. Cleaning instructions focus on step-by-step process followed by staff for correct and safe dismantling of equipment and

other pre-cleaning activity such as disconnecting electric supply whenever required is to be dealt carefully. Cleaning frequency is on daily, weekly, monthly or annually basis is scheduled and recorded to mention the activity is completed. For example, a daily cleaning may be at end of a shift. But if it is a cleaning of equipment, it requires different stages of cleaning, like daily clean and a weekly deep clean.

The requirements must detail separately. The detail information of chemicals should include handling instructions. The equipment used during cleaning activity, such as mops, brushes, cloths etc. should also be detailed and recorded along-with staff who is responsible for complete cleaning, supervision and verification activity.

METHODS OF CLEANING

In cleaning process dust and dirt can be removed by dusting, mopping etc. Based on these the cleaning methods can be described as follows:

Dusting: When any area or place is wiped with dry cloth, it moves dust through it and this process is called dusting. It should clean with soft cloth.

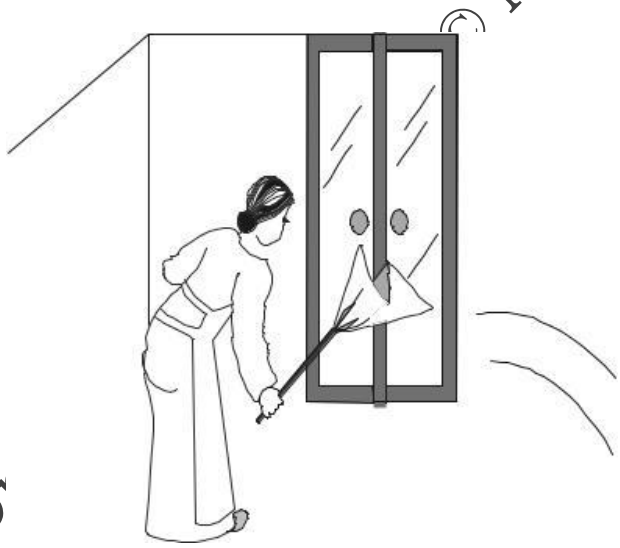


Fig. 3.8: Dusting with a cloth

Shaking and Beating: When dust freeze on goods like clothes and when we beat with soft material, dust fall down. This is called as shaking and beating process. Generally we adopt this process in open space so that other things not disturb.

Fig. 3.9: Carpet being beaten

Sweeping: When broom used to carry dust from floor of room, the process is called sweeping. When we sweep a wall we should be careful to sweep from top to bottom. Likewise for horizontal sweeping of floors, start from one end to another end of room. Dust collect in a dustpan. All portable items keep on floor can be lifted, swept under, and kept back in place.

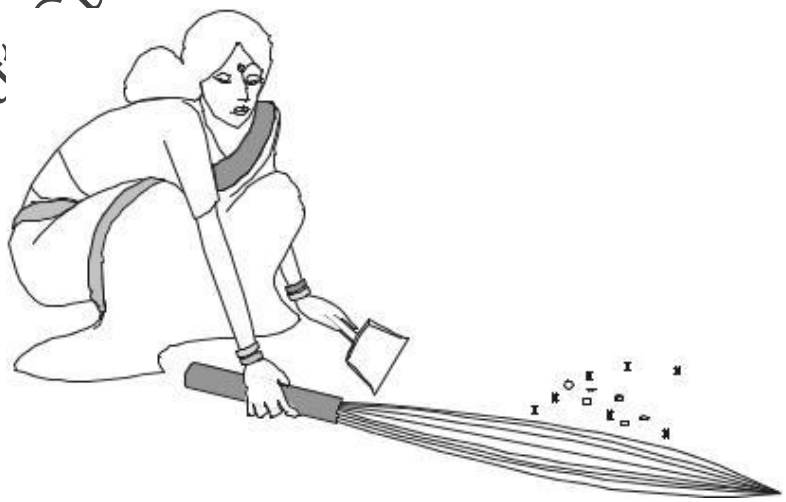


Fig. 3.10: Sweeping the floor

Mopping: Wiping a surface with wet cloth is called 'mopping'. The piece of cloth used is known as 'mop'. It is mostly thicker than duster. Mopping help in removing dust and dirt easily. Mopping is done on floors only. Extra care need in corners and angles if not stain gets tougher.

Fig. 3.11: Mopping

Washing: Mopping alone is not adequate to get rid of dirt. Sometime planes are scrubbed with a yard (bamboo) broom and water. Ultimately the dirt unties and passed off by water. This process is called 'washing'. When stains are tougher detergent add into water.

Fig 3.12: Floor being washed

Polishing: When some component uses for shine, it called polishing. The substance applied is called 'polish'. Likewise, many decorative articles made of wood, marble, brass, etc., may be polished.

Fig. 3.13: Polishing a statue

Identification of cleaning materials / agents

Cleaning materials used will vary for each product depending on the suitability and adaptability of product category and premises conditions. Multi-products of similar category kept in same racks / storage shelves can be cleaned with similar cleaning agents. Materials utilized for cleaning must be of perfect quality, so that no hindrance or hazards be caused.

For example – If racks with plastic products are kept then easy vaporizing, cleaning agents must be used and if racks are arranged with iron / metal products then non-moist cleaning must be done, to avoid oxidation / erosion of products.

1. Scheduling of cleaning process systematically

There is a pre-defined process carried out for cleaning of the warehouse. Cleaning procedures in a standard process includes the following:

a. responsibility for cleaning

b. item/area to be cleaned

c. frequency of cleaning

d. cleaning method, including dismantling equipment for cleaning purposes

e. cleaning materials, such as chemicals and concentrations to be used

f. verification of cleaning records

The regularity and ways of cleaning based on risk. The procedures implemented for suitable cleaning standards are achieved to ensure the cleaning activities carried out steadily and systematically. This will prevent possible dangers including chemical, microbiological, allergen contamination which is resulted from dirty equipment's and environment.

2. Documenting all cleaning process carried out

This documentation will help the Binner to:

a. Ensure all related areas and equipment is included within the schedule.

b. Make sure required cleaning standards are well-defined so that warehouse supervisor has reliable cleaning activities.

c. Make sure there is constant compliance with related hygiene legislation.

d. Train staff effectively.

It is important to understand that cleaning schedule is a standalone document, and is also a useful guide that can be used to identify hygiene standards adopted, risk assessment and records, such as information of chemical use, verification activity and other relevant cleaning records.

Importance of Cleaning Procedures and Schedules

Developed an effective cleaning procedure for an effective cleaning is very important. The procedures are planned for the particular article, area or site. A generic, off-the-shelf procedure can guarantee adequate standard of cleaning. For example, a similar workplace bakery products needs to be treated differently from meat handling area. This requirement can assess during the development and risk calculation stage. In addition to this, it is necessary to think about difficulty in process/equipment, products manufactured types, and how easy it is to remove remains, and the requirement to manage exact hazards e.g. specific micro-organisms or allergens. Cleaning procedure involves few simple steps:

Step 1: Set necessary cleaning standard as per legislation like customer necessities, industry top practice etc. The factor of risk assessment helps to reflect prevention of uncleanness from previous products, address possible microbiological, chemical or allergen concerns.

Step 2: Design draft procedures to ensure all items / areas / equipment are well defined including the procedures, keeping in mind order of

cleaning process and also the cleaned equipment are not being re-contaminated by consequent cleaning activity.

Step 3: Certify draft procedures to approve the required level of cleaning is met, as per step-1.

Step 4: Finalize procedures and associated documentation, such as cleaning records and sign off.

Step 5: Relevant staff to be trained for maintaining systematic cleaning process.

Step 6: Complete ongoing monitoring and verification.

Identify the preventive measures for clean storage -

Few preventive measures are taken up for clean storage of materials. Employers should make cleaners aware of preventive measure about the materials height and weight, how accessible the stored materials and the condition of the storage space where the materials are being stored while stacking and piling materials are done. To prevent hazards when keeping materials, following measures must be taken:

a. Keep storage spaces free from stored materials that resulted into fires or outbursts.

b. Place stored goods inside warehouse at least 6 feet away from elevator to floor openings and at least 10 feet away from exterior walls;

c. Separate non-compatible material; and

d. Equip employees with suitable equipment.

In addition to this, cleaners should consider placing bound material on racks, and secure it by stacking, blocking, or interlocking to prevent it from sliding, falling, or collapsing.

Fig. 3.14: Placing the material on Racks

Source: t.ly/J8XC

PRECAUTIONARY MEASURES TAKEN DURING CLEAN STORAGE PROCESS FOR STACKED MATERIALS

Stacking materials can be risky if safety guidelines are not followed. Falling goods and collapsing loads can crush and cause injuries or death. To help prevent damages when handling stacking of materials, following precaution needs to be taken:

a. Stack lumber within the 16 feet high, if it is moved manually and within the 20 feet high, if using a forklift.
b. Remove all pins from used load before stacking.
c. Stack and level load on steadily supported bracing.
d. Ensure stacks are steady and self-supporting.
e. Do not stock pipes and bars in racks which face main aisles to avoid hazard to person walking when take away supplies.
f. Stack bags and packets in interlocking rows to keep them secure.

To decrease the number of accidents connected with warehouse equipment, employers must train for proper use of equipment and know limitations of equipment they operate.

DEAL WITH ACCIDENTAL DAMAGES

Before leaving the workplace it is essential to follow the safety procedures of the warehouse to avoid any accidental damages that occur due to simple negligence.

Example leaving any wet cleaning materials near to the electric circuit areas or not closing the water tape in the cleaning areas. Such kind of mistakes is very common. Make sure that proper supervision is very important while closing the day.

REPORT TO SUPERVISOR

There are many situations in which an employee need to inform supervisor about certain situations.

About the difficulty: The role of a Binner is very critical in housekeeping behaviour conceded with the warehouse. The Binner must be alert to variety options to clean up out-of-the-way places too, such as shelves, basements, sheds, and boiler rooms. The organized agreement of functions, tools, equipment, and provides is also a significant part of a good house cleaning program. He must be aware about the availability of all the material, equipment's and tools and man power required for cleaning. If is there any further requirement, he/she should immediately be report to his/her superior.

Additional cleaning: Timely scheduling the activities to be performed also defines the responsiveness and proactive nature of the Binner. Sometimes, there are very minute requirement of extra cleaning which has not been there in the schedule which, has to be taken care on time, due to any extra inbound goods, due to any unexpected hazard, any damage, etc., and report to the superior authority.

About special skills: The Binner must be aware with the procedures of cleaning in the warehouses. He must be informed in advance to their superiors if any special skill require for any special housekeeping activity to perform the housekeeping activities and also know the procedure to mention it in the report which is to be submitted to the superior authority.

Activities

Activity 1: Visit to a warehouse to learn about the methods of cleaning.

Material required: Check list, Notepad, pen /pencil, drawing sheet etc.

Procedure:

1. Review following observations and make notes with the help of supervisor
   a. How many types of cleaning methods used for cleaning in warehouse?

   _____

   _____

   b. What tools and equipment's are being used in different cleaning methods?

   _____

   _____

   c. What should be the different methods for different type of warehouse?

   _____

   _____

   d. How different cleaning methods used effectively in different storage situations?

   _____

   _____

2. Prepare a cleaning schedule based on different cleaning methods used.
3. Exchange your notes with your classmates for giving comments.
4. Show your notes to the teacher and take the guidance from him.

Activity 2: Demonstrate; how to deal with accidental damages

Material required: Check list, Notepad, pen /pencil, drawing sheet etc.

Procedure:

1. Visit to a nearby warehouse to your school.
2. Request the supervisor to show the procedure of dealing with accidental damages before cleaning.
3. Identify the causes of accidental damages.
4. Make out the accidental damages deduction process.
5. Prepare a report and submit to the teacher.

Activity 3: Role play on reporting to supervisor about any difficulty arises during the task.

Material required: Products and manpower required for role play

Procedure:

Role Play: Divide the class into groups, 4 students in each group and ask them to perform the reporting procedure in following difficulties.

1st Group: Report regarding insufficient tools for cleaning.

2nd Group: Report regarding inadequate staff

3rd Group: Report regarding Accidental damages

4th Group: Report regarding maintenance of cleaning equipment

See that the students of all four groups play the role according to the situation as per their mutual understanding. Student can come with their own thoughts while playing the role like preparing the procedures or formats in recording the needed information for each situation. This activity helps them to grow in organizing and planning their work for smooth functioning of the warehouse activities.

Check Your Progress

A. Fill in the Blanks

1. There are _____ major types of warehouses.
2. Particular attention is required when there are _____ or _____ items.
3. A daily cleaning may be at end of a _____ or _____ products.
4. The _____ information of chemicals should include handling instructions.
5. Cleaning materials used will vary for each product depending on the _____ and _____ of product category and premises conditions.

B. State whether the following statements are True of False

1. There is no need for Binner to be aware of the procedures of cleaning in the warehouses.
2. If is there any further requirement, there is no need to report to the superior.
3. Validate the draft procedures to confirm that the required level of cleaning is met.
4. Relevant staff to be trained for maintaining systematic cleaning process.
5. The required standard of cleaning is clearly defined to consistent completion of cleaning activities.

C. Short Answer Questions

1. Why the frequency of cleaning on daily, weekly, monthly or annually basis is scheduled and recorded to mention the activity is completed?
2. Why there is a need of pre-defined process carried out for cleaning of the warehouse?
3. Why the frequency and methods of cleaning should be based on risk?
4. Is stacking materials can be dangerous if safety guidelines are not followed?

D. Check Your Performance

1. Prepare a chart of precautions needs to be taken to help prevent injuries when handling stacking of materials.
2. Identify the procedures of the warehouse which is important to follow the safety to avoid any accidental damages that occur due to simple negligence before leaving the workplace.

Session 4: Post Housekeeping Activities

Post Housekeeping activities are the end-process cleaning duties that are performed at end of the day to ensure whether the warehouse is clean and safe for the next day work to be carried on smoothly. Some of the important activities to be focused during the post housekeeping process are as follows:

CHECK THE FLOOR

Once the daily routine of work is done, ensure that there is no oily substance on the floor to avoid slippery.

MAINTAIN AND STORE HOUSEKEEPING EQUIPMENT'S AND SUPPLIES

The equipment that is used for cleaning and other purpose of work must be always in a ready to use condition. Ensure that there is no shortfall of the supplies or equipment's.

WORKPLACE PROCEDURE TO DEAL WITH ACCIDENT DAMAGES

Before leaving the workplace it is essential to follow the safety procedures of the warehouse to avoid any accidental damages that occur due to simple negligence.

Example: Leaving any wet cleaning materials near to the electric circuit areas or not closing the water tape in the cleaning areas. Such kind of mistakes is very common. Make sure that proper supervision is very important while closing the day.

CAUSES OF ACCIDENTAL DAMAGES

Post cleaning of the work place must be started a bit early before leaving the premises, to ensure the place is dry and safe. Avoid last moment rush in the cleaning process and accidental damages.

INSPECTION OF CLEANED PREMISES

The workplace has to be inspected daily by the warehouse supervisor to ensure all are set properly as per the warehouse standards.

RETURN THE EQUIPMENT'S

Make sure that all the equipment's, materials and machines are clean, safe and securely stored in the right place as allotted.

DISPOSE AS PER MANUFACTURERS INSTRUCTIONS

Waste garnered: The entire scarp that is piled up for the whole day must be disposed according to the set procedures of the warehouse and dispose of the used and un-used solutions according to manufacturer's instructions. This will encourage the staff to have a pleasant place of work for the next day and it leads to productivity.

Used solutions: Once the premises are performed with post housekeeping activities and is inspected it is mandatory for the Issuance of clean signage certificate ensuring safety of work place.

Unused solutions: The supervisor must have the records of the housekeeping activities to be performed in the day as well as must maintain the post housekeeping activities record at end of that day. These records are very useful to know if any unexpected situations occur.

Checklist form for inspection during post housekeeping activates

Housekeeping inspection checklist

Format No.: .....

Date: ___/___/_____ Unit: _____

NS No.	Checklist Details	Observations			Remark
		Good	Fair	Poor	
01	Quality offices				
02	Packing and Dispatch offices				

03	Raw material Purchase offices				
04	Store / purchase offices				
05	Maintenance and Supervisor offices				
06	Warehouse offices and Raw material area				
07	Scrap yard offices and Generator set area				
18	Gas / Cylinder storage area				

Inspector Remarks: _____

_____

_____

Inspection done by:

Signature: _____

I received copy of the Housekeeping inspection checklist.

Executive Human Resource Signature: _____

Activities

Activity 1: Post housekeeping activity at warehouse.

Material Required: Note-Book/Pen/Pencil

Procedure:

1. Visit to a warehouse near by your home or school and observe for the following activity or situation exists at the warehouse.
2. Find out the answers of the following points:
   a) Are the record keeping chart needed to disposal of scrap materials
   b) Inspection report verifies the work completion and certifies the activity with clearance signage.
   c) Evaluations of activity are done through checklist to confirm post housekeeping activity.

d) Activity of keeping the premises dry and clean is done on weekly basis

e) Recording of post housekeeping activity is not necessary after cleaning process done.

Activity 2: List out the causes of accidental damages

Material Required: Note-Book/Pen/Pencil

Procedure:

1. Read the session carefully and prepare a list of causes of accidental damages.
2. Find out the reasons or causes of accidental damages.
3. Discuss with other student in class and finally checked by teacher.
4. Prepare a report and submit to the teacher.

Activity 3: Prepare a list of various ways of disposing

Material Required: Note-Book/Pen/Pencil

Procedure:

1. Prepare a list of various ways of disposing the waste, equipment's etc.
2. Identify the set procedure of the warehouse for entire scarp that is piled up.
3. Make out the used and un-used solutions for disposing of scrap according to manufacturer's instructions.
4. After preparing the notes discuss with other student in class and finally get it done checked by the teacher.

Check Your Progress

A. Fill in the Blanks

1. Post Housekeeping activities are the end-process _____ duties that are performed at end of the day.
2. The equipment that used for cleaning must be always in _____ condition.
3. The workplace must be inspected _____ by the warehouse supervisor.
4. Evaluations of activity are done through _____ to confirm post housekeeping activity.

B. State whether the following statements are True of False

1. Record keeping chart is not needed to disposal of scrap materials.
2. Inspection report verifies the work completion and certifies the activity with clearance signage.
3. Activity of keeping the premises dry and clean is done on monthly basis.
4. Recording of post housekeeping activity is not necessary after cleaning process done.

C. Short Answer Questions

1. What are the best practices adopted for post housekeeping activity?
2. How to structure post housekeeping activity for closing procedures?
3. Need for conducting post housekeeping activities at warehouse?

D. Check Your Performance

1. Conduct a focus group discussion for post housekeeping activity.
2. Discuss the process and suggest feedbacks
3. Generate some good solutions, if necessary for better performance to be conducted during the post housekeeping procedures.

MODULE 4	HEALTH, SAFETY AND SECURITY MEASURES

Module Overview

Human safety mainly concerned on the safety of health, hygiene and environment of all the people including the customers, employees and management. Everyone in the workplace, containing the employees, employer, workers, supervisor, and customers must possess responsibility to encourage hygiene and safety in warehouses while storing the goods.

The unorganized activity is not registered by any statute or legal provisions. In another way, organized business establishments maintain hygiene and safety by performing housekeeping and guarding compared to any miss-happenings due to the carelessness of personnel working at the workplace, anti-social elements, and in natural calamities occurred also.

The threats to the elementary safety at a warehouse may be in the usage of any harm to the human beings. This can cause even injury of human life. This may also exist in the usage of product injury through improper housekeeping or shoplifting. Basic safety applies to help in decreasing the chances of loss or damage at the workplace.

Recognize and report unsafe conditions and conduct visual inspection. Human safety mainly taking place the safety of health, hygiene and environment of all the people of warehouse. Everyone should have the responsibility to uphold hygiene and safety.

Occupational Health and Safety is an area concerned with defensive the health, safety and welfare of persons engaged in work/ employment. Health and safety of people are important aspects for an organisation's charm and actual functioning. Good health then safe performance ensures an accident-free industrial environment. The goal of occupational health and safety procedures and programmes are to establish and foster a nonviolent and healthy work atmosphere for all workers. The occupational health is often given less care than occupational safety as the former is considered more as a personal issue.

This module will depicts to develop thoughtfulness of the various types of hazards and risks that may occur at the workplace and the relevant professional health and safety responsibilities for warehouse operations. This

module will also help to understand how to identify and manage risks and hazards and work safely.

This module is consists in to four sessions. The first session covers safety regulations and procedures, second session deals with the personal protective equipment's, the third session depicts with the security measures and material handling and the fourth session provides the unsafe conditions and visual inspection.

Learning Outcomes

After completing this module, you will be able to:

- To understand and be able to apply key safety regulations and procedures to maintain a safe working environment.
- To maintain personal protective equipment to protect themselves and others from workplace hazards.
- To implement security measures and proper material handling techniques to prevent theft, damage, and accidents.
- To develop the ability to identify unsafe conditions through visual inspection and take appropriate actions to mitigate potential risks.

Module Structure

Session 1: Safety Regulations and Procedures

Session 2: Personal Protective Equipment's

Session 3: Security Measures and Material Handling

Session 4: Unsafe Conditions and Visual Inspection

Session 1: Safety Regulations and Procedures

Every person in the workplace warehouse has a concern to protect each other around at workplace from injury. In all the organizations employers need to ensure health, safety and security procedures of its employees, contractors and visitors in all its operating sites, which includes sales and distribution hubs, warehouse and office during work and work related travel by keeping clean and safe environment.

HAZARDS

A hazard is any source of probable damage, adverse health effects or harm on something or somebody under certain circumstances at work. There could be many sources of occupational hazards. Let us now try to classify the hazards. Hazards can be categorized into the following broad categories, based on their origin:

- Biological
- Physical
- Psychological
- Safety
- Chemical
- Ergonomic

TYPES OF HAZARDS

Risk is the chance or possibility that a person drives be harmed or understanding an adverse health consequence if visible to a hazard. Risks usually arise because of financial problems, organization, employee, workplace, product changes, security and storage of data and records and other problems.

In order to recognize the risk; the process arises by collecting the information about the events that could pose a risk. The employer should identify how the workers might be harmed, i.e.; what kinds of wound or ill health occur at the workplace. All six types of hazards with their brief description are as follows:

- **Biological:** Caused by living organisms like bacteria, viruses, insects, plants, birds, animals, humans, etc.
- **Physical:** Radiation, magnetic fields, pressure extremes (high pressure or vacuum), noise, etc.
- **Psychological:** Violence, excessive pressure at workplace for meeting deadlines, conflicts at workplace, etc.
- **Safety:** Slipping hazards, unsuitable machine, breakdown and equipment malfunctions.
- **Chemical:** Physical, chemical and toxic properties of the chemical. The severity depends on the toxic properties.
- **Ergonomic:** Due to monotonous movements, improper set up of workstation. Faulty designed chairs, tools and equipment, wrong postures, etc.

Risks can be classified into (i) Workplace or business risks: which are the risks

directly related to business; and (ii) General or pure risks: which are the risks of life in general.

General risks involve- sexual harassments, legal risk like fraud & theft, natural disaster such as cyclone & earthquake and accidents at workplace. Workplace or Business risk involves-Operational or production, technological, financial, customer related, market related and social.

EMERGENCIES IN THE WAREHOUSE

There can be number of unforeseen situations that may be potential threats for the workplace and the workers. These are called as emergencies for a work place. Emergencies may disorder or shut down Business operations. It may cause environmental or physical damage. Emergencies might be natural or manmade (refer to picture 4.1). They include events, such as:

Some other emergencies which includes:

- Gas leaks
- Explosions
- Snake mouthful or poisoning
- Electrocution, injuries
- Equipment failure
- Emergency as an outcome of environmental circumstances (e.g., heat, cold, snow, wet, bushfires, wind, lightning, high seas, floods, cyclones)
- Emergencies needful evacuation
- Hazardous stuffs and chemical spills
- Internal emergencies, such as damage of power or structural collapse and loss of water supply
- Serious injury occasions or medical emergencies
- Bomb threats
- Civil condition or criminal acts like robberies and shootings
- Hostage situations or

Proper planning should be done to face any emergency situation. It is called as the contingency plan. A plan to face any unforeseen event should always be made by the management and proper backup should be arranged to ensure uninterrupted working of the system. For example, even though fire is a rare event in a warehouse, proper plan has to be designed to face such as situation.

- Fire extinguishers have to be connected at places,

- Fire exits have to planned, fire alarms have to be linked and
- Evacuation drills have to conduct to make the employees ready to face such challenge.

HANDLE EMERGENCIES AT WORKPLACE

Emergencies can occur is due to a multiplicity of circumstances such as waste materials igniting, chemicals leaking, power failures affecting or someone being injured by equipment. Emergency response procedures cover the steps that should be occupied in the occasion of an emergency on-site. This ensures the following:

1. Emergency response procedures for the specific emergency are followed.
2. First aid is given without putting own life in danger.
3. Alarms are activated.
4. Emergency equipment is used as per the respective operating procedures.
5. Concerned agencies like fire contingent, ambulance and police are informed.

Remember, some emergencies are controlled by external emergency authorities such as the fire brigade, ambulance, police, etc. If external authorities are required, they should be immediately called and then they will assume control of the emergency situation.

Fig. 4.1: Emergency Response

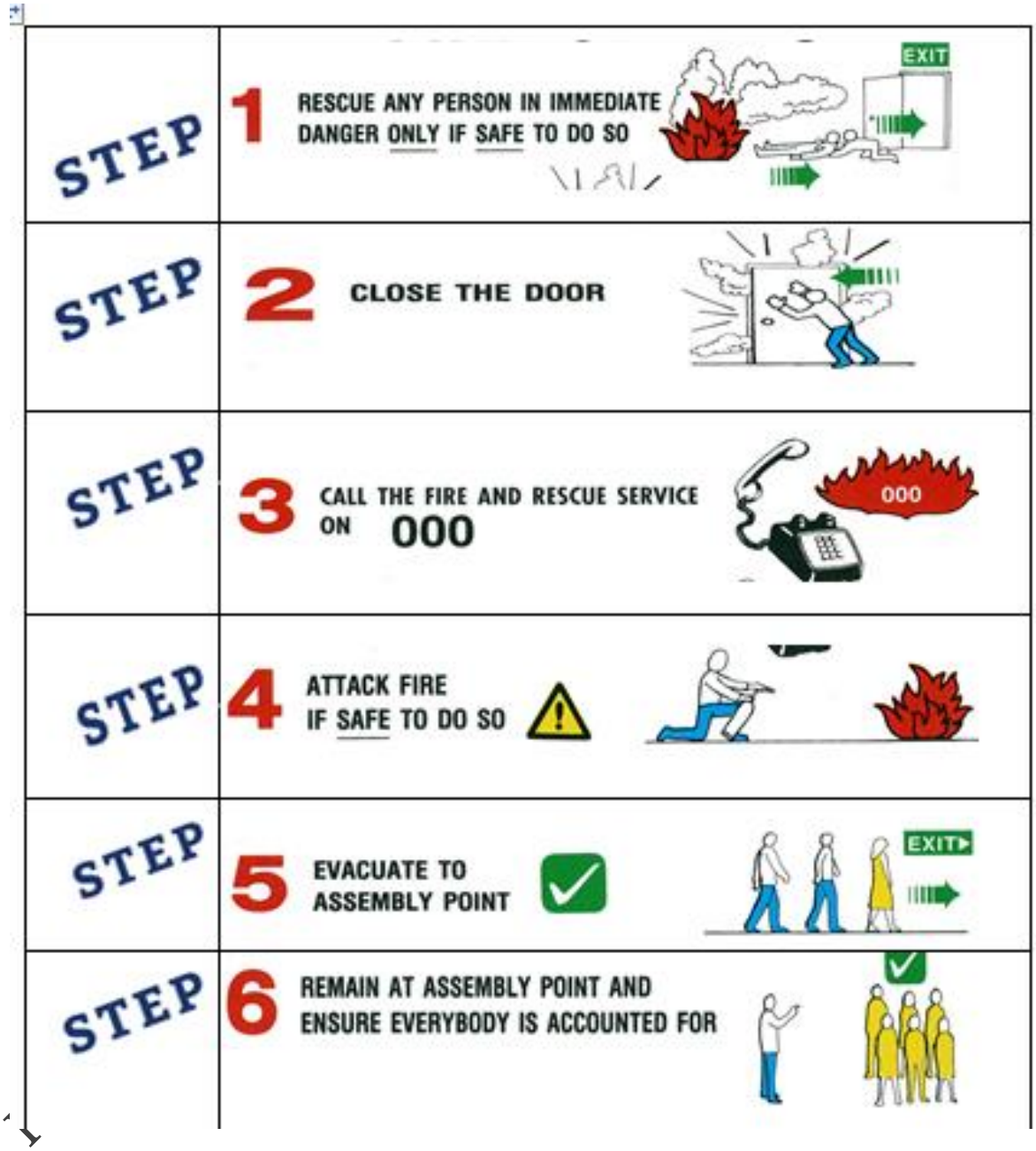
In case of fire emergency, one should not get panic but be calm and follow six steps:

Step 1:		**1. Install and Test Smoke Detectors Regularly** Install a smoke alarm on every level of the home and outside sleeping areas. Smoke alarms should be tested every month and batteries changed annually.
Step 2:		**2. Develop a Fire Escape Plan** Designate a safe, accessible meeting spot outside, away from your home. A fire escape plan should be devised and practiced at least twice a year.
Step 3:		**3. Stop, Drop and Roll** Stop, drop to the ground and roll if your clothes are on fire. Families should know this technique and it should be practiced with children.
Step 4:		**4. Assemble an Emergency Supply Kit** Make an emergency supply kit and include things like a flashlight, batteries, a whistle blankets and water. An extra supply kit should be kept in a car in case you are unable to immediately return inside.
Step 5:		**5. Gather Emergency Contact Information** Maintain a list of emergency contact numbers in cell phones and keep it in the supply kit.
Step 6:		**6. Store Imporatnt Documents in a Safe place** Find a safe to store important documents like birth certificate and financial information. You should even consider making copies of these documents and storing them in a secure off-site location.

Just as people need to recognize what to do if something goes wrong, the workplace itself needs to be ready in the occasion of an emergency. Some items of safety equipment are specific to the work activities of an organisation, whilst others are mandatory or a requirement of the law. Fire extinguishers and first aid kits are two examples of the types of emergency tools found in the

workstation and are required by law. Emergency showers and eye wash stations are two examples of the types of emergency tools that would be required as per the organisation's activities.

If some emergency happened at warehouse calmly follow the order of process:



EMERGENCY PROCEDURE FOR SPILL/ LEAKS OF HAZARDOUS MATERIALS

Rescue		Assist person in instant danger if harmless to do so raise the alarm,
Alarm		Notify the Supervisor and contact emergency services.
Contain		Restrict the danger area to avoid risk of harming others then attend to the emergency
Evacuate		Evacuate the staff and associate to a safe assembly area

PRACTICE AT WORKPLACE TO REDUCE RISK

- Perform regular housekeeping to prevent the gathering of hazardous or poisonous materials.
- Develop and implement standard operating procedures.
- Train and educate employees about the working procedures
- Keep equipment well maintained.
- Pay attention to safety signs and safety rules.
- Use safe lifting techniques.
- Handle dangerous chemicals safely.
- Never trace electrical equipment with wet hands.
- To ensure a safe lift, bend at the knee then power the lift through your

legs.

- Prepare and train for emergency reaction for incidents like, fire, spills or employee injury.
- Inform co-workers of the risks when you see them doing something unsafe.
- Attend all safety meetings and training sessions.

HIERARCHY OF CONTROLS

The effectiveness of hazard control measures varies with the method used. Hazard control measures should be reflected in the following order:

DISCHARGE WORKPLACE HEALTH AND SAFETY RESPONSIBILITIES

The employer tries to integrate it with all work process at the workplace and provide guidelines which define the health, security and safety measures as well as required action and responsibility for execution with the vision of injury

free organisation. Below are the responsibilities of co-worker which will help to work carefully and safely to making your workstation safer.

Responsibilities of worker

- Follow the health and safety requirements as per job
- Ask for training before you begin work
- Immediately report any injury to a first aid attendant or supervisor
- Take the initiative and correct any unsafe conditions immediately
- Make suggestions to improve health and safety

Employer's Responsibilities

- Provide a safe and healthy workplace
- Ensure about employees training, and keep records of that
- Provide a comprehensive occupational health and safety program, including a written health and safety policy and procedure
- Initiate an immediate investigation into incidents
- Provide adequate first aid facilities and services
- Provide personal protective equipment (PPE) where required

Responsibilities of Supervisor

- Instruct workers for safe work procedures
- Ensure that only authorized, adequately trained workers operate tools and equipment or hazardous chemicals.
- Ensure that equipment and materials are properly handled, stored, and maintained.
- Enforce health and safety requirements
- Train and check that your work is being done safely
- Inspect the workplace for hazards

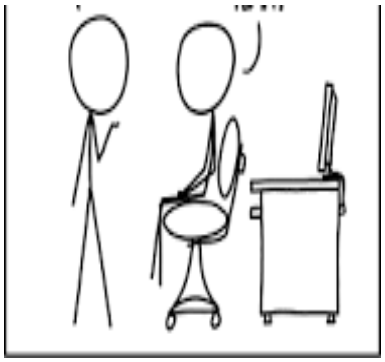
REFUSING UNSAFE WORK

The security person thinks a duty is likely to risk him/her or their co-workers, don't remain afraid to tell. Follow these guidelines to reject work that he/she believe is unsafe:

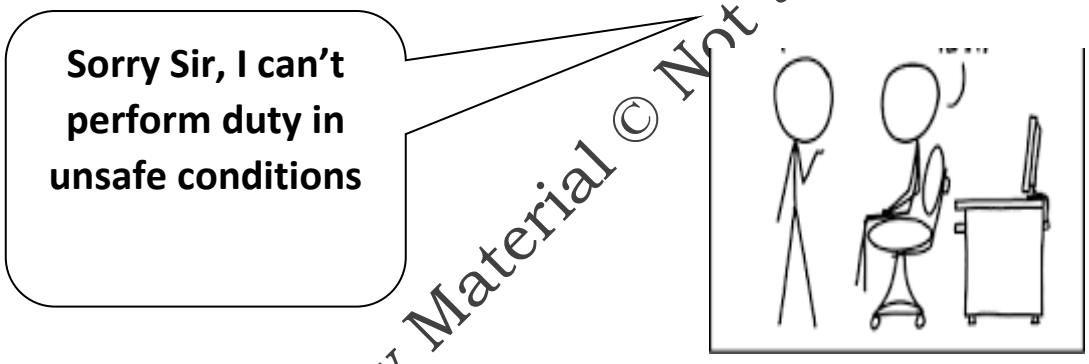
- Describe to his/her direct supervisor why he/she is not comfortable.

Sir I am not comfortable doing this work as it's not safe in

Listen! You have assigned work you need to do

- 

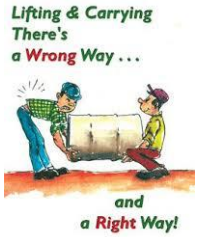
- If security person immediate supervisor is absent or doesn't give him/her a good answer, contact with his/ her supervisor.
- If security persons are still not satisfied, talk to his/ her health and safety representative or member of the joint committee.
- If you still not comfortable just reject to work in dangerous condition



SAFE HANDLING TECHNIQUES

For safe handling of the object in the warehouse kindly follow the procedure discussed below in pictorial form:

	Plan before lifting- manual or automatic load handling
	Keep Feet and shoulder width apart
	Move close

	bend his/her knees and keep his/her back straight
	Firm his/her grip
	After getting good grasp on the object then bring it close to his/her body
	Lift using his/her leg rather than his/her back; his/her legs are more strong then his/her back

WAREHOUSE SAFETY PROCEDURES

Safety is a vital aspect of any warehouse operation. Any disregard to the warehouse operation means direct risk of loss to goods, equipment and lives of people at work. Safety measures results in higher employee satisfaction as well as increased productivity. Warehouse safety can lead to following benefits:

- Minimize damage and loss of stored goods
- Minimize chances of injury and absenteeism among employees
- Proper functioning and maintenance of equipment's

There are lots of ways in which safety can be ensured in a warehouse operation. Some of the ways to ensure safety are discussed as under:

1. Usage of proper safety equipment's

Safety equipment's include tools such as fire extinguisher, fire alarm, security alarms and also Personal Protective Equipment's (PPEs) such as helmets, gloves, goggles and jackets. Forklifts or hydraulic models may be used to move items that exist too heavy. There should be a proper evacuation and safety plan followed in the warehouse and employees must be well aware about these. Also, there should be mock drills to make the employees acquainted with the evacuation process.

2. Avoidance of potential safety hazards

Hazards are any conditions which may cause loss or damage to the warehouse

property. Various hazards such as accidents, trip and slip can be avoided by using appropriate measures, such as:

- Putting caution sign boards like wet floor, danger zone, do not enter, do not touch etc.
- Keeping the aisle clear for free and un-obstructed movement of forklifts and also the porters.
- Providing proper training regarding the operational procedures
- Keeping safe distance between machines, equipment's and people in warehouse to ensure safe and clear movements.
- Making the employees wear helmets with lights or florescent jackets to improve visibility within the dense storage areas.

3. Labelling and Marking the danger zones

Any kind of dangerous/harmful equipment's and materials should be stored separately and with sufficient caution in the warehouse. The electric supply grids should be accessed only by qualified individuals and due cautions should be point out on the electric box. Similarly, hazardous materials such as acids, dyes etc., should be stored in a safe place and proper labels should be placed on them cautioning about the potential hazards attached to them. Making sign boards like "Access only to staff" should be placed wherever felt necessary.

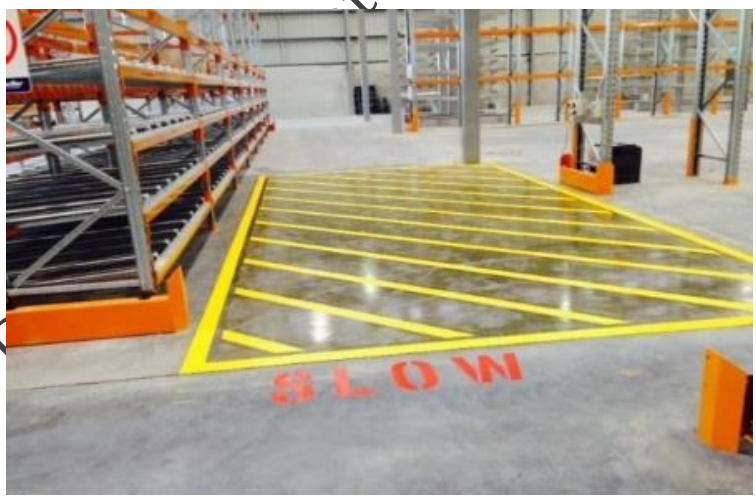


Fig. 4.2: Danger Zones

Source: t.ly/bxlh

4. Training the staff regarding safe handling techniques

Inappropriate handling techniques (refer to picture 4 a) may lead to personal loss to the employees. Proper training regarding the body postures for lifting heavy weights should be providing to the employees to avoid any kind of health

problem. Forklift or pull/push carts should be utilized to lift weighty weights. These should be operated only after sufficient training.

5. Promote Awareness in your Warehouse

Staff members would be provided training about potential hazards, safety mechanisms and safety equipment's used in the warehouse. Trained staff is a key to safe working environment. Thus, supervisor has to be communicative to make the staff- binners and porters aware about the safety issues.

Activities

Activity 1: Visit warehouse to understand the workplace safety procedure

Materials required: Notebook, Pen, Prepare 5-6 questions

Procedure:

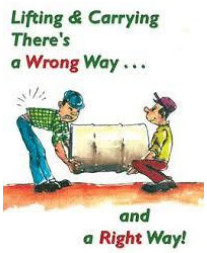
1. Visit to a warehouse.
2. Name of the person and his/her occupation who performs respective job
3. Ask him/her Question you prepared previously.
4. Ask him/her "Are you happy with the provisions made for taking care of your physical and safety requirements at the workplace?"
5. Note down the answers in the notebook.
6. Then prepare your report based on the answers and suggest that what should these people do to solve their problems?
7. Give your suggestions occupation-wise.

Activity 2: Draw a chart and fill the given worksheet of safe handling.

Materials required: Worksheet provided by teacher, pen.

Procedure:

1. Take a sheet
2. Fill the blank space in front of Figure of safe handling

Activity 3: Draw a chart and fill the given worksheet of handling emergencies in case of leakage

Materials required: Worksheet provided by teacher, pen

Procedure:

1. Take a sheet
2. Fill the blank space in front of Figure of handling emergencies in case of leakage or spillage

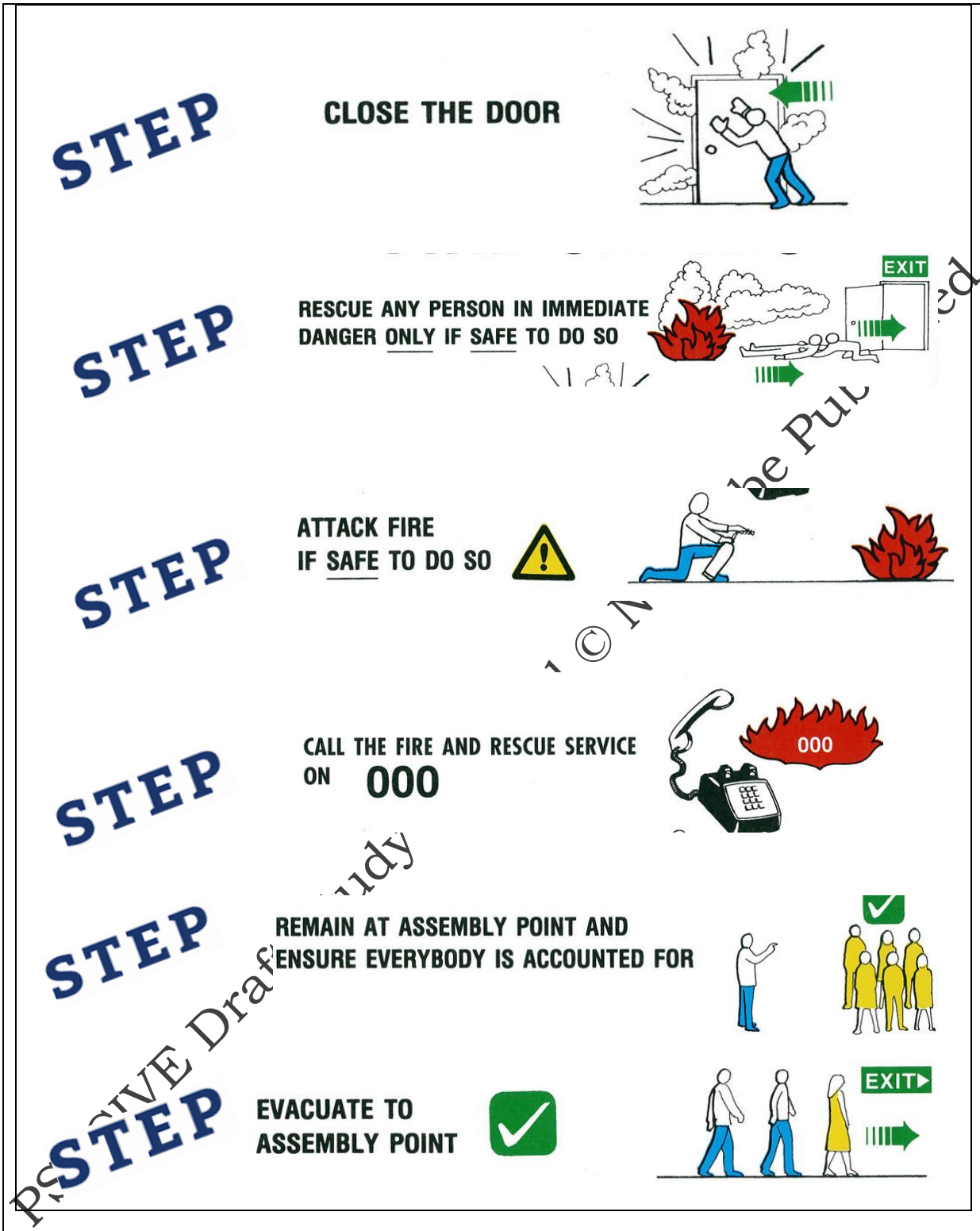
Rescue	
Alarm	
Contain	
Evacuate	

Activity 4: Arrange the sequence of the Figures given in the worksheet in order to rescue for fire emergency.

Materials required: Worksheet provided by teacher, pen

Procedure:

1. Take a sheet
2. Arrange the sequence of the Figures given in the worksheet in order to rescue for fire emergency



ASSIGNMENT

1. Observe and identify two sources of hazards in warehouse and suggest preventive measures that should be taken up to mitigate the risks from the same.

2. Given below is a list of common problems that occur due to faulty tools/equipment, wrong postures or long hours of work. Talk to the people in different occupations in warehouse and find out the common cause for such problems; write down in the format given bellow

Occupation_____

Common problem	**Reason**		
	Faulty tools/ equipment	**Wrong posture**	**Long hours of work**
Back ache			
Headache			
Neck pain			
Stress			
Irritation			
Depression			

Check Your Progress

A. Fill in the Blanks

1. The services offered by the_____ and_____ are called the health care.
2. Work stations must be adjustable to be capable to accommodate the wide variety of_____ and _____ of warehouse workers.
3. Mechanical lifting devices should be utilized to lift _____ that exist too heavy.
4. Fire extinguishers must be _____ regularly to guarantee that they remain in good functioning order.
5. A hazard is any source of probable damage, _____ or adverse health belongings on something or somebody under certain situations at work.
6. Chemical hazards depend on the chemical and physical, _____ possessions of the chemical.
7. Health and _____ of people are important aspects for an organisation's charm and effective functioning.

8. _____ Protective Equipment provide a personal barrier between security person and workplace hazards.
9. The two important emergency equipment which are found in the workstation and are required by law are fire extinguishers and _____ kit.
10. Everyone in the workstation, including security person, his/her co-workers, his/her supervisor, and his/her employer, has a accountability to_____ he/she and the people around him/her from injury that's the law.
11. When driving machinery or carrying items, a humble "coming through" can attentive other co-workers of their warehouse about and can permit them to direct clear of _____pathways.

B. State whether the following statements are True or False

1. Dangerous equipment should remain stored away in place that is clearly characterised and safe way of walking should be emphasized through necessary signage.
2. Ensure all warehousing floorings are free of 'trip and slip' hazards.
3. In the warehouse it exists vital that hydraulic dollies or forklifts are used to lift products that are not too heavy. Everyone in the workstation, including security person, his/her co-workers, his/her supervisor, and his/her employer, has a duty to protect his/her and the people from one place to another him/her from wound that's the law.
4. Safe lifting Trends should always be accepted out and the weight should not hinder the opinion of the lifter.
5. Having a sense of responsiveness in the work station is a significant safety factor. This may be attained through cohesiveness among staff members.

C. Multiple Choice Questions

1. Which of the bellow would you check to see if a material is considered 'hazardous'?
   a) The product label
   b) Purchasing record
   c) Material care data sheet
   d) Hazardous material inventory

2. A _____is any source of probable adverse health effects, damage, or harm on something or somebody under certain situations at work.
   a) Risk
   b) Injury
   c) Hazard
   d) Elimination
3. _____is the chance or possibility that a person resolve be harmed or familiarity an adverse health outcome if visible to a hazard.
   a) Risk
   b) Injury
   c) Hazard
   d) Substitution
4. OSHA stands for
   a) Organizational Safety and Health Activity
   b) Occupational Safety and Health Administration
   c) Occupational Safety and Hygiene Administration
   d) None of the Above
5. "Placing a hood on the gas stove helps in eliminating the gases while cooking. A fan draws the air beginning the hood into ducts and removes air from the workstation into an open place." Is an example of
   a) Risk
   b) Elimination
   c) Safety
   d) Substitution
6. Use electric motors relatively than diesel person to eliminate diesel use emissions.
   a) Process Control
   b) Engineering Control
   c) Administration Control
   d) Substitution

D. Match the Columns

S. No.	Column A		Column B
1.	General Risk	**A**	Violence
2.	Business Risk	**B**	Legal
3.	Physical	**C**	Slipping
4.	Ergonomic	**D**	Caused by living organisms
5.	Chemical	**E**	Radiation
6.	Safety	**F**	Operational
7.	Biological	**G**	Improper set up of workplace
8.	Psychological	**H**	Toxic belongings of the chemical

E. Short Answer Questions

1. Write down the types of accident and emergency in the warehouse?
2. What is the meaning of the Health Care?
3. List out the Health Care Activities in warehouse?
4. What should your workers know about health activities?
5. Write down the hierarchy of controls.
6. What are the probable hazards for workforces in warehouse?
7. What is the impact of the following activities for Workplace Health and Safety?
   - Ergonomics
   - Lifting, Carrying and Standing
   - Fire prevention
   - Floor Slips, Trips and falls
   - Machine Guarding
   - Electricity
8. Explain the responsibilities following stakeholders for workplace health and safety:
   - Worker

- Employer
- Supervisor

F. Check Your Performance

1. Demonstrate the types of accident and emergency in the warehouse.
2. List out the Health Care Activities in warehouse.
3. Spell out the probable hazards for workers in warehouse.

Session 2: Personal Protective Equipment

Personal Protective Equipment (PPE) is defined as any clothing, equipment or substance designed to be damaged by a person to protect the person from the injury or illness. Referring to the section on risk management, PPE is the last control measure to be used. This is because PPE not to change the hazard itself; it puts a barrier among person as well as the hazard.

PPE contains equipment such as hard hats, safety footwear, high visibility waistcoats, spectacles, respirators, life jackets and safety harnesses.

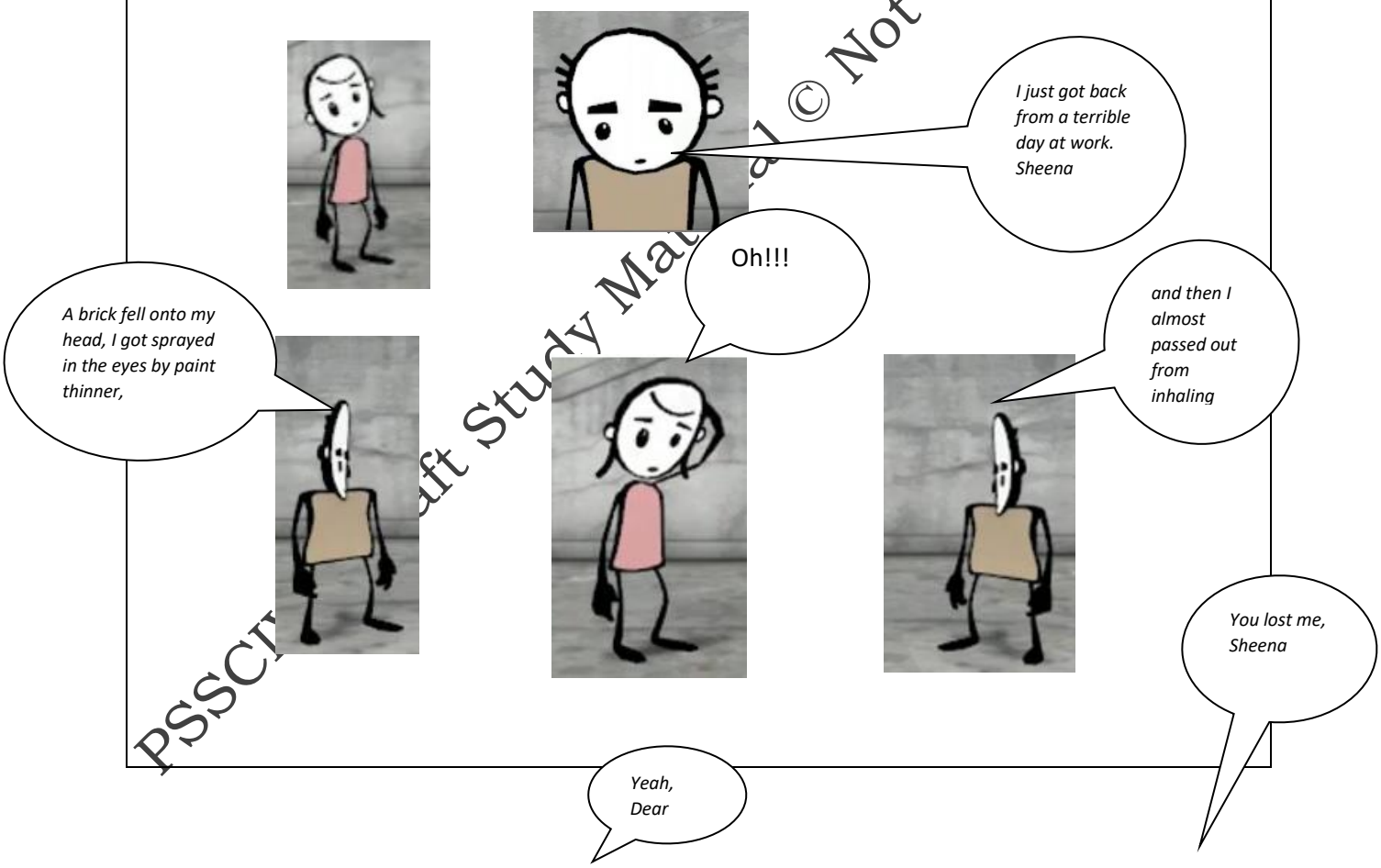
Weather-proof, Waterproof, or insulated dress is subject to protective regulations only if the aforementioned use is required to protect employees contrary to adverse climatic situations that could otherwise touch their health also safety. Protective equipment's helps in overcoming hazards like chemicals, physical, biohazards, electrical, heat, and airborne particulate problem.

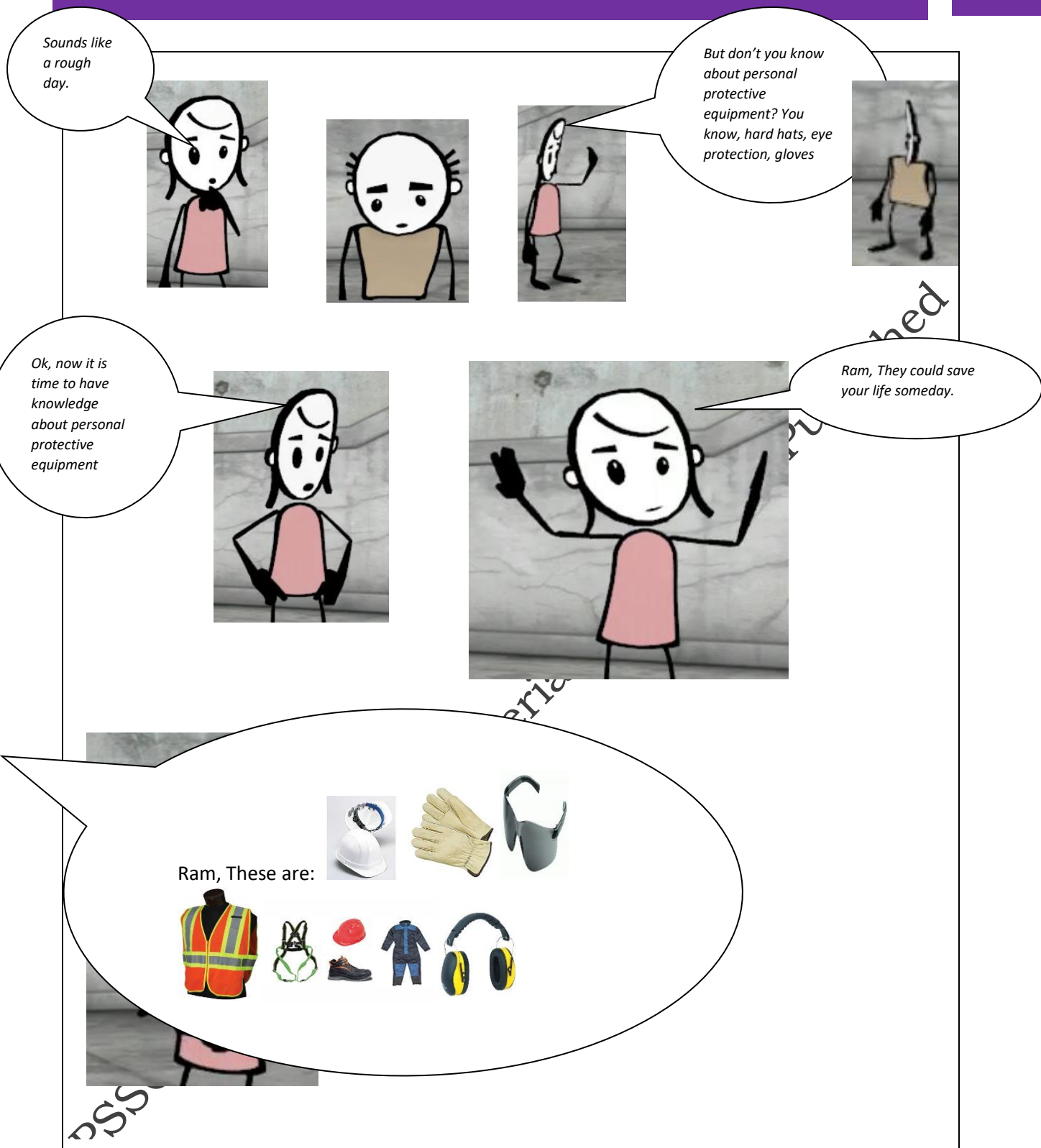
The personal protective equipment's are been used as per the specifications or requirements. For example, if one is working in a high intensity light area, should wear protective glasses. If one is handling food, then he/she must wear an apron and polythene cap and gloves for maintaining hygiene.

What are the benefits of using PPEs?

- Save from any potential risks of accident or collision.
- Saves from any biological hazard such as allergies, asthma, cut/wound, infection etc., Provides a safe operational environment in the warehouse.
- Helps in fulfilling the work norms.

Fig. 4.3: Signage's of Personal Protective Equipment's





TYPES OF PERSONAL PROTECTIVE EQUIPMENTS

1. Hearing protection

Hearing protection must exist worn by anybody who is expected to be visible to noise. Exposure to high sound levels cans basis for hearing loss impairment. This one can generate physical and psychological pressure. There is no

medicine for sound-induced hearing damage. Specifically designed protection is essential, depending on the kind of noise come across and the auditory situation of the worker. There are three key types of hearing safeguard:

- Earmuffs/defenders, which fully cover the ear
- Ear plugs, which are put in into ear canal
- Canal-caps, which protect the entrance towards the ear canal.

2. Head protection

The employer shall confirm that affected employee attires a protective helmet while working in area is a possible for wound to the head. There are three broadly used types of skull protection:

- Industrial safety helmets (head gears) which are intended to protect against items falling from height then swinging objects.
- Manufacturing scalp guards (bump caps), which exist designed to defend from knocking counter to stationary objects.
- Caps/hair nettings, which protect beside embarrassment.

Tasks where head defines may be essential include:

- Construction
- Building maintenance
- Work in excavations then tunnels
- Work with screw driving tools
- Driving motorbikes and all-terrain vehicles, etc.

3. Protection

The employer shall safeguard that each affected worker uses suitable eye or face defines when exposed towards eye or face hazards. There are several categories of eye guards:

- Safety eyeglasses: these are related to regular glasses nevertheless have a harder lens. They can contain side shields for extra protection.
- Eye shields: a frame-less single piece formed lens, often worn completed normal prescription spectacles
- Safety goggles: these exist with flexible plastic borders and an elastic hairband
- Face shields: bulkier and heavier than other sort of eye guard, face shields defend the face, but ensure not fully encircle the eyes hence do not defend against mists, dusts or gases.

Tasks where eye protection might be required comprise:

- Handling hazardous elements where there remains a risk of wading
- Work with power determined tools where products are likely to exist propelled
- Welding processes
- Work with lasers
- Consuming any gas/vapour under compression.

4. Foot defence

The supervisor will ensure that each exaggerated employee uses defensive footwear when in work areas where around is hazard of foot injuries in line for falling or rolling substances, or substances piercing the individual, and where such worker's feet are exposed towards electrical hazards. There are number of categories of safety footwear:

- Safety walking boot or shoes. Generally have steel toe-caps however can have other care features (e.g. slip resistant soles, steel mid-soles, insulation in contrast to heat and cold)
- Wellington walking boot, which can stand supplied with strengthen toe-caps
- Anti-static plus conductive footwear. These defend against the build-up of fixed electricity.

Tasks where foot defines may be essential include:

- Sites where construction, demolition and building repair are in process,
- Manual handling wherever is a danger of heavy objects dropping on the bottoms,
- Work in tremendously hot or cold surroundings.
- Work with chemicals then forestry.
- Where here is a danger of sliding that cannot be evaded or controlled by additional measures, attention necessity is given to the slip-up resistance of soles as well as replacement before the footstep pattern is excessively worn.

5. Hand and Arm Protection

Employers shall require employees to usage appropriate hand defines when employees' hands exist exposed to hazards. Hand and arm defines comes in a variability of forms, counting:

- Gloves and gauntlets (latex, leather, nitrile, chain mail, plastic coated,

etc.)

- Wrist chains and armlets, e.g. utilized in glass cutting as well as handling
- Barrier ointment may sometimes be utilized, where gloves cannot feasibly be used.

Tasks where hand and arm defines may be required contain:

- Work with skin preoccupation of harmful substances, severe cuts or scratches
- Work with severe abrasions, punctures, chemical burns, thermal burns, and
- Harmful hotness extremes
- Work with manual handling of abrasive, sharp or pointed objects,
- Work with vibrating equipment such as pneumatic manoeuvres and chainsaws, structure and outdoor work.

6. Body Protection

Types of body define include:

- Overalls, coveralls and aprons (protection against dangerous substances)
- Clothing for heat, cold and bad climate
- Clothing to protect in contrast to machinery, e.g. chainsaws
- High perceptibility clothing (e.g. vests, jackets,)
- Harnesses back supports life jackets

Tasks where body defines may be required contain:

- Work with hazardous substances
- Work next towards the highway or further areas with moving transport or vehicles (e.g. Construction sites)
- Outdoor work
- Forestry and surroundings maintenance work

7. Respiratory Protection

In control of occupational diseases affected by breathing air dirty with harmful mists, dusts, fogs, fumes, gases, sprays, or vapors, the key objective shall exist to prevent atmospheric pollution. This shall be talented as far as possible by

accepted engineering mechanism measures. When effective engineering controls stay not feasible, appropriate ventilators shall be used. There are two chief types of respiratory defensive equipment:

- Respirators that screen contaminated air or fresh it as breathed in
- Respirators, which supply clean air since an independent source.

8. Electrical Protection

Equipment used for protection when employees are working in contact with electricity include insulating covers, blankets, matting, line hose, gloves, and sleeves prepared by rubber in adding to protective helmets designed to decrease electrical shock.

HOW TO USE PPE's

1. Each supervisor shall recognize those workers whose work needs the wearing of individual protective equipment and should maintain a profile of employees whose job requires personal protective equipment, to include then not limited to: business safety glasses, steel capped shoes, head protection, hearing protection, respirators, electrical protection equipment, and safety gloves that meets current safety standards.
2. Employer must train employees earlier issuing PPE happening at least these belongings: When PPE is necessary?
   - What kind of PPE is necessary?
   - How to properly put on, put off, wear and adjust PPE?
   - Limits of the PPE.
   - Appropriate care, maintenance, beneficial life and removal of the PPE
3. Workers must demonstrate a considerate of the preparation and the aptitude to use PPE correctly before being permissible to perform work needful the utilization of PPE.
4. Written certification (may be given), to verify that every employee has acknowledged and understood the essential training, comprises:
   - Name of each worker trained
   - Date(s) of training
   - Subject of the certification

Activities

Activity 1: Identify the protective personal equipment and prepare a chart

Materials Required: Notebook, Pen, Prepare 5-6 questions

Procedure:

1. Visit to a warehouse
2. Greet the peoples of warehouse
3. Prepare a list of PPE's of warehouse
4. Identify the name of each with their work
5. Name of the person and his occupation who performs respective job
6. Ask him/her Question you prepared previously
7. Note down the answers in the notebook
8. Then prepare your report based on the answers on personal protective equipment's used in warehouse with its purposes

Activity 2: Demonstrate the uses of protective personal equipment in a given chart.

Materials required: Worksheet provided by teacher, pen

Procedure:

1. Take a sheet
2. Fill the PPE name with their use in front of Figure of safe handling

S. No.	Figures	Names
1.		
2.		
3.		

4.		
5.		
6.		
7.		

Check Your Progress

Fill in the Blanks

1. If one is working in a high intensity light area, should wear _____.
2. Personal protective _____ save from any potential risks of accident or collision.
3. _____that filter dirty air or clean this one as it is inhaled in.
4. Industrial safety_____, _____which are designed to defend against materials falling since height and swinging substances.
5. _____required when one has work subsequent to the artery or other spaces with moving transportation or vehicles.
6. PPE includes tools such as protected high visibility, footwear, hard hats, _____, goggles, life_____, respirators and protected harnesses.

B. State whether the following statements are True or False

1. Employee should use body protection when in work areas where there exists danger of foot wounds due to dropping or rolling substances.
2. PPE includes tools such as high visibility waistcoats, safety footwear, goggles, hard hats, etc.

3. Anti-static as well as conductive footwear defends against the build-up by slip and fall.
4. Workers must demonstrate an thoughtful of the preparation and the aptitude to use PPE correctly before being permissible to perform work.
5. Wrist cuffs and bangles, e.g. used in cut-glass and handling.
6. The personal protective equipment's are been used as per the specifications or requirements.

C. Short Answer Questions

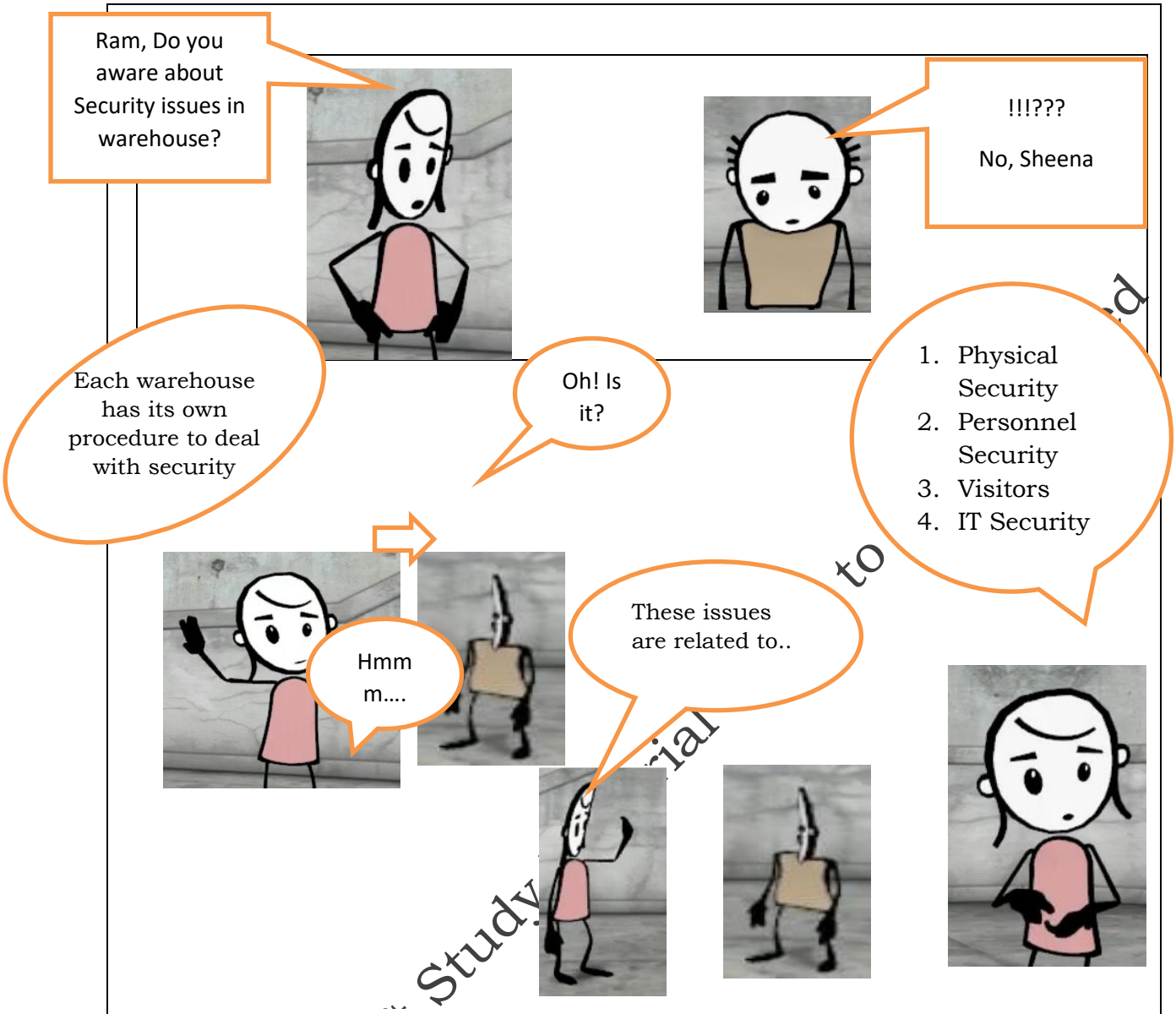
1. What PPE stands for?
2. What is the meaning PPE?
3. Write down the types Personal Protective Equipment's.
4. Write a note on PPE and heir uses.
5. What should employees know about PPE?
6. What are the probable hazards for which workers should know he/she utilize of PPE in warehouse?

D. Check Your Performance

1. Spell out the types Personal Protective Equipment's.
2. Make a chart on PPE and heir uses.
3. Demonstrate the probable hazards for which workers should know he/she utilize of PPE in warehouse.

Session 3: Security Measures and Material Handling

Security can be refers to a protection from harm, which is very important in warehouse. As there is without standard template to follow a security procedure because it depends on the organization, the products organization is dealing with, work in hand, the people working for the organization and many other variables on which it varies from organization to organization.



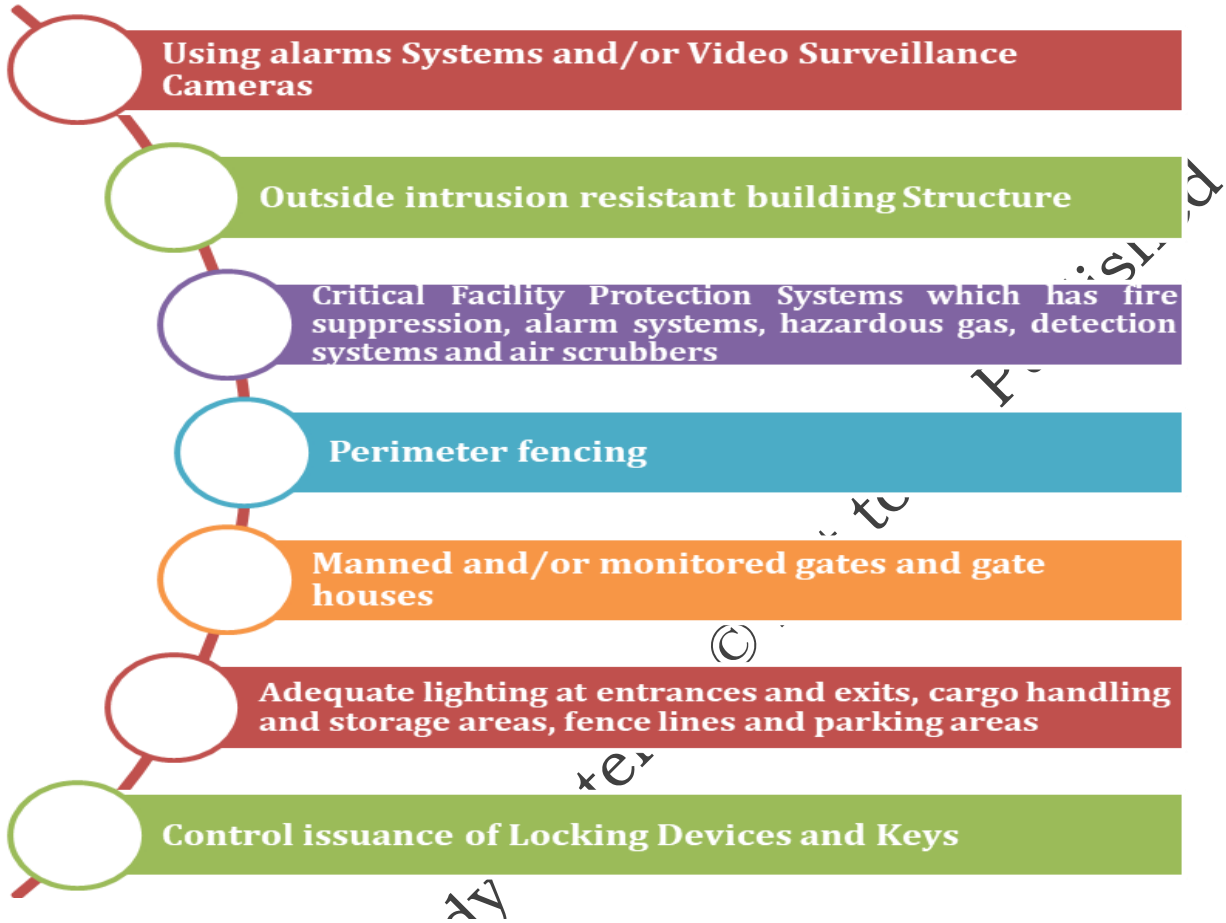
A proper security in warehouse means a there will be a set procedures for storage of containers at safe place to prevent illegal access and/or manipulation then effective communication will be placed to communicate seal numbers to consignee and a set procedures for reporting and defusing unauthorized entry of visitors to the store areas and other secured areas. In other words an environment saved from harm, injuries and theft. There are various equipment's used in a warehouse for ensuring security such as security cameras, gates, fencing, monitoring, locking of the doors, alarming etc.

1. Physical Security

Physical security depends on many things such as the kind of floors, walls, roof and especially windows are important. Physical security includes building and room security as well as physical security devices such as locks as well as physical restraints. Warehouses should incorporate security facilities which

must have physical blockades and deterrents that protect against unauthorized access.

Physical security can be ensured through following mediums:



2. Personnel Security

Personal security is aimed to defend people from physical violence. Everyone has a right to have a safe life while working in the body and now days it's a prime duty of an organization to provide such environment. Although it's a synergistic approach of employee and employer which occurs after adequate efforts.

To facilitate personal safety an organization should provide training on threat awareness to recognize and stand-in awareness of the hazard posed by terrorists by each point in warehouse and supply link. Employees must be completing aware of the processes the company takings in place toward address a condition and how to inform it. Additional training should be providing to employees in shipping and receiving spaces, as well as individuals receiving and opening mailing. Additionally, specific training would be offered to support employees in upholding cargo integrity, identifying internal conspiracies, and defensive access panels. These programs should deal incentives for energetic employee participation.

Personal security can be ensured through following process

- An employee identification system must be in place for positive identification and access control purposes
- Employees should only be given access to those secure areas needed for the performance of their duties
- Proper process of issuance and removal of employee, visitor and vendor identification badges
- Changing of access devices (e.g. keys, key cards, etc.) must be documented
- Employment history and references must be verified prior to employment
- Conduct employment screening, background checks, and thorough interviewing prior to hire
- Proper Procedure for removing identification, facility, and system access for terminated employees
- Warehouse provides periodic internal training programs covering warehouse activities including the importance of maintaining cargo integrity

Visitors

For the drive of the organisation visitors pass procedure is been used which help to protect from unauthorised entry of person and vehicle in site the organization.

Visitor's security can be ensured through following process:

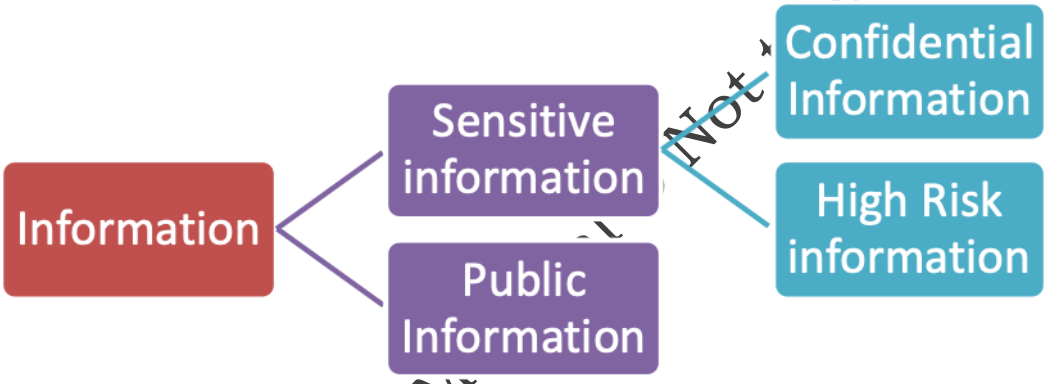
- Due surveillance has to be kept on any unauthorized visitor entering the warehouse
- Proper vendor ID and/or photo identification must be presented for documentation purposes upon arrival by all
- Personal vehicles should have separate parking areas and should not be parked near the receiving /shipping bay

Arriving packages and mail must be periodically screened before being disseminated

Identify, challenge and address unauthorized/un identified persons.

3. IT Security

Depending upon the environment of the data security should be applied to secure sensitive information. Information security policies ensure that access to information assets in an organisation is safeguarded and being compliant with data protection requirements.



Confidential Information

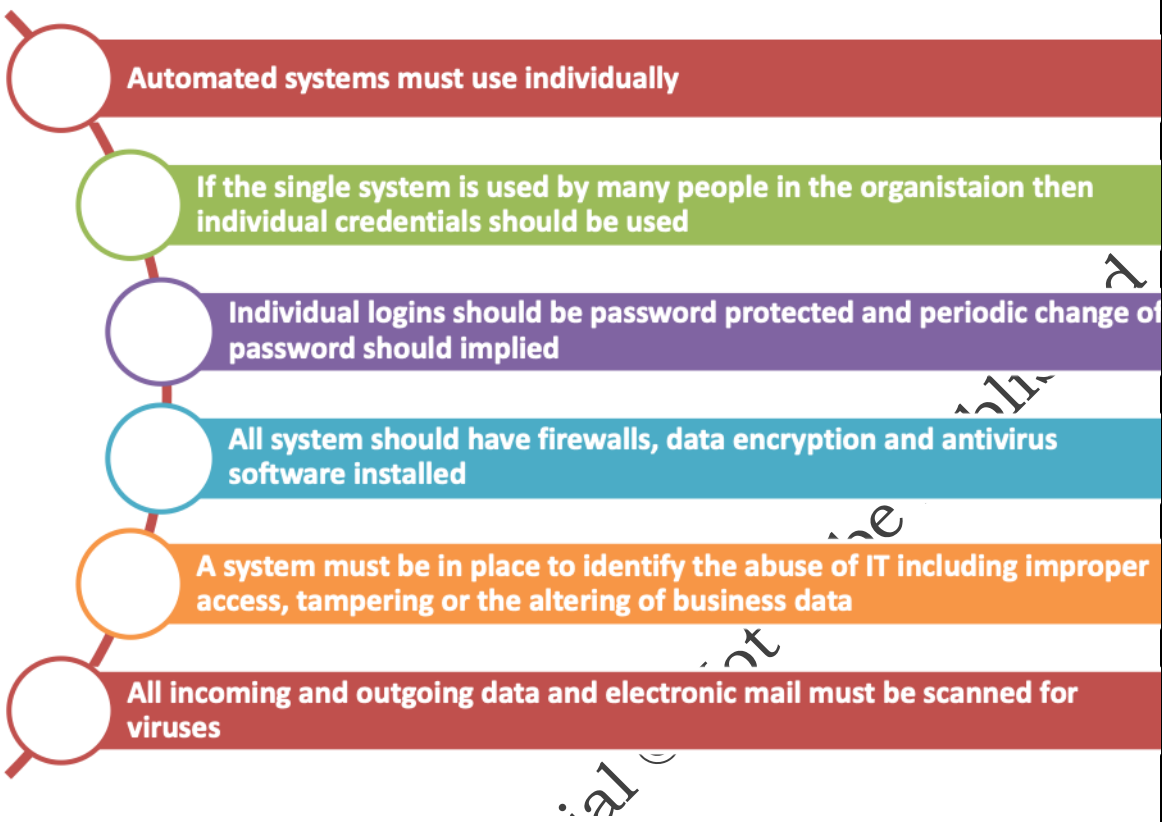
Confidential information need some level of defence either by law, agreement, or custom, like financial data, information related to budget, strategic plans, critical self-analysis and matters subject to confidentiality agreements.

High Risk information

Which are protected by state and central law such as information related to personnel and payroll records and employee health records?

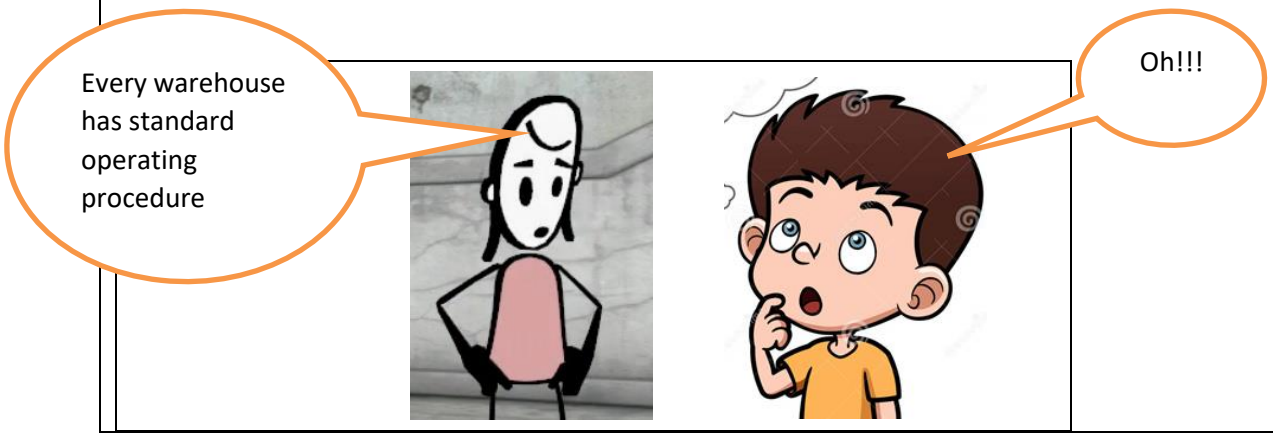
The information security policies should cover two dimensions; the first is technical security procedures such as firewalls, data encryption and antivirus software etc. The second is administrative security which includes user account management, change management and physical and reasonable access control.

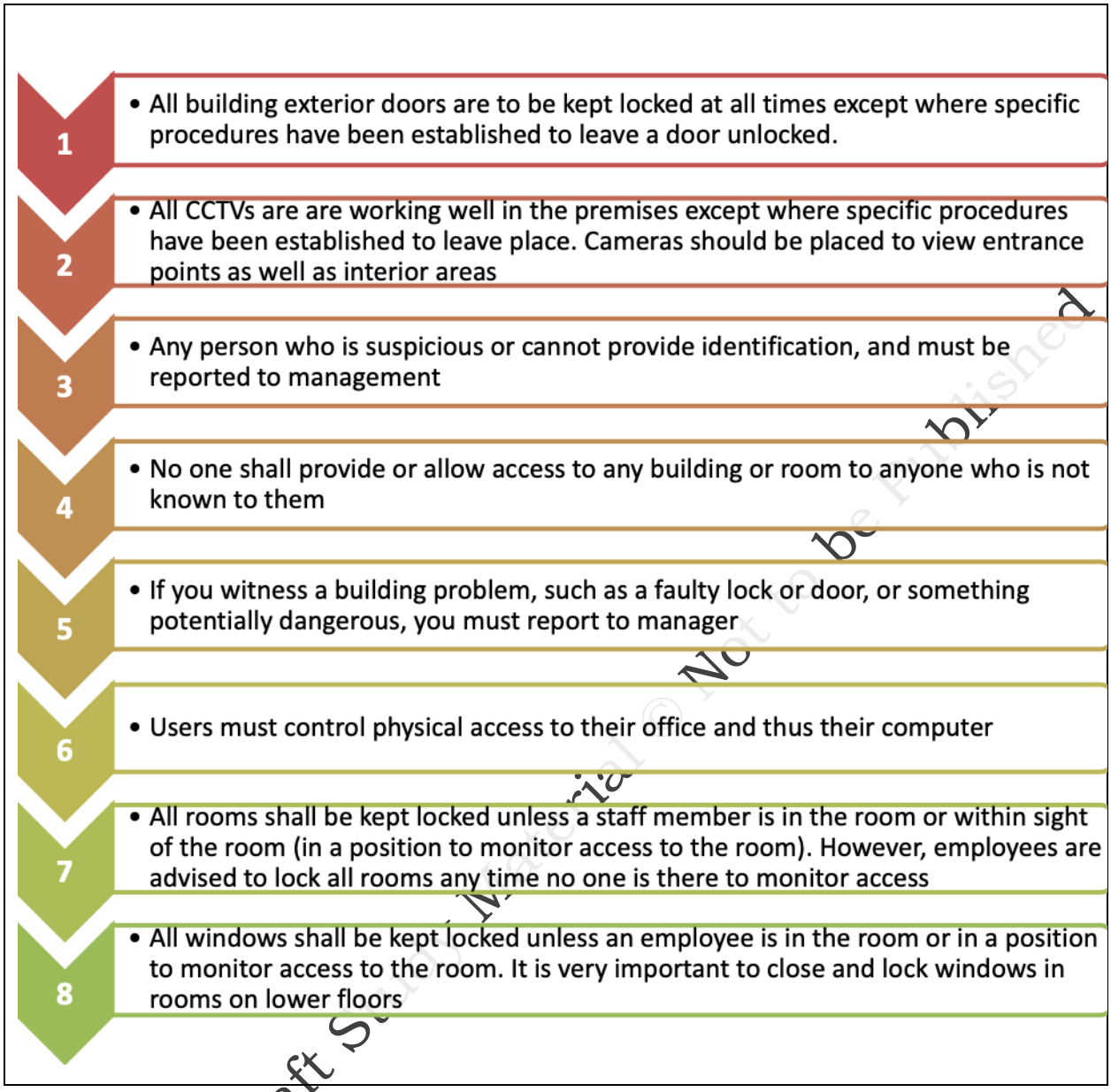
IT security can be ensured through following process



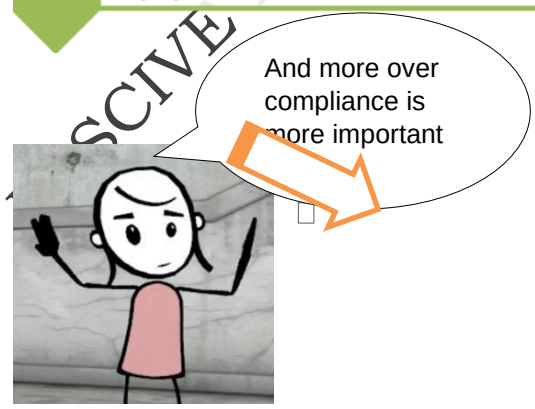
Standard Operating Procedure of Warehouse for Implementing Security

Warehouse is accountable for the security of the stored products and the wellbeing of its people and processes. Thus, warehouses should have a well-developed security system. Security in warehouse is collaborative effort of each person of each level working in the organization. Employees are trained to operate safely inside the warehouse and the supervisors are accountable for inspecting the implementation of safety procedures by the employees. Maintaining safety is the consequence of constant effort and supervision. Any mishap related to the security should be instantly reported to the supervisor to avoid any major incident and also to implement protective and corrective measures.





9. Office and building keys are distributed to authorized users based on the individual employee's actual need for access to specific areas
10. Equipment assigned to the employee is the responsibility of the individual employee. Incase of any breakdown the manager must be informed
11. The employee is responsible for the physical security of any company equipment to which he or she is entrusted
12. All company equipment must be tracked through inventory control and audited not le than annually by the organisation
13. If issued equipment becomes lost or stolen, the individual with responsibility for the equipment must immediately report this to the Information Security Officer
14. Machines that are swapped internally between individuals or groups, which contained sensiti data (original or derived), must have the hard drive wiped before being utilized by the new us
15. Prior to the last day of employment, employees must return equipments belonging to the organization
16. Destruction of all sensitive information must be done in such manner to ensure the information is rendered completely and permanently destroyed
17. Hard copies of sensitive information should be destroyed by pulping or shredding
18. Maintain automatic fire suppression system, and provide appropriate staff training in use
19. Maintain reasonable climate control in secured rooms, with temperature ranges between 50 and 80 degrees Fahrenheit, with a humidity range of 20% - 50%
20. Minimize nonessential materials such as coffee, food, cigarettes, curtains, reams of paper, and other flammables that could jeopardize a secure room



Audits of the security procedures shall be performed annually and upon the occurrence of any event in which a review of current procedures is appropriate. Such audit shall be performed by an authorized employee of the organization or by an outside individual or firm at the discretion of management

MATERIAL HANDLING

Material handling is the movement, defines, storage and regulates the materials and products during manufacturing, distribution, warehousing, consumption and removal. Material handling includes wide range of manual, semi-automated and automated equipment and process that helps supply chain works smoothly.

IMPORTANCE OF MATERIAL HANDLING

Material handling helps to improve process of supply chain in various ways, these are as follows:

MATERIAL HANDLING PROCEDURE

Below are the steps for material handling:

1. **PLANNING AND PREPARATORY WORKS**

   a) Receiving the following mention documents for planning
      - Overall Shipping Schedule,
      - Over Measurement Cargo List and sketches thereof,
      - Storage Space General Drawing
      - MATERIAL Handling Procedure

   b) Receiving the Complete Packing Lists

c) Planning in lieu of required manpower and building equipment for unloading

d) Preparation of unloading area and designation of storage areas

e) Filling the Bundle No., Article No., etc. in the Consignment Receiving Report agreement with the received Complete Packing Lists

2. **MATERIAL GETTING AND UNLOADING**

a) Receiving of Materials

- At the warehouse
- At the open storage area
- At any given area in the site (complete delivery materials)

b) Unloading of materials

3. **UNPACKING AND INSPECTION**

a) Unpacking Inspection Schedule

b) Non-scheduled Unpacking Inspection

c) Preparation of Unloading Inspection

- Establishing the check-up procedure according to kind of packing
- Providing as necessary, the space for the Unloading Inspection
- Making obtainable all necessary manpower, tools, implements, equipment's, MATERIALS, etc., for unpacking then re-packing the MATERIALS
- Description of the area for storing of MATERIALS after Unpacking Check-up.

d) Unpacking Inspection

e) Unpacking Inspection will be accepted out for the subsequent checks.

- Visual presence inspection for Destruction to, and/or distortion of the MATERIALS
- Rust or stains, Evidence of water soaked Peeling of, damage to, paint, coverings or linings, and/or scorching thereof due to primary rust.

- Verification of Tag Nos., Valve Nos., ID Stamps, ID Markings. Etc.
- Quantity verification. Damaged MATERIALS shall be stored independently by STORE OFFICER. The STORE Manager shall make Unpacking Inspection Report then give in to the MATERIAL CONTROLLER in evidence of recording.

f) Material Excess, Shortage or Damage

g) Insurance Claim

4. **STORING**

a) General store officer should instruct

- Correct storage of materials at the prescribed location.
- Storing of materials by item, class, size, etc.
- Maintenance of up-to-date proceedings of quantities for the materials detained in the storage services.
- Correct identification and marking of the various storage areas.

b) Classifying storage as per material

c) Storing in open storage area

d) Storing in warehouse

e) Care and Defence of materials

5. **MATERIAL DEMAND AND ISSUING**

a) Issuing of materials

b) Loan and return of special tools

6. **STOCK TAKING**

The stock takings are a fundamental part of any business that deals in goods. It's the only way binner can keep track of inventory, see if their ordering process is efficient, and reduce over-stocking. However, in order to achieve these goals, binner needs a firm process for carrying out the stock take itself. Here, we've compiled a list of seven easy steps on the way to help the perfect stock take.

a) Choose a decent time

b) Print your stock sheets

c) Organise stock carefully

d) Organize staff

e) Don't guestimate

f) Validate stock take

g) Update stock records

7. **RETURN OF ISSUED PRODUCTS**

In-store product returns have become an essential part of many retail operations. The in-store product returns process can be distributed into 5 steps.

a. Step 1: Verify product returns request

b. Step 2: Create return request

c. Step 3: Process payment & complete return

d. Step 4: Complete in-store product returns

e. Step 5 (optional): Return item to inventory

8. **DISPOSAL OF EXCESS OR RESIDUAL MATERIALS**

a) Standard or Surplus Disposal: It is when a department disposes of equipment, materials, and supplies, whether inventorial or not, through the established procedure facilitated by the Surplus Property Department. Equipment Inventory removes the record of equipment from the department's inventory. The terms disposal and surplus are often used interchangeably.

b) Residual Waste Disposal: It is non-hazardous industrial waste. It includes waste products (liquid, solid or gas) manufactured by agricultural, industrial and mining operations. These are certain coal pulling out wastes and wastes after normal farming activities. Most residual wastes are sort out and prepared on the location where it is produced.

9. **DOCUMENTATION FOR MATERIAL HOLD AND STORING**

a) Prepare list of documents

b) Explanation for usage of document

(i) Shipping Control Sheet

(ii) Detail Packing List

(iii) Cargo Receipt Report

(iv) Unpacking Inspection Report

(v) Excess, Shortage or Damage Report (ESD)

(vi) Request for Urgent Procurement (RUP)

(vii) ESD/RUP Summary Report

(viii) RUP Status Report

(ix) Stock Book

(x) Bin Card

(xi) Material Requisition

(xii) Piping Material Requisition

(xiii) Loan/Return Slip for Special Tool

(xiv) Daily Report for Storing Works

(xv) Monthly Report for Storing Works

Warehouse Material Handling and Safety Checklist			
Supervisor Name:			
Date:		**Time:**	
S. No.	**Particulars**	**Yes**	**No**
1.	Wear eye protection goggle when working in hazardous conditions to protect eyes from flying particles		
2.	Wear suitable personal protective equipment while exposed to chemicals goods		
3.	Use protective gloves while handling sharp things		
4.	Use appropriate ladders, lifting, platforms, and devices to reach high of rack and don't climb on racks		
5.	Keep clean, areas near firefighting equipment, electrical control panels, exits, alarm boxes and main aisles		
6.	Don't use broken pallets.		
7.	Store moving equipment at appropriate place		
8.	Put waste packing items in recycling containers		
9.	Store material in stable location		
10.	Pay attention to determine the height of shelf.		

11.	Maintain at least of eighteen inches for clearance to all sprinkler heads		
12.	Block around irregular material to stop rolling		
13.	Mark all pipes, lumber, bar stock, and other materials that project racks with warnings tags		
14.	Store drums in upright position (maximum four on a pallet)		
15.	Inspect chemical containers on monthly basis- increase frequently during summer. Provide ventilation, cooling, covering as needed		
16.	Store gas cylinders in standing position. secured to stop falling, and covered when moved, stored, or shipped		
17.	Store flammable gas cylinder away from oxygen containers		
18.	Use lifting supports if moving gas containers with overhead pulls		
19.	When moving gas cylinders to lift truck use appropriate racks		
20.	Forklift operators need specific training. Supervisor gives certificate before operates.		
Signature:			

Activities

Activity 1: Demonstrate the organizational procedure of security

Materials required: Notebook, Pen, Prepared 5-6 questions on material handling

Procedure:

1. Visit a warehouse
2. Name of the person and his occupation who performs respective job
3. Ask him/her Question you prepared previously

4. Note down the answers in the notebook
5. Then prepare your report based on interview and observation about material handling in warehouse also write down the step by step procedure of material handling in the warehouse.

Activity 2: Visit a warehouse and observe the organizational procedure for material handling and prepare a report.

Materials required: Worksheet provided by teacher, pen

Procedure:

1. Take a sheet
2. Understand a simulated situation explained by teachers in the class
3. Based on instruction fill the checklist

Warehouse Material Handling and Safety Checklist			
Supervisor Name:			
Date:			**Time:**
S. No.	**Particulars**	**Yes**	**No**
1.	Wear eye protection goggle when working in hazardous conditions to protect eyes from flying particles		
2.	Wear suitable personal protective equipment while exposed to chemicals goods		
3.	Use protective gloves while handling sharp things		
4.	Use appropriate ladders, lifting, platforms, and devices to reach high of rack and don't climb on racks		
5.	Keep clean areas near firefighting equipment, electrical control panels, exits, alarm boxes and main aisles		
6.	Don't use broken pallets.		
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16.	Store gas cylinders in standing position. secured to stop falling, and covered when moved, stored, or shipped		
17.	Store flammable gas cylinder away from oxygen containers		
18.	Use lifting supports if moving gas containers with overhead pulls		
19.	When moving gas cylinders to lift truck use appropriate racks		
20.	Forklift operators need specific training. Supervisor gives certificate before operates.		
Place:			
Signature:			

Check Your Progress

A. Fill in the Blanks

1. Any person who is suspicious or cannot provide_____ and must be reported to management.
2. If you witness a building problem, such as a faulty lock or door, or something potentially dangerous, you must report to_____.

3. Critical Facility Protection Systems which has fire_____, alarm systems, _____gas, detection systems and _____scrubbers.
4. _____operators need specific training and supervisor certification before use.
5. Use protective _____ when handling sharp things.
6. _____is aimed to protect worker from physical violence.

B. State whether the following statements are True or False

1. Destruction of all sensitive information ensure that information is rendered completely and permanently destroyed.
2. Machines that are swapped internally between individuals or groups, which contained sensitive data (original or derived), must not have the hard drive wiped before being utilized by the new user.
3. All company equipment must be tracked through inventory control and audited within a month by the organization.
4. Maintain reasonable climate control in secured rooms, with temperature ranges between 20 and 50 degrees Fahrenheit.
5. Conduct employment screening, background checks, and thorough interviewing prior to hire.
6. Individual logins should be password protected and periodic change of password should have implied.

C. Short Answer Questions

1. Define security?
2. What kind of security does warehouse need to maintain?
3. What is personal security and how it can be ensured?
4. What is IT security and how it can be ensured?
5. What is physical security and how it can be ensured?
6. What is material handling? Write down its importance.

D. Check Your Performance

1. Spell out what kind of security does warehouse need to maintain.
2. Demonstrate the procedure of personal security and how it can be ensured.
3. Demonstrate the physical security and how it can be ensured.

Session 4: UNSAFE CONDITIONS AND VISUAL INSPECTION

Unsafe act can be termed as "violation of a commonly accepted safe procedure which caused the amount of injury - producing accident." It is evident from the meaning that no personal action is labeled unsafe unless there is reasonable, less hazardous, alternative procedure. For example, the operation of railway crossing gate for which no guard was provided can be classified as a hazardous condition and as an unsafe act because the worker can prevent forthcoming accidents.

In many cases from the analysis of the individual accidents it is apparent that the accidents are not only due to unawareness of safe condition but it is also due to choosing of alternative procedure even after awareness of safe procedure. Therefore, two steps in any safety program which are essential to the reduction of unsafe acts, namely education and enforcement. All workmen should be carefully performing their duties and they should be taught to recognize hazards involved in deviations from the safe procedures.

STANDARDIZED OPERATING PROCEDURE OF WAREHOUSING

The function of SOP is to provide the guidelines and procedures for the warehouse management so that worker can work in a particular sequence. Warehousing is very important function of logistics. Warehousing strategy helps in lowering down the operational costs helps to provide competitive advantage. Sequenced activities in warehouse facilitate ease and comfort of end-to-end storage solutions less than one roof.

Thus every warehouse required SOP for its operation. Employees should follow this model for functioning of warehouse for handling works there. General warehousing procedure is depicted in the flow chart below whereas employees should follow the given procedure by warehouse supervisor or manager as per different activities performed.

General warehouse procedure: The flow chart shows general working of warehouse from receiving to dispatching goods. This activity involves different jobs at different level which has standard procedure based on type of warehouse and work in the warehouse. Every employee need to adopt for keep them safe from hazards and risks at the workplace.

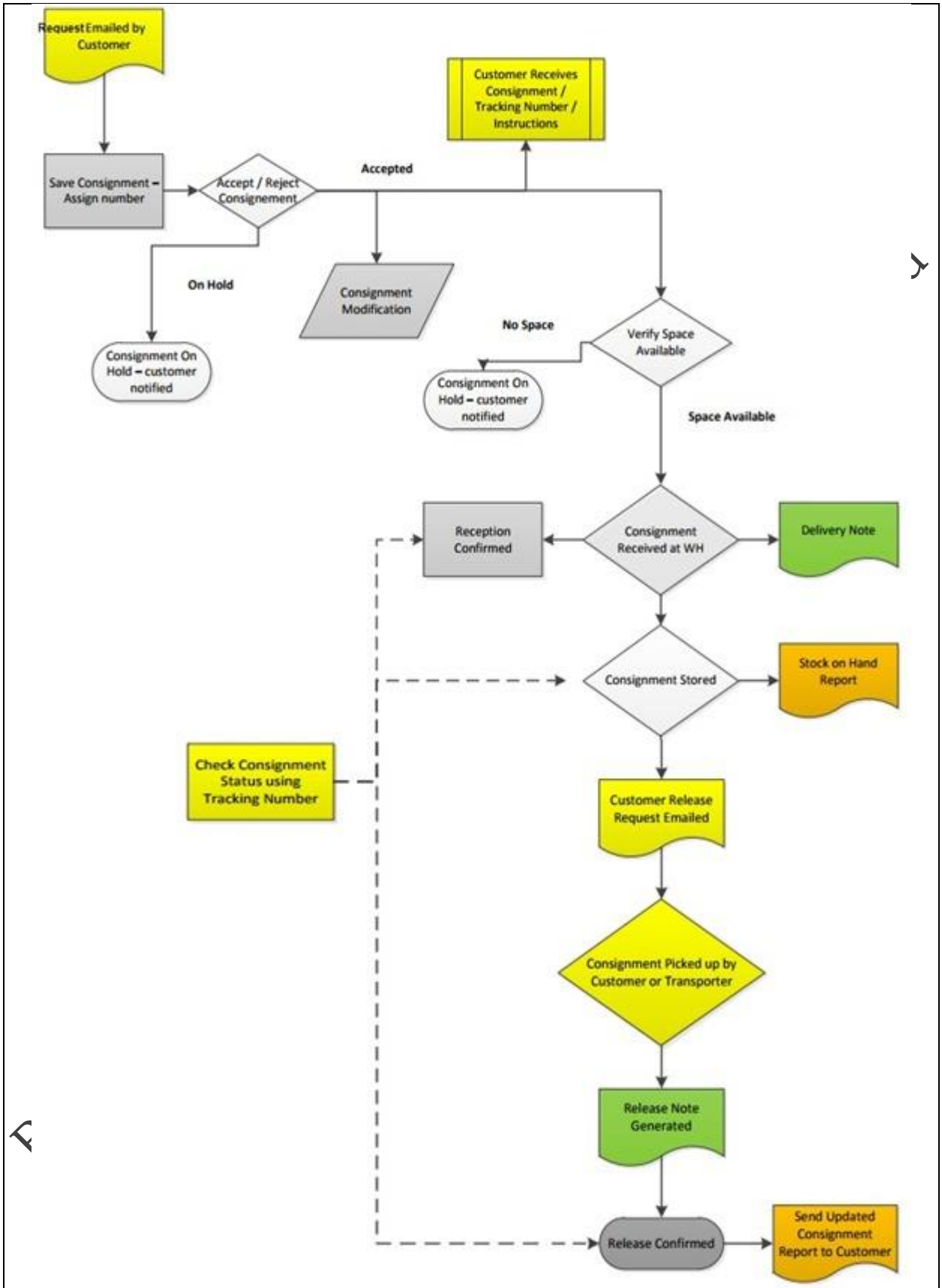


Fig 4.4: Hierarchy of Controls of Hazards

Health and Safety Policy

If the warehouse has 5 or more than 5 employees working then a warehouse should have written statement in form of policy on safe practice with declaration on the organization itself.

The management should ensure implement the policy and reviewed it on regular basis.

Compliance of the policy

1. Health and Safety policy statement
2. Responsibilities
3. Health and safety risks
4. Consultation with employees
5. Safe plant and equipment and safe handling and use of substances
6. Information, instruction and supervision
7. Competency for tasks and training

Risk Assessments: When a warehouse has five or more staff at working place, risk assessments should be implied which cover not only staff but also visitors and contractors. This should review on regular basis.

Ram, to comply risk assessment a warehouse should

1. Identify the hazards.
2. Decide who may be harmed and how
3. Evaluate the risks and decide on precautions
4. Record your findings and implement them
5. Review your risk assessments and update.

Accident Reporting: Employees and employers should report work related accidents, injuries, specific work related diseases and dangerous happenings such as death or major injury including physical violence, a member of public killed, taken to hospital, an employee suffers due to injury from a long time etc. These happenings must report without delay and followed up within 10 days with a completed accident report.

Ram, to comply accident reporting you must report

Ok...

The various types of accident and injuries listed above within the set timescales by: ***Telephone (major injuries and fatalities only)*** - the Incident Contact Centre without the need of fill in a report form. A copy of the final report should be kept for own records. ***Online*** - a report can also be made by completing an interactive form on the website if available or email can be sent to the concerned person

Workplace Transport: Employers assess the risks of workers and others (e.g. visiting drivers, contractors, customers) from workplace transport.

To comply transport security manager should ensure:

S… ehicles – Well maintained (brakes, reversing warnings, lights, horns etc.) and examined. Loads secure and not beyond capacity.
Safe Drivers – trained, authorised, instructed and supervised. Trained banks men reversing are carried out.
Safe Site – suitable routes, roadways and parking (firm, even surfaces, routes marked with direction signs); speed limits; one way Routes; lighting

Ok...

General Work Equipment: Warehouse has duties towards their employees who work with equipment.

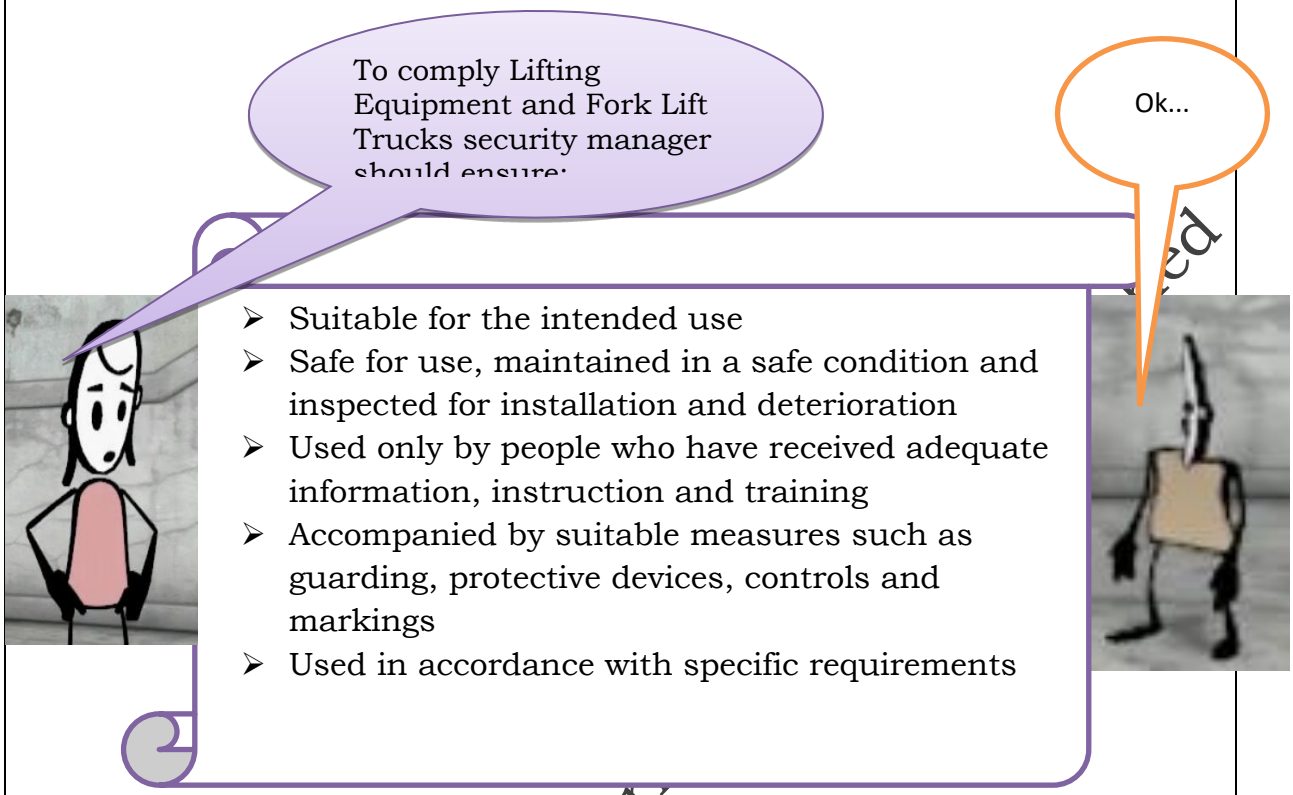
To comply general equipment security manager should ensure:

- Suitable for the intended use
- Safe for use, maintained in a safe condition and inspected for installation and deterioration
- Used only by people who have received adequate information, instruction and training
- Accompanied by suitable measures such as guarding, protective devices, controls and markings
- Used in accordance with specific requirements

Ok...

Lifting Equipment and Forklift Trucks: 'Lifting equipment' not only lifts the equipment but also lowering loads. It includes lifting accessories and attachments. It use for anchoring, fixing or supporting the equipment.

Warehouse should aim to reduce risks of people's health and safety from lifting equipment.



Storage Systems: Warehouse has to deal with issues related to manual handling. Storage areas specifically designated and marked clearly. The layout of storage and handling areas should avoid tight corners, pillars, changes of gradient and uneven surfaces.

Racking Systems

- Safe working loads, heights, widths and equipment tolerances should be set by designers and manufacturers of the system.
- Racking should only be installed by competent people.
- Racking should be erected on sound, level floors, capable of withstanding the point loading at each base.
- Notices should be clearly displayed stating the maximum load

Pallets

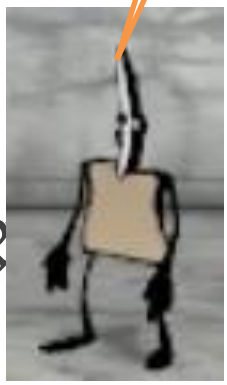
- Pallets should be loaded to an established pattern to achieve maximum stability and safety.
- The load should be uniformly distributed over the pallet.
- Pallets should be inspected each time before use to ensure that they are safe to use.
- Withdraw damaged pallets for repair or destruction.

Manual Handling: In the warehouse more than one third injuries, happened due to manual handling. Thus, warehouse manager or supervisor is required to:

1. Avoid hazardous manual handling, so far as it is sensibly practice;
2. Assess the risk of injury and avoid hazardous manual handling, and
3. Reduce the risk of injury by adopting sensible use of hazardous manual handling.

If manual lifting is the only option then there are a number of things that can done to reduce risks includes:

- Making the load smaller or lighter and easier to lift,
- Breaking up large consignments into more manageable loads,
- Modifying the workstation to reduce carrying distances, twisting movements, or the lifting of things from floor level or from above shoulder height, can be done to reduce the risk, including;



Work at Height: While in the warehouse working, falls are very common cause. Warehouse manager or supervisor must adopt careful practices to prevent from falling and also ensure that work at height should be carry safely. For all tasks involving work at height, risk assessments must be completed and must consider risks from both falling staff and objects.

- Work at height must be adequately planned, supervised and carried out in a safe manner.
- Ensure the people working at height are trained and competent to carry out their duties.
- Make sure the equipment selected is appropriate for the job!
- Inspect your equipment regularly. Mobile Elevating Working Platforms (MEWPS) must be thoroughly examined every 6 months (Lifting Operations and Lifting Equipment Regulations 1998).
- Ensure there is a system for reporting and managing defects.
- Plan for emergencies e.g. rescuing people
- Risk assessment for work on or accessing

Visual Inspection: It is a most effective technique to ensure effective Quality Control of equipment's working conditions. Inspection of equipment can be done by seeing, hearing, smell, touch, etc.

Now I understood……The manager should Inspect to ensure safe transport by checking:

- Driver certification
- Pre-shift truck checks
- Vehicles regularly serviced and (where necessary) thoroughly examined
- Pedestrian safety e.g. walkways, warning signs and pedestrian crossing points
- High visibility clothing for anyone in the vicinity of moving vehicles
- Policy to inform suppliers/delivery drivers of site rules
- Safe access and egress to backs of delivery vehicles with footholds, ladders and/or grab rails
- Gangways and aisles of sufficient space to enable trucks to load/unload from racking safety
- Protective barriers on traffic routes
- Blind bends provided with fixed mirrors

And…The manager should inspect to ensure safe working with general equipment's by checking:

- Fixed guards on moving parts of conveyor belts and stretch wrap machines
- Racking installed by competent persons and in accordance with manufacturer's instructions
- Racking suitable for the loads, not modified and displaying maximum loads/configuration signs
- Lift trucks fitted with seat belts, roll cages and audible/visible alarms
- Access equipment suitable for task, maintained in good condition e.g. Ladders, Mobile Elevating Working Platforms (MEWPS), mobile step

The manager should inspect to ensure safety in Lifting Equipment and Fork Lift Trucks by thorough examination of:

- Fork lift trucks
- Overhead cranes and their supporting runways
- Vehicle tail lifts and cranes fitted to vehicles
- A building cleaning cradle and its suspension equipment
- Goods and passenger lifts and Lifting Accessories for example:
  - Fibre or rope slings
  - Chains
  - Hooks and Eyebolts
  - Magnetic and vacuum devices

The manager should inspect to ensure safety in storage system by checking:

- Suitable and sufficient racking systems in good repair.
- Pallets in good repair.
- Items stored safely and securely.
- Appropriate equipment readily available to reach
- High level storage.
- Staff training in manual handling.
- Regular inspection records.
- Installation certificate
- Signage
- Hazardous substances clearly identified, stored

And....The manager should inspect to ensure safety in manual handling by checking:

- A risk assessment specifically relating to manual handling issues
- A record of any training given to staff relating to handling techniques and use of equipment.
- Observed correct lifting technique demonstrated by staff, or correct use of mechanical handling aids/equipment.
- An appropriate number of mechanical lifting aids/equipment, in good working order, accompanied by adequate maintenance/service records, thorough examination certificates (see the

And finally ….The manager should inspect to ensure safety in work at height safety by checking:

- Statutory inspection reports for MEWPS.
- Appropriate equipment for the task in good working order.
- Staff adequately trained to fulfil their tasks.

Warehouse Health & Safety Checklist: A general checklist to ensure health and safety of employees by employer in the warehouse is given below. This is not specific for all kind of warehouse but can vary with the types of warehouse and job at the workplace.

Organisation		**Date**	
POLICY & RISK ASSESSMENTS			
S. No.	**Particulars**	**Yes/No**	**Comments**
	Written and signed statement of general health & safety policy		
	Arrangements of place for putting into practice		
	Reviewed on regular basis and bring into attention of all staff		
	All relevant hazards identified		
	Identification of those who may be harmed and how (employees, contractors, visitors etc.)		

	Risks evaluated and necessary precautions taken at workplace		
	Significant findings recorded and bring into attention of all staff		
	Reviewed and updated regularly		
WORK EQUIPMENT			
S. No.	**Particulars**	**Yes/No**	**Comments**
	Only standard pallet used for loading		
	Machine adequately guarded with fixed guards on moving/dangerous parts. safe access via interlocked guards		
	Emergency stop button should be working and easily accessible		
	Mechanical parts & guarding regularly maintained Staff informed, instructed and trained in correct use, especially clearing blockages		
	Area around machine unobstructed at all times managed with suitable barriers, floor markings		
	Written Examination scheme and records for equipment subject to Pressure Systems testing		
WORKPLACE TRANSPORT			
S. No.	**Particulars**	**Yes/No**	**Comments**
Drivers			
	Drivers trained, competent and authorised		

	Active supervision of driver behaviour (e.g. near damaged racking)		
	Truck keys not left unattended in ignition		
	Reversing of delivery vehicles avoided unless necessary		
	Any necessary reversing overseen by trained banks men		
Traffic Routes			
	Gangways/aisles of sufficient space to enable lift wagons to load/unload from racking safely		
	Place to keep vehicles and pedestrians separated		
	Access to warehouse and other dangerous areas restricted to staff		
	Warning Signs located around traffic routes (e.g. FLT operating in area)		
	Protective barriers on entrances leading onto traffic routes		
	Floor/Traffic routes suitable for the vehicles using them (e.g. no excessive slopes/potholes)		
	Vehicle routes kept free of obstructions & in good condition		
	Suitable & marked pedestrian crossing points and walkways where possible		
	Fixed mirrors on blind bends		
	Sensible speed limits imposed and adhered to		

	Staff & others working in vicinity of moving vehicles given training and high visibility clothing		
	Parking of cars and vans only in marked, designated spaces away from external delivery/dispatch areas		
	Suppliers/contractors informed of site rules & restrictions		
Vehicles			
	Vehicles immobilise when not use by designated driver (e.g. ignition keys removed)		
	Drivers check trucks before start		
	Trucks serviced and maintained regularly		
	LOLER Thorough Examination and certification for trucks and lifting accessories by competent person (6 or 12 monthly as LOLER requires)		
	Truck features present and working (seat belts, roll cages, audible/visual alarms)		
	Safe means of access/egress to rear of delivery vehicles (footholds, ladders, clean floors)		
STORAGE SYSTEMS			
S. No.	**Particulars**	**Yes/No**	**Comments**
	Racking designed for loads suitably		
	Signage on racking with information should be displayed such as safe working load (SWL)		

	Inspect racking regularly. Make sure it is repaired and maintained properly. 'Expert' inspections carried out at intervals by a competent person		
	Staff report any damage to racking		
	Make sure defective pallets are withdrawn from use immediately		
	Protective footwear use when entering into Warehouse		
	Protective gloves provided for staff handling pallets		
WORK AT HEIGHT			
S. No.	**Particulars**	**Yes/No**	**Comments**
	All staff instructed never climb racking Platform		
	Safe use of stepladders for short duration work		
	Quality forklift should use for high access		
	properly secured and maintained		
	Competent contractors use for roof work (risk assessment, method statement, rescue plan)		
	Assumed roof is breakable unless and until use fragile roof symbols in place		
	Internal mezzanine floor – edge protection, toe boards, load bearing, etc.		
MANUAL HANDLING			

S. No.	Particulars	Yes/No	Comments
	Use of mechanical assistances such as sack trucks, conveyors		
	Staff manual handling training		
	Manual handling tasks risk measured according to HSE Manual Handling Assessment Charts (MAC Chart – INDG 383)		
HAZARDOUS SUBSTANCES			
S. No.	**Particulars**	**Yes/No**	**Comments**
Vehicle Fumes			
	Drivers not allowed leaving vehicles' engines running in warehouse.		
	Roller shutter doors and warehouse windows open, to assist ventilation		
Recharging of Truck Batteries			
	Batteries charged in designated, ventilated area		
	Safe system of work followed including use of Gloves, goggles & aprons		
	Potential sources of explosion controlled		

Activities

Activity 1: Visit a warehouse and identify the unsafe conditions in warehouse and prepare a report

Materials required: Notebook, Pen, worksheet of warehouse standard procedure provided by teacher

Procedure:

1. Take a sheet of standard procedure of warehouse
2. Fill appropriately in blanks
3. Submit to teachers

Activity 2: Prepare a PPT presentation on standardized operating procedure of warehouse and submit

Materials Required: Checklist of manual handling and work at height provided by teacher, pen.

Procedure:

1. Take a checklist
2. Understand a simulated situation explained by teachers in the class
3. Based on instruction fill the checklist of manual handling and work at height

Activity 3: Prepare a chart of visual inspection at warehouse for general equipment safety, Lifting Equipment and Fork Lift Trucks**,** storage system and manual handling.

Materials required: Drawing sheet, pencil, eraser, colours

Procedure:

1. Take a sheet.
2. Prepare a chart of visual inspection at warehouse for general equipment safety, Lifting Equipment and Fork Lift Trucks**,** storage system and manual handling.
3. Submit to the teacher for display in class.

Check Your Progress

A. Fill in the Blanks

1. All workmen should be carefully _____in the safe methods of performing their_____.
2. Warehousing is an important function of_____.
3. If warehouse have _____or _____ staff have in place a documented risk assessments should be implied.
4. _____ is a most effective technique to ensure effective Quality Control of equipment's.
5. Employees should report work related _____and _____ such as death.

6. Every employee need to adopt _____working practice to keep them safe from _____and_____ at the workplace.

B. State whether the following statements are True or False

1. Accept safe procedure at workplace which cannot amount of injury is called unsafe condition.
2. Visual inspection of general equipment is not done by Fixed guards on moving parts of conveyor belts and stretch wrap machines.
3. For manual handling manager should ensure that the person doing the lifting has been trained to lift as safely as possible.
4. The manager should inspect to ensure safe transport by checking blind bends provided with fixed mirrors.
5. The manager should inspect to ensure safety in manual handling by checking an appropriate number of mechanical lifting aids/equipment, in good working order, accompanied by adequate maintenance/service records, thorough examination certificates.

C. Short Answer Questions

1. What do you understand with Standard operating procedure?
2. Write down standard operating procedure for:
   a. Compliance of the policy
   b. Risk Assessments
   c. Accident Reporting
3. What do you mean by visual inspection?

D. Check Your Performance

1. List out Standard Operating Procedure.
2. Demonstrate compliance of the policy, risk assessments, accident reporting.

Answer Keys

Module 1: VERIFICATION OF BINNED GOODS

Session 1: Identify Binned items for Errors

E. Fill in the Blanks: 1–Post binning, 2–Loss damage, 3–Location, 4–GRN date, 5-ERP

F. Multiple Choice Questions: 1 – b), 2 – a), 3 – a), 4 – a), 5 – b), 6 – d)

Session 2: Report to Supervisor about Damages

A. Fill in the Blanks: 1–Bin, 2–Zones, 3–Labelled, 4–BIN Location, 5–Shelves

B. Multiple Choice Questions: 1 – c), 2 – d), 3 – d), 4 – d), 5–d), 6-c)

Session 3: Stacking

A. Fill in the Blanks: 1–Storage, 2-Dimensions and weights, 3-unit load, 4-Block stacking

B. State whether the following are True of False; 1 – False, 2 – True, 3 – False, 4 – True, 5 – True

Session 4: Report Status of Inventory Binned

A. Fill in the Blanks: 1–Visual Inspection, 2–Tallying, 3–Counting, 4–Schedule 5–Layout, 6-Store manager

B. Multiple Choice Questions: 1–b), 2–d), 3–c)

MODULE 2: OPERATIONAL AND DOCUMENTATION PROCEDURE

Session 1: Material Handling Equipment

A. Fill in the Blanks: 1–Mechanical, 2–Material, 3–Single, 4–Pallets, 5-Movable

B. State whether the following are True or False: 1–False, 2–True, 3–False, 4 – True

C. Multiple Choice Questions: 1 – c), 2 – a), 3 – b), 4 – c), 5 – c)

Session 2: Optimum Utilization of Space

A. Fill in the Blanks: 1–Vertical, 2–Reduce, 3–Optimum, 4-Warehouse, 5-Movement

B. State whether the following are True or False: 1 – True, 2–False, 3 – True 4 – True

C. Multiple Choice Questions: 1 – d), 2 – a), 3 – d), 4 – c)

Session 3: Report Discrepancies to Supervisor

A. Fill in the Blanks: 1 – Storing, 2 – Containers, 3 - check-lists, 4 - on duty

B. State whether the following are True or False: 1- False, 2 – False, 3 –True, 4 – False, 5 - False

C. Multiple Choice Questions: 1 – c, 2 – b, 3 – d

D. Session 4: Ensure Binning as per Clients Requirements

A. Fill in the Blanks: 1-bin/store the items, 2-coding, 3-size, weight, 4-stored and retrieved

B. Multiple Choice Questions: 1 – d), 2 – a), 3 – d), 4 – c)

D. Match the Column: 1 – d, 2 – c, 3 – b, 4 – a

C. State whether the following are True or False: 1 – False, 2 – True, 3 – False 4 – True 5 - False

MODULE 3: HOUSEKEEPING ACTIVITIES

Session 1: Preparations for Housekeeping

A. Fill in the Blanks: 1.housekeeping activities, 2-approved containers, ignition, 3. Cleaning, 4. Hazardous, label, 5. cleaning process

B. Multiple Choice Question: 1-e), 2-a), 3-c), 4-e), 5-c)

Session 2: Check the Tools and Equipments for Housekeeping

Fill in the Blanks: 1. Work gloves and safety shoes 2. Safety Boots 3. PPE 4. Ventilation, 5. Ready to use condition

B. State whether the following are True or False: 1. True 2. False 3.False 4.False

Session 3: Housekeeping Activities

A. Fill in the Blanks: 1-Four, 2-Identical, similar, 3- Shift, between, 4-Detailed

5. Suitability adaptability

B. State whether the following are True or False: 1 – True 2 – True, 3-True 4 – True, 5 - True

Session 4: POST HOUSEKEEPING ACTIVITIES

A. Fill in the Blanks: 1- Baseline, 2- On-hand quantities, 3- Count sheets, 4-Date, Cycle

C. State whether the following are True or False: 1-False, 2-True, 3-False, 4-True

MODULE 4: HEALTH, HYGIENE AND SECURITY MEASURES

Session 1: Safety Regulations and Procedures

A. FILL IN THE BLANKS: 1-Medical, Allied Health Professions, 2-Heights, Strengths, 3-Loads, 4-Inspected, 5-Harm, 6-Toxic, 7-Safety, 8-Personal, 9-First Aid, 10- Protect, 11- Dangerous

B. State whether the following are True or False: 1-True, 2-True, 3-False, 4-True, 5-True, 6-True

C. Multiple Choice Questions: 1-a, 2-c, 3-a, 4-a, 5-d, 6-b

D. Match the column: 1-b, 2-f, 3-e, 4-g, 5-h, 6-c, 7-d, 8-a

Session 2: Personal Protective Equipment's

A. Fill in the Blanks: 1-Protective Glasses, 2- Equipment, 3-Respirators, 4-Helmets, Hard Hats, 5-Body Protection, 6-Waistcoats, Jackets

B. State whether the following are True or False: 1-False, 2-True, 3-False, 4-True, 5-True, 6-True

Session 3: Security Measures and Material Handling

A. Fill in the Blanks: 1-Identification, 2-Manager, 3-Suppression, Hazardous, Air, 4-Forklift, 5-Gloves, 6-Personal Security

B. State whether the following statements are True or False: 1-True, 2-False, 3-False, 4-False, 5-True, 6-True

Session 4: Unsafe Conditions and Visual Inspection

A. Fill in the Blanks: 1-Instructed, Duties, 2-Logistics, 3-Five, More, 4-Visual Inspection, 5-Accidents, Injuries, 6-Safe, Hazards, Risks

B. State whether the following are True or False: 1-False, 2-False, 3-True, 4-True, 5-True

Glossary	
Accident	An incident which results in death, injury loss, or damage.
Accident Prevention	The systematic application of recognized principles to reduce incidents, accidents, or the accident potential of a system or organization.
Acute Effect	A change that occurs in the body within a relatively short time (minutes, hours, days) following exposure to a substance.

Acute Exposure	A single exposure to a hazardous agent.
Area Sampling	Collection and analysis of representative samples of air in general work areas in order to determine the concentrations of any contaminants that are present.
Biological Agent	Any living organism (for example, virus or bacteria) that affects the body, a part of the body, or any of its functions. The effects may be beneficial or harmful.
Chemical Agent	A chemical substance that affects the body, a part of the body, or any of its functions. The effects may be beneficial or harmful.
Chronic Effect	A change that occurs in the body over a relatively long time (weeks, months, years) following repeated exposure or a single over exposure to a substance.
Chronic Exposure	Repeated exposure to a hazardous agent.
Claims	state or assert that something is the case
Confined Space	A space in which a hazardous gas, vapour, dust or fume may collect or in which oxygen may be used up because of the construction of the space, its location, contents, or the work activity carried out in it.
Consignments	Goods/ materials booked with the courier
Critical Injury	The Occupational Health and Safety Act of Ontario defines critical injury as serious injury that: ➢ is life-threatening ➢ produces unconsciousness ➢ results in a substantial loss of blood ➢ involves the fracture of a leg or arm (but not a finger or toe) ➢ involves the amputation of a leg, arm, hand or foot (but not a finger or toe) ➢ consists of burns to a major portion of the body

	➢ causes the loss of sight in an eye
Danger Zone	An area or location where the probability of injury is high (for example, in the vicinity of saw blades).
Dust	Fine particles of a solid that can remain suspended in air. The particle size of a dust is larger than that of a fume.
Eliminate	completely remove
Emergency Plan	Detailed procedures for responding to an emergency, such as a fire or explosion, a chemical spill, or an uncontrolled release of energy. An emergency plan is necessary to keep order, and minimize the effects of the disaster.
Ergonomics	An applied science that studies the interaction between people and the work environment. It focuses on matching the job to the worker.
Fire precautions	The measures taken and the fire protection features provided in a building (e.g. design, systems, equipment and procedures) to minimise the risk to the occupants from the outbreak of fire.
Fire Prevention	The concept of preventing outbreaks of fire, of reducing the risk of fire spreading and of avoiding danger to persons and property from fire.
First Aid	The skilled application of accepted principles of treatment on the occurrence of an accident or in the case of sudden illness, using facilities or materials available at the time
Fragile	Can be easily broken or damage
Fume	Finely divided solid particles that are formed when a hot metal vapour cools and condenses.
Harm	Injury to or death of persons, or damage.
Hazard	The potential of any machine, equipment, process, material (including biological and chemical) or physical factor that may cause harm to people, or damage to property or the environment.

Hazardous Material	Any substance that may produce adverse health and/or safety effects to people or the environment.
Health	The World Health Organization has defined health as more than just the absence of disease. Rather, it is a state of complete physical, mental and social well-being.
Housekeeping	A way of controlling hazards along the path between the source and the worker. Good housekeeping means having no unnecessary items in the workplace and keeping all necessary items in their proper places.
Hygiene Practices	A broad term for personal health habits that may reduce or prevent the exposure of a worker to chemical or biological substances. Hygiene practices include**:** ➢ not smoking, eating or drinking in the work area ➢ washing up before breaks and meals ➢ removing contaminated clothing before leaving work ➢ Keeping street clothes separate from contaminated work clothing.
Improper	Not in accordance with accepted standards
Ingestion	The swallowing of a substance.
Inhalation	The breathing in of an airborne gas, vapour, fume, mist or dust.
Injection	To force or drive liquid or gas into the body
Liquid	A formless fluid that takes the shape of its container, but does not necessarily fill it.
Loss	Personal injury and/or asset damage.
Melting Point	The temperature at which a solid changes to a liquid. For mixtures, a range of temperatures may be given.
Mistake	A human action that produces an unintended result.
Noise	Unwanted sound that can lead to hearing loss or stress, or interfere with the ability to hear other sounds or to communicate.

Policy	A statement of corporate intent, which will be adopted and pursued as advantageous or expedient.
Precautions	A measure taken in advance to prevent something dangerous
Procedure	A step-by-step description of how to do a task, job, or activity properly.
Radiation	The energy transmitted by waves through space or some medium. There are two types of radiation.
Reducing Agent	A substance that accepts oxygen or gives up hydrogen during a chemical reaction.
Risk	The probability of a worker suffering an injury or health problem, or of damage occurring to property or the environment as a result of exposure to or contact with a hazard.
Safety	Freedom from (unacceptable) risk of harm to persons. Safety may also encompass environmental or asset damage/loss.
Sampling	The process of taking small representative quantities of a gas, liquid, or solid for the purpose of analysis.
Solvent	A substance that dissolves other substances. Many solvents are flammable.
Substitution	The replacement of toxic or hazardous materials, equipment or processes with those that are less harmful.
Toxic	Inherent potential of a substance to cause harm.