Textile Chemical Processing

NTQF Level -II

Learning Guides 25

Unit of Competence: Used Specialized Machinery to Assist Production

Module Title: Using Specialized Machinery to Assist Production

LG Code: IND CHP2 M08L01LG025

TTLM Code: IND CHP2 TTLM08 0919v1

LO1. Prepare for specialized machine operation

Instruction Sheet	Learning Guide #25

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

1. Prepare for specialized machine operation

1.1 Laying out Work pieces or materials in sequence.

1.2 Specialized machine operation OHS practices

1.2.1 Hazard identification and control

1.2.2 Risk assessment

1.2.3 Risk reduction measures implementation

1.2.3.1 Manual handling techniques

1.2.3.2 Standard operating procedures

1.2.3.3 Personal protective equipment

1.2.3.4 Safe materials handling

1.2.3.5 Taking breaks

1.2.3.6 Ergonomic arrangement of workplaces

1.2.3.7 Following marked walkways

1.2.3.8 Safe storage of equipment

1.2.3.9 Housekeeping

1.2.3.10 Reporting accidents and incidents

1.2.3.11 Environmental practices

1.3 Preparing and adjusting specialized machine

1.4 Reported and recording problems

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, you will be able to –

- Laid out work pieces or materials in sequence.
- Set up or prepare work area, bench or seating according to OHS practices .
- Prepare and adjust specialized machine according to the specifications for the work.

- Report and record problems.

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below 3 to 5.
3. Read the information written in the information “Sheet 1, Sheet 2, Sheet 3 and Sheet 4”.
4. Accomplish the “Self-check 1, Self-check t 2, Self-check 3 and Self-check 4” **in page** respectively.
5. If you earned a satisfactory evaluation from the “Self-check” proceed to “Learning guide 26.how ever if your rating is unsatisfactory, see your teacher for further instructions or go back to “ learning guide 25”.

Information Sheet-1	Laying out Work pieces or materials in sequence

Introduction

Laying out or layout means the process of transferring a design or pattern to a work piece, as the first step in the manufacturing process. It is performed in many industries or hobbies although in the repetition industries the machine's initial setup is designed to remove the need to mark out every individual piece

Four Main Types of Plant Layout

Product or Line Layout: If all the processing equipment and machines are arranged according to the sequence of operations of the product, the layout is called product type of layout. In this type of layout, only one product of one type of products is produced in an operating area. This product must be standardized and produced in large quantities in order to justify the product layout.

Process or Functional Layout: The process layout is particularly useful where low volume of production is needed. If the products are not standardized, the process layout is more low desirable, because it has creator process flexibility than other. In this type of layout, the machines and not arranged according to the sequence of operations but are arranged according to the nature or type of the operations. This layout is commonly suitable for non repetitive jobs

Fixed Position Layout This type of layout is the least important for today's manufacturing industries. In this type of layout the major component remain in a fixed location, other materials, parts, tools, machinery, man power and other supporting equipment's are brought to this location.

Combination Type of Layout: Now a days in pure state any one form of layouts discussed above is rarely found. Therefore, generally the layouts used in industries are the compromise of the above mentioned layouts. Every layout has got certain advantages and limitations. Therefore, industries would to like use any type of layout as such. Flexibility is a very important factory, so layout should be such which can be molded according to the requirements of industry, without much investment. If the good features of all types of layouts are connected, a compromise solution can be obtained which will be more economical and flexible

Self-Check -1	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. _____ manufacturing industries around them.(3 points)

   A. **Process or Functional Layout**
   B. **Combination Type of Layout**
   C. **Product or Line Layout**
   D. **Combination Type of Layout**

2. List out the four type of lay out five points.(5 points)

Note: **Satisfactory rating - 3 and 5 points** **Unsatisfactory - below 3 and 5 points**

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

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

Information Sheet-2	Specialized machine operation OHS practices

Occupational health deals with all aspects of health and safety in the workplace and has a strong focus on primary prevention of hazards. Health has been defined as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. Occupational health is a multidisciplinary field of healthcare concerned with enabling an individual to undertake their occupation, in the way that causes least harm to their health. Health has been defined as It contrasts, for example, with the promotion of health and safety at work, which is concerned with preventing harm from any incidental hazards, arising in the workplace.

The main focus in occupational health is on three different objectives:

(i) The maintenance and promotion of workers' health and working capacity;

(ii) The improvement of working environment and work to become conducive to safety and health and

(iii) Development of work organizations and working cultures in a direction which supports health and safety at work and in doing so also promotes a positive social climate and smooth operation and may enhance productivity of the undertakings.

2.1 Hazard identification and control

Hazard is something that can hurt you at workplace or has the potential to hurt you. There are hazards in every type of job and every type of workplace. Everyone at the workplace may it be workers, managers and the employer, have to share responsibility to identify and control hazards.

In the first step, worker has to recognize what a workplace hazard is (or could be) and how to report it to the employer. Also For employers, the first step is to inform workers of potential hazards, to have control systems in place to decrease the risk of injury

2.2 **Risk assessment** Modern occupational safety and health legislation usually demands that a risk assessment be carried out prior to making an intervention. It should be kept in mind that risk management requires risk to be managed to a level which is as low as is reasonably practical

This assessment should:

- Identify the hazards
- Evaluating and prioritizing risks
- Deciding on preventive action
- Taking action
- Monitoring and reviewing

2.3 Risk reduction measures implementation

Functional safety systems and describes those safety measures that are based on sensors and control systems and are designed to ensure the safe working of machines. The term “machine” can be defined as an assembly of linked parts or components joined together for a specific application—in particular, for the processing, treatment, moving, or packaging of a material. Any hazard has a risk. This risk will be reduced by using different mechanisms. These mechanisms include: Standard operating procedures, Personal protective equipment, Safe materials handling, Housekeeping, Reporting accidents and incidents, Environmental practices. These are explained as follow.

Proper material handling offers benefits for

- improving productivity
- increasing the handling capacity
- reducing man-power
- increasing the speed of material movement
- reducing materials wastage
- promoting easier and cleaner handling

2.3.1 Standard operating procedure

It is a set of step by step instructions compiled by an organization to help workers carry out complex routine operations. This is to achieve efficiency, quality output and uniformity of performance.

2.3.2 Personal protective equipment

Personal protective equipment refers to protective clothing, helmets, goggles, or other equipment's designed to protect the wearer's body from injury or infection. The hazards prevented by protective equipment include: physical, electrical, heat, chemicals, biohazards and air born particulate matter.

Textile armor is tested against penetration resistance and for the impact energy the wearer suffers.

Head Protection

Protective hats for head protection against impact blows must be able to withstand penetration and absorb the shock of a blow.).

the following types

Type 1 - helmets with full brim, not less than 1 and 1/4 inches wide;

Type 2 - brimless helmets with a peak extending forward from the crown

Foot and Leg Protection

Safety shoes should be sturdy and have an impact-resistant toe. In some shoes, metal insoles protect against puncture wounds.

Eye and Face Protection

Suitable eye protectors must be provided where there is a potential for injury to the eyes or face from flying particles, molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapors, potentially injurious light radiation, or a combination of these. Every protector shall be distinctly marked to facilitate identification of the manufacturer .

Arm and Hand Protection

Workers in many roles may come into contact with substances or conditions that pose a risk of harm to their hands or arms. If you can't reduce these risks in some other way, you must use personal protective equipment (PPE)

Types of hand and arm protection

- gloves
- gauntlets
- mitts
- cuffs

2.3.3 Safe materials handling

It is the protection, storage and control of materials and products throughout manufacturing, warehousing, distribution, consumption and disposal. Material handling involves short-distance movement within the confines of a building or between a building and a transportation vehicle. It uses a wide range of manual, semi-automated, and automated equipment and includes consideration of the protection, storage, and control of materials throughout their manufacturing, warehousing, distribution, consumption, and disposal

2.3.4 Taking breaks

Break-in or breaking in, also known as run-in or running in, is the procedure of conditioning a new piece of equipment This article needs additional citations for verification. Learn more by giving it an initial period of running, usually under light load, but sometimes under heavy load or normal load. It is generally a process of moving parts wearing against each other to produce the last small bit of size and shape adjustment that will settle them into a stable relationship for the rest of their working life.

2.3.4.1 Ergonomic arrangement of workplaces

Ergonomics means literally the study or measurement of work. In this context, the term work signifies purposeful human function; it extends beyond the more restricted concept of work as labor for monetary gain to incorporate all activities whereby a rational human operator systematically pursues an objective. Thus it includes sports and other leisure activities, domestic work such as child care and home maintenance, education and training, health and social service, and either controlling engineered

2.3.4.2 Following marked walkways

One of the top OSHA violations is "Walking/Work Surface Violations" with an average fine of $1,632 per individual violation. These violations are issued when areas where employees' walk/work areas are not clearly marked to identify safe pathways or highlight dangerous areas. OSHA Standard 1910.22 dictates that all companies must mark these areas to prevent accidents or injuries. Beyond avoiding OSHA fines and protecting your employees, many companies mark their floors to enhance their visual organization in the workplace, marking locations in a uniform manner and color scheme that allows employees to quickly identify areas and potential hazards based on color. This can greatly enhance workflow in addition to the provided safety benefits.

2.3.4.3 **Safe storage of equipment**

Storage equipment is used for holding or buffering materials over a period of time. The design of each type of storage equipment, along with its use in warehouse design, represents a trade-off between minimizing handling costs, by making material easily accessible, and maximizing the utilization of space (or cube). If materials are stacked directly on the floor, then no storage equipment is required, but, on average, each different item in storage will have a stack only half full; to increase cube utilization, storage racks can be used to allow multiple stacks of different items to occupy the same floor space at different levels. The use of racks becomes preferable to floor storage as the number of units per item requiring storage decreases. Similarly, the depth at which units of an item are stored affects cube utilization in proportion to the number of units per item requiring storage.

2.3.4.4 Housekeeping

A warehouse can be a dangerous place to work. Vehicular incidents, hazardous material leaks from containers, and the constant movement of large, heavy materials all pose serious risk to your employees. It's important that they understand these risks and know the strategies t avoid harm. Reporting accidents and incidents Accidents, It is a form that is filled out in order to record details of an unusual event (work place accident, occupational diseases) that occurs at the facility. whether they result in injury, are warnings that there are uncontrolled hazards. We want these hazards identified and removed from the workplace. It is critical that all injuries and accidents, including near misses, be reported so that they can be investigated and the causes determined and eliminated.

2.3.4.5 Environmental practices

It means the application of the most appropriate combination of environmental control measures and strategies The textile industry has many reasons to place an emphasis on sustainability, including reduced costs, protection of the environment and sustained goodwill from its customers for eco-friendly practices. Sustainability is frequently illustrated through the idea of reduce, reuse and recycle, encouraging individuals and businesses to reduce their consumption of resources, such as water, land and oil; reusing products, such as a refillable water bottle; and recycling materials, such as paper, glass and aluminum.

Self-Check -2	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. The main focus in occupational health is on three different objectives: .(3 points)
   a. The maintenance and promotion of workers' health and working capacity;
   b. The improvement of working environment and work
   c. Development of work organizations and working cultures
   d. All

2 ---------- equipment is used for holding or buffering materials over a period of time. (2points)

A . Safe storage of equipment Storage **C . Eye and Face Protection**

B .Ergonomic arrangement D . Personal protective equipment

3 List out the purposes of **Risk assessment** three points(3point)

Note: **Satisfactory rating - 3 and 5 points** **Unsatisfactory - below 3 and 5 points**

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

Answer Sheet

Score = _____

Name: _____ Date: Rating: _____

Short Answer Questions

Information Sheet-3	Preparing and adjusting specialized machine

3.1 Textiles are a type of cloth or woven fabric; its creation involves several processes than one might think. The production of fibers are spun into yarns, and are then used to create fabrics into many other sub-processes. Textile production is no simple task. Even once fabrics are created they must be pre-treated, dyed or printed, then finished with a treatment. Every article of clothing has a different instruction label for machine washing and drying. These materials vary from cotton, wool, flax, ramie, silk, leather or even synthetic materials. All of these materials need to be handled and cared for specially to retain their shape after multiple washes.

Woolen Mill Machines - used to develop wool into yarn Thread Winding Machines - used to wind thread onto spools Bleaching/Dyeing Machines - used to bleach or dye thread, fibers, or fabric Scotching Machines - used to separate cotton seeds from the cotton Carding Machines - used to prepare the wool for being made into yarn

The division of textile machines preparers. Dolphin machines are one of the specialized textiles machine preparers from India. It designed to fabric inspection, rolling, big-batch preparation, boom barrier &sliding gate s with a variety of the most demanding needs for finishing machinery in the textile industry. Classification of equipment into one of these categories is determined by the principal use of the equipment.

Self-Check -3	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

3. _____ are assets in a community that help meet certain needs for those around them.(3 points)

   C. Air spaces C. Local resources

   D. Local maps D. Services

4. List out the purposes of mobilizing local resources at least five points.(5 points)

Note: **Satisfactory rating - 3 and 5 points Unsatisfactory - below 3 and 5 points**

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

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

Information Sheet-4	Reported and recording problems

Recording and reporting of accidents and incidents (Including procedure for reporting to HSE under RIDDOR requirements) Policy Statement .Reporting and Recording in general plays a vital role in the manufacturing and service industry. It contains all the information related to the ongoing business performance and helps to neutralize the bottlenecks by focusing on areas that need improvement. to implement a comprehensive business intelligence platform, organizations must design effective reporting, analytics, and information delivery framework. This strategy encompasses the ability for end user to efficiently consume integrated data in an efficient manner to drive proactive decision-making and develop a competitive advantage

Every textile factory records its production data because this information happens to be of great value and is used by not only the production managers to evaluate the business output of the firm, but also helps to measure the productivity of the workers who are putting immense effort on the production floor. There are many more reports which the system generates for the user. An effective recordkeeping is a priceless asset to a textile factory. Keeping accurate and up-to-date records are vital to the success of any business. The business must realize that keeping records will be one of the most important management tools it possesses and, therefore, it should be allocated due importance. Many business owners invest a lot of time and effort into the running of their business and yet fail to realize the importance of maintaining good documentation. The business owner is looking for the maximum return from their investment and the maintenance of good records is a part of that equation.

From a factory (production) management point of view. these reports can be broken into three broad categories.

1 Quality reports

4 Production and performance reports

5 Variance anal·tsis reports

Self-Check -4	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1 the important of Reported and recording problems are.(3 points)

A drive proactive decision-making C. develop a competitive advantage

B. Local maps D. Services

1. List out the reports three broad categories .five points.(5 points)

Note: **Satisfactory rating - 3 and 5 points** **Unsatisfactory - below 3 and 5 points**

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

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Question

References

- . Preparatory Processes, Spinning the Web (Manchester City Council: Libraries), 2009-01-29.
- www.keller-druck.com (visited May 2008).
- file:///C:/Users/hp/Desktop/New%20folder%20(2)/carmargo_full_08_02.pdf

Textile Chemical Processing

NTQF Level -II

Learning Guides #26

Unit of Competence: Used Specialized Machinery to Assist Production

Module Title: Using Specialized Machinery to Assist Production

LG Code: IND CHP2 M08 L02LG026

TTLM Code: IND CHP2 TTLM080919v1

LO2. Operate specialized machine

Instruction Sheet	Learning Guide #26

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

2. Operate specialized machine

2.1 Operating specialized machine

2.1.1 Fusing or gluing or backing machine

2.1.2 Stud machine

2.1.3 Labeling machine

2.1.4 Beveling machine

2.1.5 Cutting machine

2.2 Following OHS practices

2.3 Assessing Work

2.4 Checking specialized machine

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

- Operate Specialized machine
- Follow OHS practices
- Assess for compliance Work with quality standards and production specifications.
- check Specialized machine production and adjusted to ensure optimum performance

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below 3 to 6.
3. Read the information written in the information “Sheet 1, Sheet 2, Sheet 3 and Sheet 4”.
4. Accomplish the “Self-check 1, Self-check t 2, Self-check 3 and Self-check 4” **in page 3,13,16 and 19** respectively.
5. If you earned a satisfactory evaluation from the “Self-check” proceed to “Operation Sheet 1 **page -22**

Do the “LAP test” **in page – 23** (if you are ready

Information Sheet-1	Operate specialized machine

1.1 Definition of used **Operate specialized machine**

The textiles industry is a globalized trade that encompasses several aspects of cloth goods: design and production of natural and synthetic fabrics; spinning and dyeing of cotton, yarn, and other fibers; importing and exporting products; and much more. Textile products are highly versatile and are commonly used for personal apparel and home furnishings.

The majority of the industry focuses on manufacturing, which can be accomplished through sewing and weaving different materials together. Depending on the specific end use, several products are crafted with specialized machines (which use freestyle, pattern, or other techniques). Due to consumer demands, these machines have advanced greatly in recent years. Like other modern industrial machines, textile machines often rely on boiler and compressor systems as well as chemical and condensate lines. before start of production, the pressure on the left, right and center of the rollers shall be checked by means of the lightweight woven fabric strips. One of the strip shall be passed through the machine press and while holding the other end tight. When the end passes out of the press, the strip will be pull to feel the pressure of the rollers. The conveyor belts shall be checked. If there is any adhesive residue contaminating the belts, it will rub off with a soft cloth. The cover of the cleaning bars will be Turn or changed, depending on how dirty they are. The scraper blades will be cleaned with a cloth. Once the Fusing machine is ready for operation, the inter-lining will be set in proper position of the fabric, the appropriate time will be set and a test run through the machine will be made.

1.1.1 Fusing or gluing or backing machine

Fusing is the process of fixing a fusible interlining to the outer fabric by application heat & pressure. In this process the interlining & outer fabric composite is heated up to a specified temperature; as recommended by the manufacturer (depending upon the melting point of adhesive used in the coating). After few seconds when the adhesive becomes plastic, then it is forced inside the fabric texture by using pressure. After fusing is complete, the composite has to be gradually cooled down to convert the plastic adhesive into its original solid state to form a strong bonding.

1.1 **Objective:**

Fusing is done to achieve any one or multiple of the following objectives in a garment or made ups:

• Improve dimensional stability & shape retention / crease recovery property of outer fabric

• Improve aesthetic value, appearance and handle of fused part.

• Value addition to the garment

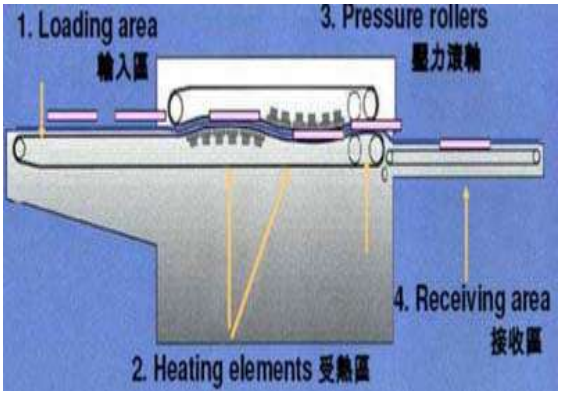
• Reduce stitch puckering & increase seam strength.\

1.2 Fusible Interlinings

The term fusible interlinings are applied to a base fabric having a deposit of thermoplastic resin (usually on one side) which can be bonded to another fabric by heat and pressure.

2. Components

- In total, fusing technology is concerned with:
- Base cloth
- Resins
- Coating systems
- Machinery and equipment
- Control of quality



Fusing Machine

- Classification of fusing:
- Top fusing
- Semi fusing
- Non fused

Fusing Machine Operating Procedure

Each day before start of production, the pressure on the left, right and center of the rollers shall be checked by means of the lightweight woven fabric strips. One of the strip shall be passed through the fusing press and while holding the other end tight. When the end passes out of the press, the strip will be pull to feel the pressure of the rollers.

The Fusing machine will be set to conditions recommended for Fusing of the fabric type.The conveyor belts shall be checked. If there is any adhesive residue contaminating the belts, it will rub off with a soft cloth. The cover of the cleaning bars will be Turn or changed, depending on how dirty they are. The scraper blades will be cleaned with a cloth. Once the Fusing machine is ready for operation, the inter-lining will be set in proper position of the fabric, the appropriate time will be set and a test run through the machine will be made.

There are three parameters involved in the fusing process:

- Fusing Temperature
- Fusing Pressure
- Fusing Time

1.1.2 Stud machine

Attaching press studs by hand is a time consuming and unreliable process. We have developed an automatic machine that holds the press stud whilst attaching it to the fabric. Our clients can avail from us automatic Stone Stud Fixing Machines that are developed under the strict supervision of efficient team members at our vendors" ends. Right from the base to the final work, these machines can easily perform all the tasks related to the decoration of the clothes. Moreover, these machines are extensively used to fix the stud on all types of clothes. This machine is known for its

1.1.3 Labeling machine

Textile products must be labeled or marked whenever they are put onto the market for production or commercial purposes. Where these products are not being offered for sale to the end consumer, or when they are being delivered in performance of an order placed by the State, labeling or marking may be replaced by accompanying commercial documents. The names, descriptions, and details of textile fibre content must be indicated in these commercial documents. They must also be indicated on products

offered for sale to consumers. The labeling of textile products harmonizes the names of textile fibers and other terms used in labeling or other documents accompanying these products, in order to ensure adequate information for consumers and to promote the development of the market

There are different types of labels:

- Brand label: It plays an important role in labeling as it gives information about the brand. It can be removable or non-removable.
- Descriptive label: It specifies product usage.
- Grade label: It describes the aspect and features of the product.Functions of Labeling

- Recognition of product: Labeling assists in the identification of the product. Example, the brand name of a chocolate will help one choose from the rest of the confectionery items available.
- Assorting of products: It means classification or grading of products according to different categories in the market. Example, shampoos are categorized as dry hair, normal hair and oily hair types and cater to consumers in the market with the dry, normal and oily scalp, respectively.
- Assists promotion of products: It gives the customer the reason to purchase the product. Example, it attracts the attention of the consumer by displaying messages such as '20% free' or 'save rupees 15' message in potato chips packet.
- In compliance with the law: Labels should strictly abide by the law. Example, for tobacco, the label should mention 'Tobacco is injurious to health'. Cigarettes also should have 'Smoking is injurious to health' as the statutory warning on its package.

Textile Labels Machine

1.1.4 Beveling machine

The beveling machine operation utilizes an expandable mandrel which is slid into the open end of the pipe. A draw nut is tightened, which expands the mandrel blocks up a ramp and against the ID surface for positive mounting, self centered and squared to the bore. As the tool bit is fed into the material from the end, a bevel is produced which conforms to the angle predetermined by the angle ground into the bit. Bits are available for practically any material or beveling angle required, and bits can be custom made for any form tooling operation.

Features

- On-site cold Beveling improves safety
- Easy set-up & Operation
- Self-Centering
- Can be positioned in any direction
- Feed ratchet spanner makes tool feed / back easily
- Light weight and compact design
- Electric or Pneumatic driven for option

Bevel machine

1.1.5 Cutting machine

Cutting Machine is used for cutting out parts of articles from layers of cloth card webs or knitted fabric. The technically possible depth of cutting of the layer depends on the design of the cutting machine and on the thickness and properties of the fabrics. Cutting machines may be movable or stationary. Textile Cutting Machine Setters, Operators, and Tenders refer to such workers who operate cutting machines and other equipment used in cutting textiles according to specified patterns. In this role, they study the specifications of a given textile product to determine the tools and techniques suited to cutting the product. they also routinely inspect the cutting machine to ensure that it functions properly. A part of their job is to identify any malfunctions or faults with the machinery. they also perform repair and maintenance activities to make sure that the malfunctions are resolved in a timely way the cutting machine may be classified in three categories. Such as-

- Manual cutting machine

We can understand scissor as a manual cutting machine. Scissor only used when cutting only single or double plies. Almost every type of cloth is cut by scissor. But it takes huge time for fabric cutting. So it is not used in bulk production

- Semi- Automatic cutting machine

  Straight knife cutting machine is the most popular and versatile cutting machine. It is widely used in clothing industry. Because it's production speed is very high. Higher lay of height can be cut very easily. Besides, knife is comparatively cheap and can be transferred from one place to another easily.

- Fully Automatic / Computerized cutting machine

This cutting machine provides the most accurate possible cutting at high speed. It is suitable for large scale production. Marker is not necessary to put over the fabric lays during cutting. This technology has the advantage of being highly accurate and fast, but does cost considerably more than other cutting techniques

Fully Automatic / Computerized cutting machine

Self-Check -2	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

i. List Classification of fusing four point. (4point)

ii. The function of Labeling machine is three point (3point)

A. labeling of textile products C . attaching it to the fabric

B. Cutting fabric D. non

iii. Straight knife cutting machine is type of ----------two point (2point)

A. Manual cutting machine c. Semi- Automatic cutting machine

B. Fully Automatic / Computerized D. Fusing Time

Note: **Satisfactory rating – 3 -5 points Unsatisfactory - below 4 points**

Answer Sheet

Score = _____

Rating: _____

Information Sheet-3	Following OHS practices

In a factory environment, the factors of risk are high since the workers constantly interact with numerous machinery, processes, and practices. The risk can be reduced by assessing and listing them, training the workers, introducing safety measures, emergency incident practice drills, displaying signboards, and following standard procedures and practices. This article list out a few of the risk assessment methods and standards Health and safety at work is the responsibility of both employers and employees. Manufacturers are required by law to follow strict rules and regulations to make sure that the workers are protected from possible dangers and using machinery and handling materials. The workers must follow all safety rules and instructions to keep themselves and those around them safe.

Risk Assessment

The dangers, hazards or risks involved in making a product can be identified, described and listed. This is known as risk assessment. In the workplace, it is essential to know what might cause harm or injury to people or the environment, so that safety precautions and systems can be put

In the workplace a health and safety officer will:

- Carry out risk assessments
- Organize safety training, including first aid, for the workforce
- Display warning notices, safety rules and fire exit signs
- Ensure that machinery, equipment, tools and materials are stored safely, have safety guards and are safe for use, and are regularly tested for safety.
- Check that workers wear protective clothing, ear defenders, masks, safety gloves and footwear

- Check that the environment is safe with clean and tidy work areas and adequate ventilation to remove dust and fumes, and has noise-level control

Production line handling

- Hazards: Head injury from an overhead transport system. Trapped fingers and feet from moving conveyors, trolleys and vehicles. Tripping over stacked material.
- Safety measures: Hard hats are worn. Danger areas marked with black-and-yellow warning strips, designated walkways. Safety guards and protective clothing, gloves and footwear worn.

Self-Check -2	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

6. What is OHS
7. What is risk assessment
8. What is production line handling

Note: **Satisfactory rating - 3 points** **Unsatisfactory - below 3 points**

Answer Sheet

Score = _____

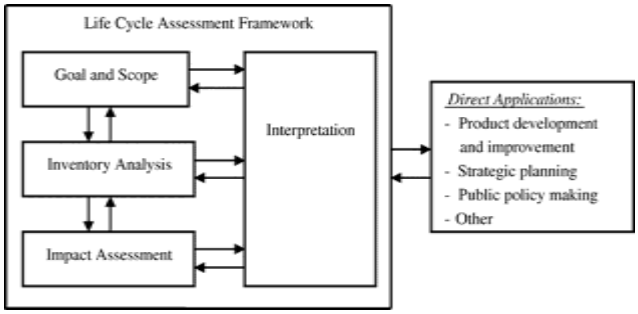
Rating: _____

Name: _____ Date: _____

Short Answer Questions

Information Sheet-4	Assessing Work

assessment is a technique to identify the potential environmental impact of any product or process using a systematic set of procedures. Specific procedures and standards are followed to assess the environmental impact of a product or process.



assess the workplace conditions, health and safety situations in textile and chemical industries of one of the commercial cities of industry. Risk assessment was conducted through qualitative and quantitative assessment methods. The effluents and gases emissions in the textile and chemical mills of Faisalabad were monitored. Results indicated the working conditions in the work place were not conducive for maximum productivity and there was high risk that may be befalling to the workers from multiple hazards exacerbated by inadequate physical conditions.

Over all the temperature, humidity, noise and light levels were either below or above the defined NEQS (National Environmental Quality Standards) at multiple places in each industry. Workers are uninformed of the health and safety protocols at workplace and there is a dire need to give trainings and awareness regarding health and safety issues. textile standards provide the specifications and test methods for the physical, mechanical, and chemical properties of textiles, fabrics, and cloths, as well as the natural and artificial fibers that constitute them. The textiles covered by these standards are commonly formed by weaving, knitting, or spinning together fibers such as glass fiber strands, wool and other animal fibers, cotton and other plant-derived fibers, yarn, sewing threads, and mohair, to name a few. These textile standards help fabric and cloth designers and manufacturers in testing textiles to ensure acceptable characteristics towards proper end-use.

Self-Check -4	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

9. list out methods Assessing Work four point(4point)

Note: **Satisfactory rating - 3 points** **Unsatisfactory - below 3 points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

Information Sheet-4	Checking specialized machine

Within the textiles industry, various check and control valves are utilized in wide-ranging applications. Valve products help regulate heat from steam boilers, which is used in the dyeing and drying of cloth goods; valves are also used to provide relief to air compressors that are in constant operation.

Additionally, check and control valves can adjust liquid flow rates—in conjunction with metering pumps—to deliver precise volumes of water, chemicals, and other liquid solutions. Other applications include discharge of pumps, boilers, and compressors.

To obtain the most efficient, high-quality results, many textile professionals choose valve products supplied by DFT Inc. Axial check valves operate via a disc and spring mechanism that prohibits fluid from reversing its flow direction. When pressure builds up on one side of the disc controlled spring , the disc opens, allowing fluid to flow through the valve. However, when there is not enough pressure on the other side of the spring, the valve stays closed, preventing back flow.

These spring mechanisms reduce the risk of water hammering, which increases the valve's longevity. Valves of this type also occupy less space than manual valves and other check valves, making them easier to install in crowded environments. Axial check valves can be installed vertically or horizontally, which allows them to be used in a number of different applications.

Checklist – a simple tool for risk assessment

Checklists can be useful tools as part of the risk assessment process, when they can be used to identify hazards. They can also be used in monitoring the performance of control measures. The checklist below cannot cover all hazards and risks, and readers are recommended to identify other relevant tools on the web pages of national safety and health authorities and inspectorates.

Mechanical tests are those in which textiles are subjected to different pressure and stressors, usually in specialized testing machines. These include tests to measure breaking strength, the force needed to break a fabric under tension. Such tests can ensure fabrics are strong enough to maintain integrity even when under great stress. Other tests gauge tearing strength, or the strength required to make an already existing rip or tear worse. And abrasion tests determine how quickly a textile wears out when it's rubbed against another surface. Such tests make sure that fabrics used in products like parachutes and car seat belts won't break when needed most to keep the user safe.

Specialized textile testing is also done to test for flammability, or how quickly a given textile burns. Various methods of performance testing are done on textiles that must possess special qualities, like be effectively bulletproof or provide a layer of filtering on construction projects. In short, there are as many ways to test textiles as there are uses for textile products in our world.

Self-Check -5	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1 purpose of choking machine is two point(2 point)

A identify hazards. C A and B

B minimized risks D. non

2 write when checked machine five point (5point)

Note: **Satisfactory rating - 3 points** **Unsatisfactory - below 3 points**

Answer Sheet

Score = _____

Name: _____ Date: Rating: _____

Short Answer Questions

Operation Sheet 1	**Techniques of** carry out specialized machine operation

Techniques of carry out specialized machine operation

Steps 1 Start Up Warning Devices: all parts of conveyor or other machinery not visible from control area must give a warning before it starts passing over workers *f*

Step 2- Conveyors: provision of guards.

Step 3- Lockout: lockout requirements

Step 4- Stopping and Blocking Machine: the machine must be motionless and moving parts blocked before any cleaning, oiling, adjusting, repairing or maintaining work is done on any part of the machine. *f*

Step 5- Starting a Machine: controls and other control mechanisms must be locked out as well as other precautions.

LAP Test	Practical Demonstration

Name: _____ Date: _____

Time started: _____ Time finished: _____

Instructions: Given necessary templates, tools and materials you are required to perform the following tasks within --- hour.

Task 1. How to operate Fusing Machine

Reference

Key Color: Machineries Used in Textile Industry Study: Textile Industry: Types of Machines Resources (1)

University of Arizona: A Chronicle of Text

Textile Chemical Processing

NTQF Level -II

Learning Guides 27

Unit of Competence: Used Specialized Machinery to Assist Production

Module Title: Using Specialized Machinery to Assist Production

LG Code: IND CHP2 M08 L01LG027

TTLM Code: IND CHP2 TTLM8 0919v1

LO2. Operate specialized machine

Instruction Sheet	Learning Guide #27

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

LO3. Dispatch completed work

3.1 Checking production outputs

3.2 Reporting and recording machine or product faults

3.3 Directing Outputs

3.4 Compiling work documentation

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, you will be able to –

- Check Production outputs against quality standards.
- Report and record Any machine or product faults identified
- Direct Outputs to the next operation.
- Complete Work documentation as required.

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below 3 to 5.
3. Read the information written in the information “Sheet 1, Sheet 2, Sheet 3 and Sheet 4”.
4. Accomplish the “Self-check 1, Self-check t 2, Self-check 3 and Self-check 4” **in page 5.7,9 and 11** respectively.
5. If you earned a satisfactory evaluation from the “Self-check” proceed to “Learning guide 28.how ever if your rating is unsatisfactory, see your teacher for further instructions or go back to “ learning guide 27”.

Information Sheet-1	Dispatch completed work

Introduction

Dispatching is the physical handing of a manufacturing order to the operating facility (a worker) through the release of orders and instructions in accordance with a previously developed plan of activity (time and sequence) established by the scheduling section of the production planning and control department.

Dispatch function in production management executes planning function. Dispatching ensures that the plans are properly implemented. Dispatch function determines, by whom the job shall be done and it co-ordinates production. It is the key point of a production communications system. It creates a direct link between production and sales. Dispatcher transmits orders to the various shops. A dispatcher is familiar with the productive capacity of each equipment. He always keeps an eye over the progress of orders which move at different speeds on different routes.

Dispatching aspects which have to be taken care of:

A. All production information should be available beforehand.
B. Various order cards and specification drawings should be ready.
C. Equipment's should be ready for use.
D. Progress of various orders should be properly recorded on the Gantt charts or display boards.
E. All production records should be properly maintained.

Dispatch function may be centralized or decentralized.

In a Centralized dispatch system:

A central dispatching department, orders directly to the work station. It maintains a full record of the characteristics and capacity of each equipment and work load against each machine. The orders are given to the shop supervisor, who runs his machines accordingly. In most of the cases, the supervisor can also give suggestions as regards loading of men and machines under him.

A centralized dispatching system has the following advantages:

- A greater degree of overall control can be achieved.
- Effective co-ordination between different facilities is possible.
- It has greater flexibility
- Because of urgency of orders, changes in schedules can be affected rapidly without upsetting the whole system.
- Progress of orders can be readily assessed at any time because all the information is available at a central place.
- There is effective and better utilization of manpower and machinery.

In a Decentralized dispatching system:

The shop supervisor performs the dispatch factions. He decides the sequence of handling different orders. He dispatches the orders and materials to each equipment and worker and is required to complete the work within the prescribed duration.

In case he suspects delay, with due reasons, he informs the production control department.

A decentralized dispatching system has the following advantages.

a) Shop supervisor knows best about his shop; therefore, the work can be accomplished by the most appropriate worker and the machine.
b) Elaborate reports and duplication of postings can be avoided
c) Communication gap is reduced
d) It is easy to solve day-to-day problems
e) It keeps the natural urge of a section to be self-sufficient.

The advantages of a centralized system, more or less give an idea about the disadvantages of the decentralized system and vice versa

Self-Check -1	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1 Aspects of Dispatching is (3 points)

A. All production information should be available beforehand.

B Various order cards and specification drawings should be ready.

C. Equipment's should be ready for use

D. ALL

2 Centralized dispatch system is (2points)

A. orders directly to the work station **C.** identify hazards

B . Checking production outputs D . all

Note: **Satisfactory rating - 3 and 5 points** **Unsatisfactory - below 3 and 5 points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

Information Sheet-2	Reporting and recording machine or product faults

Information Requirements for Senior Management and Production Managers One of the keys to the success of any management team is a well designed and timely management information reporting system. The information received by each manager should be relevant to his needs. timely. and concise. From a factory (production) management point of view. these reports can be broken into three broad categories.

1 Quality reports

2 Production and performance reports

3 Variance anal·tsis reports

three types of report should provide a comprehensive picture of the performance of an organisation. The synergy between these report types is critical.

For example**. oroduction quantity reports and machine utilisation reports can be dangerously misleading unless production quality reports for the same period are also analysed. understanding of the physics and a fault-symptom-tree analysis. The sources of faults are ample and**

stem from one or the other from the following-

- **Incorrect System Design,**
- **Wrong System Assembling,**
- **Erroneous Machine Operation,**
- **No or Untimely Maintenance,**
- **Inevitable Ageing,**
- **Slow and Imperceptible Corrosion,**
- **Capricious Wear during Normal Operation etc.**

Self-Check -2	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

broad categories

10. List out three broad categories **reports . five point (5 point)**

11. The sources of faults are threepoint (3point)

A Incorrect System Design, **C Wrong System Assembling,**

B Erroneous Machine Operation, **D ALL**

Note: **Satisfactory rating - 3 points** **Unsatisfactory - below 3 points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

Information Sheet-3	Directing Outputs

This department performs a variety of complicated tasks and is ultimately responsible for driving the work in the field through a force dispatch process. He/she must have ability to multi-task and be able to do several things at one time. The dispatch manager is responsible for the dispatch and warehouse departments.

Checking production outputs In final check we can monitor our entire manufacturing process from sourcing the right supplier through final delivery of finished product. With quality inspectors located around all the department, with particular concentration in Factory,

Also ensures that all items produced and finished in KABEER Industries undergo rigorous inspection that ensures their degree of compliance. All defects will be reported at this stage in order to facilitate cutting and making up, but also to maximize the use of the fabric and prevent defective items being produced.

This department is having independent QA teams – who Capable of performing all major tests on product as per specifications ie. strength, shrinkage, color performance and other physical aspects. Internal Controls through formal Quality Management System (QMS), random audits and training.

Self-Check -3	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1 what is direct out put ?

Note: **Satisfactory rating - 3 points** **Unsatisfactory - below 3 points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

Information Sheet-4	Compiling work documentation

Document and record all processes and activities. These documents and records shouldbe stored in official files and remain accessible to staff who need them. Base the documents on the prerequisite programs and on the product protection or HACCP plan. If documents are already being kept, review them to make sure they are complete and that they follow the necessary standards. Follow these three general principles to develop records and documents:

1. Keep it short and simple. Use bullet points and flow diagrams instead of long sentences and lengthy paragraphs.

2. Clarity is important. Step-by-step instructions are easily understood.

3. Use a standardized, consistent format. Although different programs may need different documents and records, using a similar approach will help staff learn quickly.

Let staff know that attempts to falsify records are easily detected. Auditors are trained to look for signs of fraud that can include records completed in the same increasingly messy handwriting and using the same pen.

Checking records regularly helps ensure that employees are completing their assigned activities. It helps to make sure that records arebeing filled out honestly and with all the information needed. Records are an important tool for analyzing and improving safety. False records will not help improve the system or help you reach your goal of improved safety!

DOCUMENTING plans provide the documents and records needed to make sure that the system is being followed at each critical control point. records differ slightly from prerequisite program records. records provide a historical report of the following:

- Process
- Monitoring procedures
- Deviations
- Corrective actions taken at each critical control point

Self-Check -4	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1 what is documentation ? four point (4 point)

2 list type of documentation three point (3point)

Note: **Satisfactory rating - 3 points** **Unsatisfactory - below 3 points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

References

- AIG (Australian Industry Group). (2011). Comparison of Provisions – Model WHS Laws and Victorian OHS Laws. Retrieved from Majeed, Cotton and textiles - the challenges ahead, 2009-02-12.
- Bouyssounouse, B. Sifakis, J. (Eds.). Embedded Systems Design - The
- ARTIST Roadmap for Research and Development. Series: Lecture Notes