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POST PRESS OPERATIONS (Packaging)

Learner Guide

National Vocational Certificate Level 2

Version 1 - December 2019

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Introduction:

This Learner's Guide is developed on the basis of competency standards and curriculum of "Post Press Operations".

The National Vocational & Technical Training Commission (NAVTTC) has developed a national qualification entitled, "National Vocational Certificate Level-2 in Post press Operations, Packaging (Assistant Post Press Operator)". Relevant industry and employers were consulted in the design and validation processes in order to come up with a national qualification that fulfills the requirements of the sector in general and the occupation in particular.

This book covers all the topics in a clear and organized format for the Post Press students. Through learning outcomes practical activities were added step by steps. The topics covered were neatly illustrated for better understanding of the learners. All of the lesson pages were carefully designed to eliminate distraction and to focus the pupil's full attention on the work at hand.

It carries 6 learning modules which are as under:

Module 1: Perform Pre-Run Operation

Module 2: Interpret Instructions on Docket for Packaging

Module 3: Perform Lamination

Module 4: Perform Pasting Operation

Module 5: Perform Health & Safety at Workplace

Module 6: Develop Computer Application Skills

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Module-1

Module 1: - Perform Pre-run Operation

Learning Unit:

After completion of this module the learner will be able to:

LU1: Perform cleaning in press room (Post Press Room)

LU2: Maintain oil level

LU3: Perform Dry run

LU4: Manage humidity in press room

Learning Unit-1

Perform Cleaning in Press Room

Overview:

This learning unit describes the history of printing, packaging and publishing. It also describes importance and methods of press room cleaning with cleaning equipment and consumable.

Packaging and Publishing:

Printing means reproducing words or images on paper, card, plastic, fabric, or another material in packaging and publishing departments. The world "packaging and publishing (Printing)" ultimately comes a Latin word, "*premĕre"*, which means to press; just about every type of printing involves pressing one thing against another. Packaging and publishing are two different processes, packaging deals with production of boxboard cartons and publishing deals with production of books, Newspaper, brochures etc.

History:

Before Print

The concept of publishing began long before the invention of the printing press. It began as far back as the invention of writing. Scribes copied works all by hand. Obviously, this was a long, painstaking process, thus, books developed along with movable type.

The Invention of the Printing Press

The Chinese inventor Bi Sheng reportedly invented the first movable type with earthenware circa 1045, but it wasn't until Johannes Gutenberg invented his own movable type with metal around 1450 that printing really took off. It was at this point that books started to become more widely available. By printing books, the cost of production was reduced enormously and more books could be printed faster. This allowed the common citizen to afford books.

First Books

In 1455, The Gutenberg Bible was the first major book printed in Europe with movable type. It wasn't until 20 years later that the first book in English, Recuyell of the Historyes of Troye, was printed. Then in 1640, the Bay Psalm Book was the first book printed in the North American British Colonies.

Early Publishing Models

By the early 1800s, two publishing models had emerged. An author could sell the copyright and receive a one-time payment from the publisher for the rights to the book. Alternatively, the book could be published “on commission.” In this model, the publisher would advance the cost of publishing the book and keep all of the profits until the cost had been recouped. After that, the publisher would keep 10 percent and the author would get the rest. If the sales did not recoup the cost of publishing, the author would be responsible for the cost.

The Inception of Traditional Publishing

Sometime in the next hundred years or so, these dual models faded and what we now think of as traditional publishing emerged. In some ways, the traditional model blends selling the copyright and publishing on commission. Many authors get an upfront payment for their book, and authors sign away their rights to the book. Additionally, publishers keep all profits until the cost of production (and the advance payment for the right to publish) have been recovered, and then they give the author royalties. However, the royalties are much lower, often between 10 and 20 percent.

The Introduction of Self-publishing

With the creation of the World Wide Web in 1990, the world of self-publishing exploded. It was suddenly easy to type your book from a personal computer and send it to a printer. When Amazon launched in 1994, it became much easier to sell your book online. Simultaneously, the online program Story Space was released. It was a software for creating, editing, and reading. Michael Joyce’s afternoon, a story was sold on floppy disks as a demonstration of the program. When Create Space, then called Custom Flix Labs, launched in 2002, it changed the game: it allowed authors to print and bind books like any other professional book on the market. In the years that have elapsed since then, the market has become flooded with self-published works. This a double-edged sword; authors who are unable to get a publishing contract are still able to get their works out to their readers, however they aren’t taken as seriously.

The Birth of Hybrid Publishing

Most recently, hybrid publishing has become a new model for authors to consider when publishing. This new model gives authors the creative control of self-publishing and the creative and professional expertise and distribution of traditional publishing. The payment distribution is reminiscent of the “on commission” model of the early 1800s. The publisher only takes a small cut of the royalties, but the author is responsible for the costs of production.

Hybrid publishing is still coming into it’s own, and has made great strides towards being seen as on par with traditional publishing in the last few years. In 2018, the Independent Book Publishers Association published a list of nine criteria to be considered a hybrid publisher. This gives the moniker legitimacy and establishes that the books are of quality and available widely.

In 2019, traditional publishing, self-publishing, and hybrid publishing are the main paths for publishing for authors.

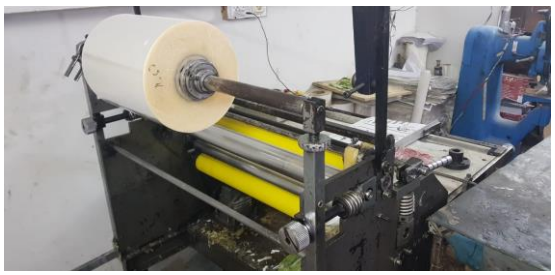
Enlist main parts of Lamination machine:

- Regulator
- Rubber Roller
- Steel Roller
- Glue pot
- Rewinding drums
- Conveyor Belt
- Side-lay Bar

Describe the importance of tidiness in press room

Having less mess can make a bigger impact than you might know. It can enable you to make healthier choices, reduce stress, and, ironically, can even help to free up some much-needed time

Practical Activity 1/2:

<table>
<tr><td rowspan="3">Module: A</td><td colspan="2">Perform Pre-run Operation</td></tr>
<tr><td>Learning Unit: 1</td><td>Perform Cleaning in Press Room</td></tr>
<tr><td>Practical Description:</td><td>Perform cleaning surrounding post press machine as per instruction.</td></tr>
<tr><td>Time:</td><td colspan="2">3 Hours</td></tr>
<tr><td>Equipment</td><td colspan="2">Lamination & Pasting machine</td></tr>
<tr><td>Tools</td><td colspan="2">Instruction manual, Cleaning brush, Cleaning cloth</td></tr>
<tr><td>PPE</td><td colspan="2">Proper dress, safety shoes, safety gloves</td></tr>
<tr><td>Materials</td><td colspan="2">Cleaning Cloth, Cleaning brush, Dust bin</td></tr>
<tr><td>Key Point</td><td colspan="2">A clean workplace ensures the safety and health of employees and visitors.</td></tr>
<tr><td>Learning Outcome:</td><td colspan="2">• Perform daily cleaning surrounding post press machine as per instruction.
• Perform cleaning of the machine as per OEM manual.</td></tr>
<tr><td>Precautions:</td><td colspan="2">Ensure to wear safety shoes and other safety equipment before starting this process</td></tr>
<tr><td colspan="2">Instructions</td><td>Illustrations</td></tr>
<tr><td colspan="2">1. Inspect entire surrounding areas of printing machine thoroughly</td><td>  </td></tr>
<tr><td colspan="2">2. Clean floor of surrounding areas of the machine with brush</td><td>  </td></tr>
</table>

3. Use cloth to clean oil leakage	
4. Re-inspect the whole surrounding area and make sure that it has been cleaned properly	
5. Dispose of used article and place the brush at its respective place	
6. Wash your hands properly with soap/detergent	

Practical Activity 2/2:

Module: A	**Perform Pre-run Operation**	
	Learning Unit: 1	**Perform Cleaning in Press Room**
	Practical Description:	Arranging and cleaning of used tools.
Time:	3 Hours	
Equipment	Lamination and Pasting machine	
Tools	Instruction manual, Cleaning brush, Cleaning cloth	
PPE	Proper dress, safety shoes, safety gloves	
Materials	Cleaning Cloth, Cleaning brush, Dust bin	
Key Point	A clean workplace ensures the safety and health of employees and visitors.	
Learning Outcome:	• Perform cleaning of associated tools as per press room instruction. • Perform periodic cleaning as per duty chart.	
Precautions:	Ensure to wear safety shoes and other safety equipment before starting this process	

Instructions	Illustrations
1. Arrange all used tools in order	
2. Pick tools one by one, and clean it with cloth and cleaning solvent thoroughly.	

3. Place clean tools to its respective place	
4. Dispose of used articles in dustbin.	
5. Place unused cloth and solvent agents to their respective places	
6. Wash your hands properly with soap/detergent	

Learning Unit-2

Maintain Oil Level

Overview:

In this learning unit learner will be able to know about oil viscosity, quality, level and grading.

Viscosity: is a measure of a fluid's resistance to flow. It describes the internal friction of a moving fluid. It is checking the lubrication particles in oil.

Do you know?

Viscosity is the measure of a fluid's resistance to flow

Disadvantages of using low quality oil in machine:

1. It can damage machine gears
2. It will produce unpleasant sound
3. It will damage other parts of machine
4. It will cause low performance of machine

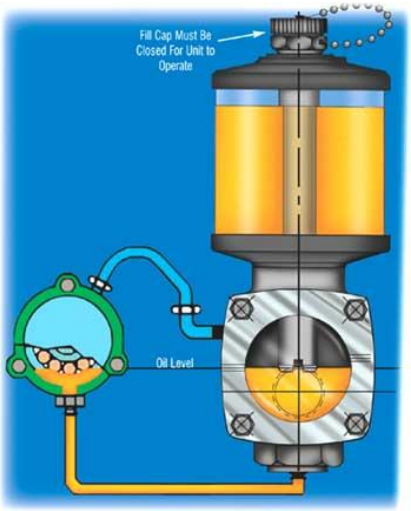
Capacity of oil tank in machine:

Every machine has different size of oil tanks according to its speed and size.

Remember:

Always use good quality machine oil recommended by OEM

It should be in between min and max level mark.



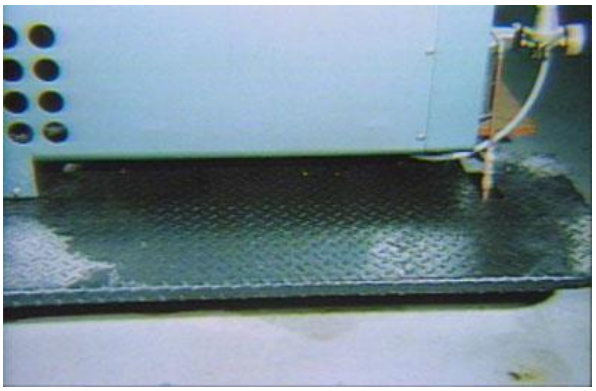
Machine has automatic pumping system to pick the oil and supply to particular parts according to their requirements.

Oil grading system in machine

The selection of oil must be according to machine manual

List reasons of maintain oil level in machine:

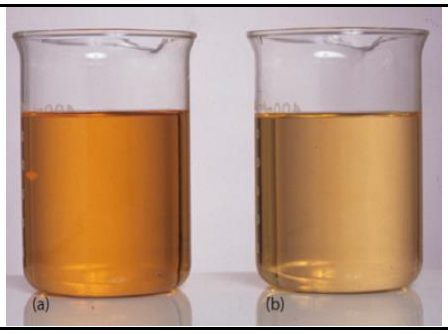
- Non-maintained oil level may cause gear accidents.
- Low oil level may cause low performance of machine.
- Excess oil should be wiped from the press to prevent it from running on the floor causing a hazardous working area around the press



Practical Activity 1/1:

Module: A	**Perform Pre-run Operation**	
	Learning Unit: 2	**Maintain oil level**
	Practical Description:	Check and maintain oil level in machine as recommended in machine manual.
Time:	4 hours	
Equipment	Lamination and Pasting Machine	
Tools	Funnel, Spanner set, Allen Key set	
PPE	Proper dress, Safety shoes, safety gloves	

Materials	Standard oil, substandard oil, OEM manual
Key Point	Always use good quality oil
Learning Outcome:	• Check oil level in machine as recommended in machine manual. • Maintain oil level as per machine manual
Precautions:	Avoid cleaning during operation.

Instructions	**Illustrations**
1. Put both oils in separate beakers and check the viscosity of both oils	
2. Check the lubrication of both oils	
3. And finally put the standard oil in the machine oil tank.	N/A
4. Remove the substandard oil.	
5. Check the oil level of machine through magic eye.	

6. Open the oil tank cap, fill the tank and check the oil level again carefully	
7. Wash hands properly	

Learning Unit-3

Perform Dry Run

Overview:

In this learning unit learner will be able to know about operating machine on dry run.

Operation:

- Check the oil level of machine
- Oiling of the machine
- Visual inspection to avoid presence of any article in machine before starting
- Run the machine at different speed (Low-Medium-High)

Practical Activity 1/1:

<table>
<tr><td rowspan="3">Module: A</td><td colspan="2">Perform Pre-run Operation</td></tr>
<tr><td>Learning Unit: 3</td><td>Perform dry run</td></tr>
<tr><td>Practical Description:</td><td>Perform Dry run procedure on post press machine as per instruction.</td></tr>
<tr><td>Time:</td><td colspan="2">8 hours</td></tr>
<tr><td>Equipment</td><td colspan="2">Lamination and Pasting Machines</td></tr>
<tr><td>Tools</td><td colspan="2">Allen Key Set, Spanner Set</td></tr>
<tr><td>PPE</td><td colspan="2">Proper dress, safety shoes, safety gloves</td></tr>
<tr><td>Materials</td><td colspan="2">N/A</td></tr>
<tr><td>Key Point</td><td colspan="2">Inspect Glue Viscosity</td></tr>
<tr><td>Learning Outcome:</td><td colspan="2">• Perform Dry run procedure on post press machine as per instruction.
• Verify dry run through test run.</td></tr>
<tr><td>Precautions:</td><td colspan="2">Ensure safety</td></tr>
<tr><td colspan="2">Instructions</td><td>Illustrations</td></tr>
<tr><td colspan="2">1. Check the oil level of machine through magic eye</td><td rowspan="3">  </td></tr>
<tr><td colspan="2">2. Run the machine at different speed (Low-Medium-High)</td></tr>
<tr><td colspan="2">3. Check the vibration of the machine at different speeds</td></tr>
</table>

Learning Unit-4

Manage humidity in press room

Overview:

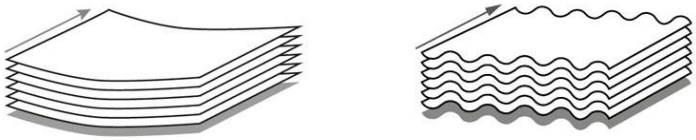
This learning unit describes humidity, its importance and methods to manage humidity in any press room.

Humidity:

The moisture in the air is called humidity.

Importance of manage humidity in press room environment:

Any swings in temperature and humidity can cause **dimensional variations** and **loss** of substrate **flatness**.



In printing, the moisture content can affect the interaction between the ink to the press, the paper to the press and the ink to the paper. What you need is a higher moisture level of about 55% RH (relative humidity) in the press hall. If the RH is lower, the dry air will cause issues, such as curling, creasing and dot doubling.

In low humidity, electrostatic buildup is also common and can also cause misfeed, as well as problems with stacking, trimming and folding when the paper starts sticking together. And when the paper makes another pass through the rollers, it can change shape again and cause cracking along the folds once finished.

To manage the quality of printing and substrate, you have to manage the humidity in press room

Key Benefits to manage humidity:

- Proper humidity levels helps get rid of paper distortion and prevents static.
- Machine operations also become more efficient because proper humidity levels directly contribute to less downtime.

Humidity management procedures:

- Humidity should be recorded twice a day in press room.
- Substrate should be packed properly.
- Humidity should be recorded and mentioned in log book.
- Press room should be air conditioned.
- Doors and windows should be closed to control humidity.
- If any unusual humidity found, immediately report to the senior/Supervisor.
- If possible, put an enclosure around the press to maintain the required humidity level.

Practical Activity 1/1:

Module: A	**Perform Pre-run Operator**	
	Learning Unit: 4	**Manage humidity in press room**
	Practical Description:	Verify humidity of press room as per instruction.
Time:	**4 hours**	
Equipment	Digital Humidity meter	
Tools	N/A	
PPE	Proper dress code, safety shoes	
Materials	N/A	
Key Point	Proper humidity levels helps get rid of paper distortion and prevents static.	
Learning Outcome:	• Verify humidity of press room as per instruction. • Apply humidity management techniques in press room.	
Precautions:	Printed substrate should be packed properly	

Instructions	**Illustrations**
1. Check the humidity of the press room	
2. If the humidity is in between 40 to 60, it is ideal for the press room	

3. If the humidity of the press room is less than 40, inform supervisor 4. Request Supervisor to start humidifier if humidity is less than 40.	

Summary of the Module

In above module cleaning activities are well defined and practiced through multiple practical. Smooth operations of machines cleaning activity have important role. Cleaning tools and equipment after operation increase the working life of tools and equipment. Cleaning of surrounding reduces the accidents.

- Cleaning and tidiness can help control or eliminate workplace hazards.
- Viscosity is a measure of a fluid's resistance to flow.
- Using low quality oil in machine cause low performance of machine. Always use standard quality and grade oil and maintain oil level in machine.
- The moisture in the air is called humidity. Any swings in temperature and humidity can cause dimensional variations and loss of substrate flatness. Humidity should be recorded and mentioned in log book.
- We can manage humidity by operating humidifier.

Frequently Asked Questions (FAQs)

Question	Answer
1) From where the word of printing & publishing is derived?	The world "packaging and publishing (Printing)" ultimately comes a Latin word, “premĕre”, which means to press;
2) What is viscosity?	Viscosity is the measure of a fluid’s resistance to flow
3) Which precaution should be acted upon regarding excess oil?	Excess oil should be wiped from the press to prevent it from running on the floor causing a hazardous working area around the press
4) How do we know the greasing schedule	From OEM manual.
5) How frequently should we perform cleaning surrounding post press?	Perform daily cleaning surrounding post press machine as per instruction.
6) What is humidity?	The moisture in the air is called humidity.
7) How to describe automatic pumping system?	Machine has automatic pumping system to pick the oil and supply to particular parts according to their requirements.
8) What should we do to manage the quality of printing?	To manage the quality of printing and substrate, you have to manage the humidity in press room
9) What is the part of swings in temperature and humidity?	Any swings in temperature and humidity can cause dimensional variations and loss of substrate flatness
10) What can be happened by low humidity?	In low humidity, electrostatic buildup is also common and can also cause mis-feed

Self-Assessment

(MCQs)

Please mark the correct one from the given options. You can check your answer with the Answer Key at the end of this module

1) Disadvantages of using low quality oil in machine:
   a) It can damage machine gears
   b) It will produce unpleasant sound
   c) It will damage other parts of machine
   d) All of them

2) If the humidity is in between_____, it is ideal for the printing press room

   a) 40 to 60
   b) 30 to 50
   c) 20 to 40
   d) None of above

3) The quality of press room and binding room improves due to _____ levels because it helps to get rid of paper distortion and prevents static.

   a) Proper humidity
   b) Low humidity
   c) High humidity
   d) None of above

4) Humidity should be recorded _____ a day in press room.

   a) Once
   b) Thrice
   c) Four times
   d) Twice

5) Machine operations also become more ____ because proper humidity levels directly contribute to less downtime.

   a) Effective
   b) Emergent
   c) Efficient
   d) None of above

6) It is needed to have a higher moisture level of about _____ RH (relative humidity) in the press hall.

   a) 25%
   b) 35%
   c) 45%
   d) 55%

7) The work time documentation of critical incidents, is highly recommended so that

a) Binding room supervisors and managers have a record of assistant machine operators;
b) works as an attendance sheet;
c) To discipline the machine man;
d) None of the above.

8) What is the best choice for description of job?

a) Job detail and name
b) Plate quantity
c) Printing impression quantity
d) Consumable check list

9) The moisture in the air is called _____.

a) Humidity
b) Viscosity
c) Lamination
d) None of above

10) When assistant machine operator should record data in the work time document:

a) Whenever he deems it necessary
b) After finish of the job
c) At the end of the shift
d) At the end of the week

Answer Key

MCQ No.	Correct Answer
1	d
2	a
3	a
4	d
5	c
6	d
7	a
8	a
9	a
10	b

POST PRESS OPERATIONS (Packaging)

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Module-2

Module 2: - Interpret instructions on docket for packaging

Learning Unit:

After completion of this module the learner will be able to:

LU1: Determine job order details

LU2: Verify art work/sample for packaging

LU3: Verify material quality for packaging

LU4: Verify substrate sizing

LU5: Verify die as per docket

LU6: Verify Block as per docket

Learning Unit-1

Determine job order details

Overview: The purpose of this learning unit is to inform the learner about docket/job card and its importance, to provide knowledge of necessity of instructions on job card and its contents (e.g. job title, quantity, artwork, size, GSM and thickness of substrate (paper or board), dummy/sample, no of forms, numbering types and details, perforation, title coating/creasing, title cover and inside pocket, hard case, dust cover, thread stitching, saddle stitching and hot glue, special instructions).

Docket/Job Card: A job card is a detailed description of work that is performed for a work order.

Importance of docket/job card:

Interpretation of job card is very important. It enables the learner to interpret the job and sequence of the activities to be carried out during the performance of the job.

A job card is consists of following:

- Job title
- Art work
- Dummy/sample
- Job type
- Quantity
- Size of Substrate
- Coating & pasting details
- Please insert a sample docket of publishing

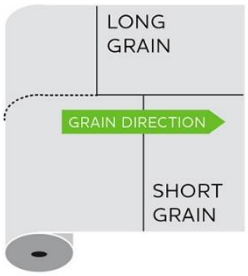
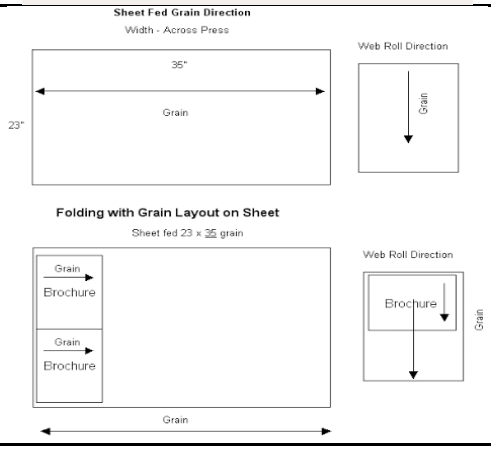
Interpretation of docket/job card:

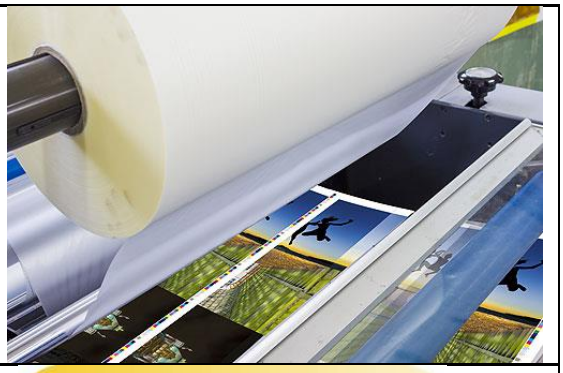
- Printed dummy/sample
- Cutting/trimming
- Pasting
- Lamination
- Type of finish
- Size of job

Practical Activity 1/1:

Module: 2	**Interpret instructions on docket for packaging**	
	Learning Unit: 1	Determine job order details
	Practical Description:	Interpret docket/job card as per instructions
Time:	**2 hours**	
Equipment	N/A	
Tools	Measuring scale, weighing scale with cutter, micro meter, Vernier caliper	
PPE	Proper dress code, safety shoes	
Materials	job card/docket, dummy sample, log book	
Key Point	Always check material specification before binding Prepare specimen as per dummy	
Learning Outcome:	• Determine job title from docket/job card. • Verify availability of reference specimen in docket/job card. • Determine quantity of job as per docket/job card requisition. • Determine coating applications on from docket/job card.	
Precautions:	Ensure personal and environmental safety. Verify front lay and side lay before binding process	

Instructions	**Illustrations**
1. Verify the printed substrate with measuring scale	

2. Verify the substrate GSM/thickness by weighing scale with cutter/ micro meter	 
3. Verify the grain of substrate	 
. 4. Verify artwork/specimen	
5. Verify availability of reference specimen in docket/job card	

6. Verify coating applications	
7. Note down the verifications in log book	

Learning Unit-2

Verify art work/sample for packaging

Overview:

The purpose of this learning unit is to inform the learner about art work for packaging.

Artwork in printing industry:

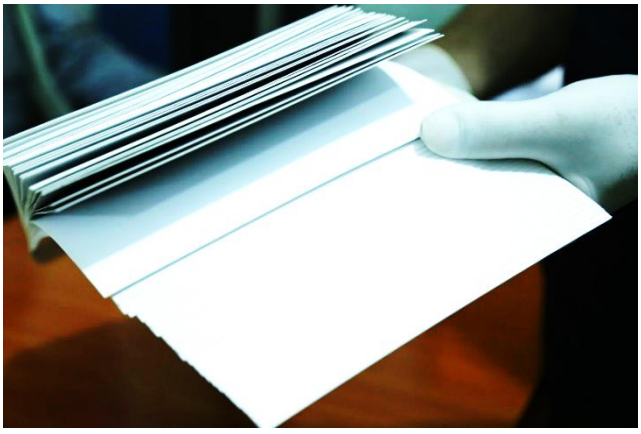
Any design produced primarily to give the client an approximate idea of what the printed piece will look like. It is the latest approved printed copy of work being printed. Artwork has been through spell check and color verification as per customer requirements.

The art work should be looked to verify the following points:

- Number crease and locks
- Placement of glue flap on substrate as per artwork

Practical Activity 1/1:

Module: 2	**Interpret instructions on docket for packaging**	
	Learning Unit: 2	Verify material quality for packaging
	Practical Description:	Determine type, grain and Gram per Square Meter (GSM) value of substrate as per docket/job card.
Time:	**2 hour**	
Equipment	Round Cutter, Weighing scale	
Tools	N/A	
PPE	Proper dress code, safety shoes	
Materials	Substrate as per job card, Note book, Pen/Pencil	
Key Point	Verify the material quality	
Learning Outcome:	The learner will be able to: Determine type of substrate as per docket/job card Determine grain of substrate as per docket/job card. Determine Gram per Square Meter (GSM) value of substrate as per docket/job card	
Precautions:	Carefully check the quality of material	

Instructions	**Illustrations**
1. Collect the desired substrate	

2. Adjust substrate on round cutter 3. Cut the required substrate on round cutter.	
4. Transfer the cut piece on substrate weighing scale 5. Perform weighing of substarte on scale	
6. Maintain record of weighing	

Learning Unit-3

Verify material quality for packaging

Overview: The purpose of this learning unit is to inform the learner about material quality, applications of coatings, traceability marks.

Applications of coatings:

A coating can add a layer of protection to printing. It can help prevent the ink from rubbing off on to the surface next to it

Print coatings can help your printed products stand out by making them more durable, more elegant or by bringing the reader's attention to the right spot.

Traceability marks:

It is used for identification of machine or concerned operator to fulfill the task.

GSM values:

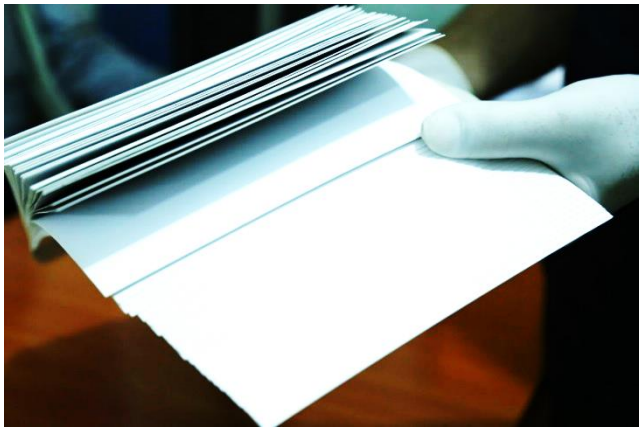
GSM value means gram per square meter. The weight of paper is measured in GSM. Effectively, this is the thickness of the paper: Most printing paper has a GSM between 40 and 150. Anything equal and above 170 is considered as card.

Effects of variation in GSM value:

Variation in GSM value of substrate, affects the quality of printing.

Although any weight of paper can be used for any printed item, there are generally a few unwritten guidelines we follow in order to make sure the finished product is suitable for its purpose.

Practical Activity 1/1:

<table>
<tr><td rowspan="3">Module: 2</td><td colspan="2">Interpret instructions on docket for packaging</td></tr>
<tr><td>Learning Unit: 3</td><td>Verify material quality for packaging</td></tr>
<tr><td>Practical Description:</td><td>Determine type, grain and Gram per Square Meter (GSM) value of substrate as per docket/job card.</td></tr>
<tr><td>Time:</td><td colspan="2">2 hour</td></tr>
<tr><td>Equipment</td><td colspan="2">Round Cutter, Weighing scale</td></tr>
<tr><td>Tools</td><td colspan="2">N/A</td></tr>
<tr><td>PPE</td><td colspan="2">Proper dress code, safety shoes</td></tr>
<tr><td>Materials</td><td colspan="2">Substrate as per job card, Note book, Pen/Pencil</td></tr>
<tr><td>Key Point</td><td colspan="2">Verify the material quality</td></tr>
<tr><td>Learning Outcome:</td><td colspan="2">The learner will be able to:
Determine type of substrate as per docket/job card
Determine grain of substrate as per docket/job card.
Determine Gram per Square Meter (GSM) value of substrate as per docket/job card
Determine thickness of substrate as per docket</td></tr>
<tr><td>Precautions:</td><td colspan="2">Carefully check the quality of material</td></tr>
<tr><td colspan="2">Instructions</td><td>Illustrations</td></tr>
<tr><td colspan="2">1. Collect the desired substrate</td><td>  </td></tr>
</table>

2. Adjust substrate on round cutter 3. Cut the required substrate on round cutter.	
4. Transfer the cut piece on substrate weighing scale 5. Perform weighing of substarte on scale	
6. Maintain record of weighing	

Learning Unit-4

Verify substrate sizing

Overview: The purpose of this learning unit is to inform the learner about substrate, checking substrate sizes, effect of size variation on substrate, substrate trimming procedure, grain of substrate and its importance.

Substrate: Substrate is used in a converting process such as printing or coating to generally describe the base material onto which, e.g. images, will be printed. Base materials may include: ... any variety of paper (lightweight, heavyweight, coated, uncoated, paperboard, cardboard, etc.), or. Parchment.

Method of checking substrate size:

- The paper size is mentioned on packing of paper ream for sheet-fed.
- The same can be verified through a full-size ruler by taking a sheet of paper from the ream and measuring it.

Substrate trimming procedure:

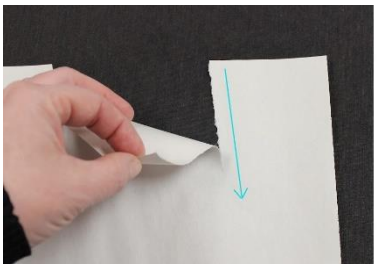
Paper Cutting Machine

In printing and finishing operations, the acts required to reduce sheets of paper (either blank or printed) to a desired size. Webs of blank stock is often cut into sheets prior to shipping to a printer. (See Sheeting.) Paper sheets need to be trimmed prior to printing to ensure that edges are perfectly square and straight to remove extra edges containing registration marks, etc.

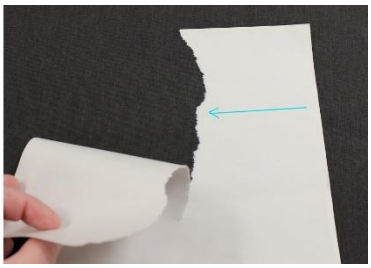
Grain of substrate and its importance:

The grain direction of paper is an important factor to consider when planning your print projects. It affects how the paper prints, folds and binds. Simply put, paper folds and tears more easily with the grain than against. The grain direction is determined by the direction in which the paper fibers are aligned.

Right grain

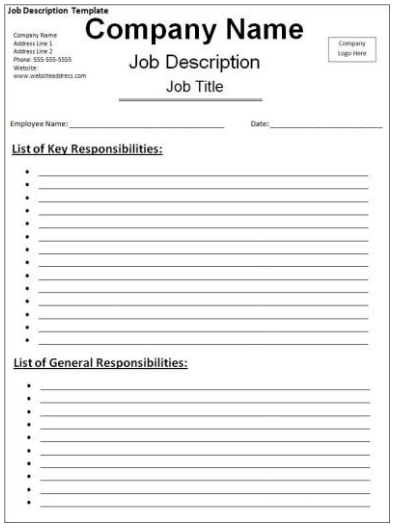


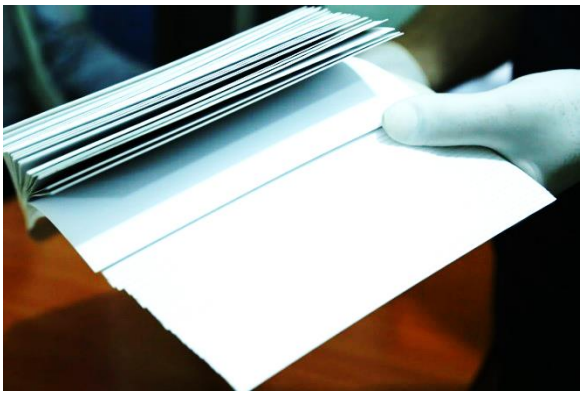
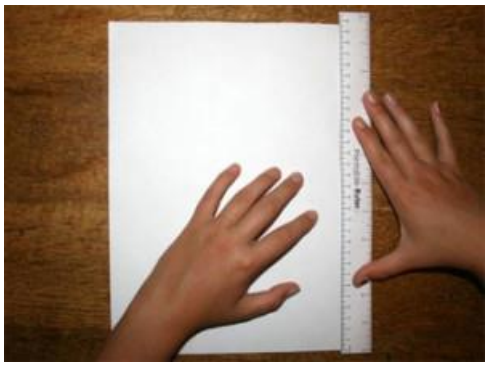
Wrong grain



Practical Activity 1/1:

Module: 2	**Interpret printing instructions on docket**	
	Learning Unit: 4	Verify substrate sizing
	Practical Description:	Checking of substrate size
Time:	**2 hour**	
Equipment	N/A	
Tools	Measuring ruler	
PPE	Proper dress code, safety shoes	
Materials	Substrate, Docket/job card	
Key Point	Verify the substrate size	
Learning Outcome:	The learner will be able to check size of the substrate	
Precautions:	Ensure to wear safety shoes and other safety equipment before starting this process	

Instructions	**Illustrations**
1. Collect the desired docket/ Job card	

2. Collect the substrate.	
3. Put the ruler to the substrate and verify if it is as per docket/job card, machine size	
4. Immediately report to the Supervisor/Senior if there is an abnormality	

Learning Unit-5

Verify die as per docket

Overview:

This learning unit describes the die and verification number of Ups and dimension of Ups

Define die and block:

Die: Die is used for creasing and cutting according to job on box board

Block: Block are of two types male and female used embossing the character as per job.

Practical Activity 1/1:

<table>
<tr><td rowspan="3">Module: 2</td><td colspan="2">Interpret printing instructions on docket</td></tr>
<tr><td>Learning Unit: 5</td><td>Verify die as per docket</td></tr>
<tr><td>Practical Description:</td><td>Checkups and its dimensions as per dummy</td></tr>
<tr><td>Time:</td><td colspan="2">1 hour</td></tr>
<tr><td>Equipment</td><td colspan="2">N/A</td></tr>
<tr><td>Tools</td><td colspan="2">Measuring ruler</td></tr>
<tr><td>PPE</td><td colspan="2">Proper dress code, safety shoes</td></tr>
<tr><td>Materials</td><td colspan="2">Docket/job card and Dummy</td></tr>
<tr><td>Key Point</td><td colspan="2">Carefully measure the dimensions of ups.</td></tr>
<tr><td>Learning Outcome:</td><td colspan="2">• Verify number of Ups as per docket
• Verify dimension of Ups as per docket</td></tr>
<tr><td>Precautions:</td><td colspan="2">Ensure to wear safety shoes and other safety equipment before starting this process</td></tr>
<tr><td colspan="2">Instructions</td><td>Illustrations</td></tr>
<tr><td colspan="2">1. Checkups as mentioned in the docket.</td><td rowspan="2">  </td></tr>
<tr><td colspan="2">2. Check dimension of ups as per dummy.</td></tr>
</table>

Learning Unit-6

Verify Block as per docket

Overview:

This learning unit describes the Block and its verification as per docket

Define block:

Block: Block are of two types male and female used embossing the character as per job.

State precautions to be taken in die and block handling:

- Availability proper tool.
- Availability proper place of block in die box.
- Perfection of male female die is needed.
- Setting of impression is required

Practical Activity 1/1:

<table>
<tr><td rowspan="3">Module: 2</td><td colspan="2">Interpret printing instructions on docket</td></tr>
<tr><td>Learning Unit: 6</td><td>Verify Block as per docket</td></tr>
<tr><td>Practical Description:</td><td>Verify Block size, number and type as per docket</td></tr>
<tr><td>Time:</td><td colspan="2">1 hour</td></tr>
<tr><td>Equipment</td><td colspan="2">N/A</td></tr>
<tr><td>Tools</td><td colspan="2">Measuring ruler</td></tr>
<tr><td>PPE</td><td colspan="2">Proper dress code, safety shoes</td></tr>
<tr><td>Materials</td><td colspan="2">Docket/job card</td></tr>
<tr><td>Key Point</td><td colspan="2">Carefully measure the block size</td></tr>
<tr><td>Learning Outcome:</td><td colspan="2">• Verify block size as per specimen.
• Verify number of Ups as per docket
• Verify type of block as per docket</td></tr>
<tr><td>Precautions:</td><td colspan="2">Ensure to wear safety shoes and other safety equipment before starting this process</td></tr>
<tr><td colspan="2">Instructions</td><td>Illustrations</td></tr>
<tr><td colspan="2">1. Measure the block size with the help of measuring ruler</td><td rowspan="2">  </td></tr>
<tr><td colspan="2">2. Check the ups visually</td></tr>
<tr><td colspan="2">3. Check the type of block by visual inspection</td><td>  </td></tr>
</table>

Summary of the Module

In above module Importance of docket/job card and its interpretation described. Enlist information available on docket/job card. Defined artwork in printing industry. Stated importance of maintaining viscosity of glue. Defined applications of coatings. Defined traceability marks, GSM values, effects of variation in GSM values. Method of checking substrate sizes. Describe effect of size variation on substrate. State substrate trimming procedure. Define grain of substrate and its importance. Define die and block.

Frequently Asked Questions (FAQs)

Question	Answer
Q-1: For which purpose die is used?	Die is used for creasing and cutting according to job on box board
Q-2: What is a Docket/job card?	A Docket/job card is a detailed description of work that is performed for a work order.
Q-3: How many processes packaging and publishing have? Kindly describe.	Packaging and publishing are two different processes; packaging deals with production of boxboard cartons and publishing deals with production of books, Newspaper, brochures etc.
Q-4: What is importance of docket/ job card?	Interpretation of job card is very important. It enables the learner to interpret the job and sequence of the activities to be carried out during the performance of the job.
Q-5: Traceability mark is used for?	It is used for identification of machine or concerned operator to fulfill the task.
Q-6: what is the meaning of GSM values?	GSM value means gram per square meter. The weight of paper is measured in GSM. Effectively, this is the thickness of the paper.
Q-7: what are the effects of variation in GSM value?	Variation in GSM value of substrate, affects the quality of printing.
Q-8: what are Applications of coatings?	A coating can add a layer of protection to printing. It can help prevent the ink from rubbing off on to the surface next to it.
Q-9: Kindly mention any one key benefit to manage humidity?	The quality of printing improves due to proper humidity levels because it helps get rid of paper distortion and prevents static.
Q-10: Define blocks?	Block: Blocks are of two types male and female used embossing the character as per job.

Self-Assessment

(MCQs)

Q-1. Water based is not a type of coating?

a) True
b) False

Q-2. Glue is not a type of coating material?

a) True
b) False

Q-3. Identify which operation is involved in Packaging?

a) Hot Glue binding.
b) Sewing Binding.
c) Die cutting.
d) Gathering.

Q-4. Purpose of using block in Die cutting?

a) Printing.
b) Embossing
c) Pasting
d) Binding

Q-5. Enlist any two reasons for wrong grain substrate?

a) Broken crease.
b) Losing in box hardness
c) Pasting problem
d) Box shape problem

Q-6. Glue viscosity will remain same for box board and bleach card?

a) True.
b) False

Q-7. Identify the machine in given figure-2?

a) Folding Machine
b) Automatic Coating Machine.
c) Automating Gluing Machine
d) Copy Machine

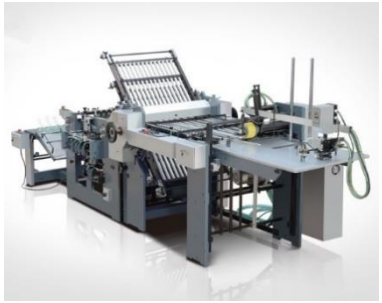


Figure-2

Q-8. Which of the following is the type of lamination?

a) Matte
b) Box board
c) Spot color
d) Gradient

Q-9. Glue chip is used in lamination?

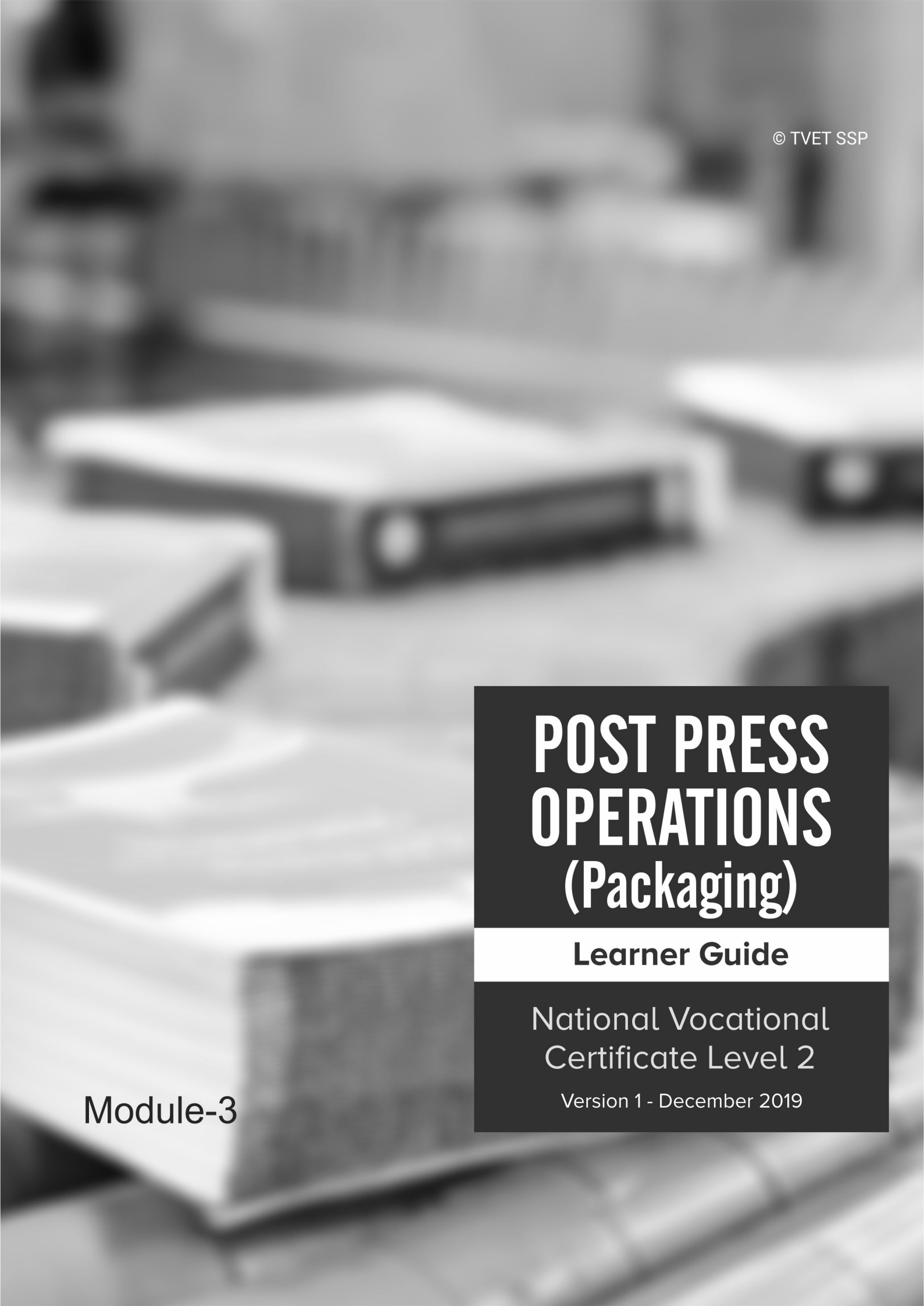
a) True
b) False

Q-10. Glue chip is used in lamination?

a) True
b) False

Answer Key

MCQ No.	Correct Answer
1	b
2	a
3	c
4	b
5	a &d
6	a
7	a
8	a
9	b
10	b



POST PRESS OPERATIONS (Packaging)

Learner Guide

National Vocational Certificate Level 2

Version 1 - December 2019

Module-3

Module 3: - Perform Lamination

Learning Unit:

After completion of this module the learner will be able to:

LU1: Perform Substrate handling

LU2: Verify Lamination films as per dockets

LU3: Make ready workstation for lamination operation

LU4: Perform lamination operation

LU5: Perform post production activity

LU6: Maintain log Book

Learning Unit-1

Perform substrate handling

Overview:

This learning unit describes the handling procedures of substrate.

.

Define Importance of the substrate stacking

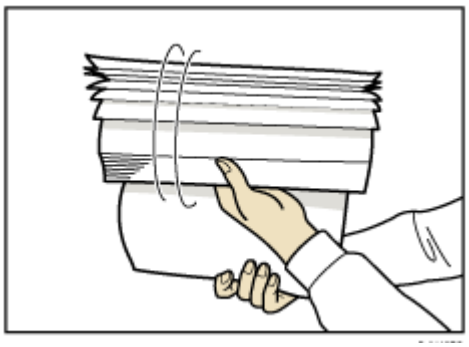
To avoid mis-registration stacking is important.

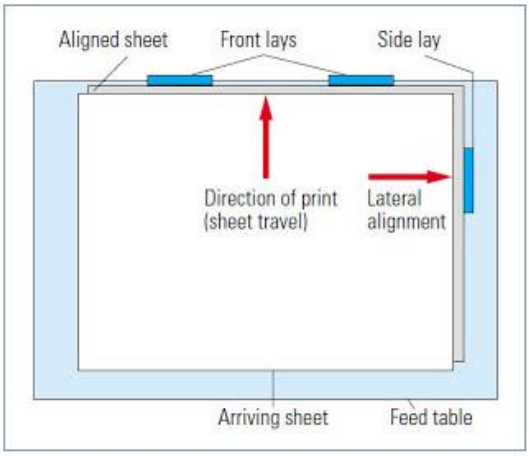
Describe the Importance of the front-lay & side-lay

If front-lay and side-lay work properly, there would not be mis feed of paper and film.

Practical Activity 1/1:

Module: 3	**Perform Lamination**	
	Learning Unit: 1	Perform substrate handling
	Practical Description:	Handle the substrate to verify side-lay & front-lay of the printed substrate and size for lamination
Time:	8 Hours	
Equipment	Lamination Machine	
Tools	Spanner set, Allen key set	
PPE	Proper dress, safety shoes, safety gloves	
Materials	Substrate (Paper / Box Board)	
Key Point	Carefully handle the substrate.	
Learning Outcome:	• Verify side-lay & front-lay of the printed substrate • Perform Substrate Stacking • Verify the side of lamination • Verify the Substrate size for lamination	
Precautions:	Ensure to wear safety shoes and other safety equipment before starting this process	

Instructions	**Illustrations**
1. Fan the sheet.	

2. Fix the paper in the feed board	
3. Run the sheet on the table up-to front-lay and set the side-lay	

Learning Unit-2

Verify Lamination films as per dockets

Overview:

This learning unit describes how to verify the lamination films as per dockets.

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Enlist the types of lamination film:

1. BOPP (Bi-axially oriented polypropylene) Film

Figure 1:BOPP Film

2. PET (polyester film) Film

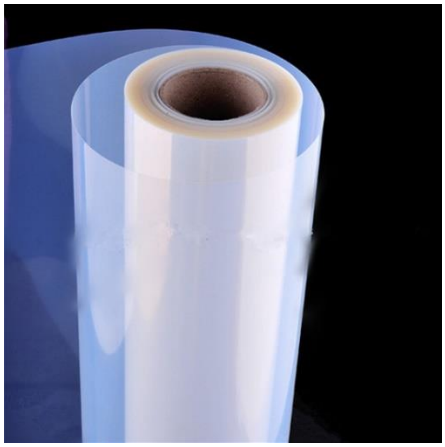


Figure 2:PET Film

Practical Activity 1/1:

Module: 3	**Perform Lamination**	
	Learning Unit: 2	Verify Lamination films as per dockets
	Practical Description:	Check the tearing strength of lamination film and verify the thickness of film
Time:	8 Hours	
Equipment	Lamination Machine	
Tools	Vernier caliper and Measuring tape	
PPE	Proper dress, safety shoes, safety gloves	
Materials	Lamination film	
Key Point	Properly handle the lamination film and carefully measure the thickness.	
Learning Outcome:	• Verify the type of the lamination film • Verify the thickness of the lamination film • Verify size of the lamination film roll	
Precautions:	Ensure to wear safety shoes and other safety equipment before starting this process	

Instructions	**Illustrations**
1. Check the tear strength of film to verify its type	
2. With the help of Vernier caliper measure the thickness of lamination film	

3. Measure the film roll width with the help of measuring tape	

Learning Unit-3

Make ready workstation for lamination operation

Overview:

This learning unit describes how to make workstation able to work with ease and safely.

.Enlist the main parts of machine

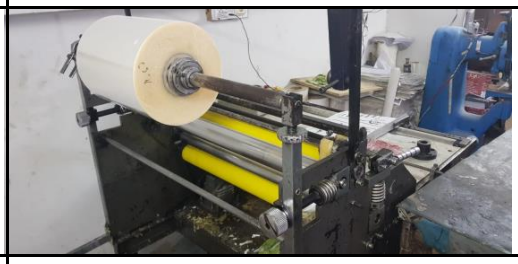
- Regulator
- Rubber Roller
- Steel Roller
- Glue pot
- Rewinding drums
- Conveyor Belt

Importance of maintaining viscosity of the glue

Keeping viscosity stable adds consistency to our process because viscosity affects application rate. Higher viscosity adhesive will typically have a higher application rate, for the same glue roll to metering roll gap, than a less viscous adhesive.

Practical Activity 1/1:

Module: 3	**Perform Lamination**	
	Learning Unit: 3	Make ready workstation for lamination operation
	Practical Description:	Adjust the feeder, mount the film roll on the machine and mount the conveyer blanket
Time:	20 Hours	
Equipment	Manual Lamination Machine	
Tools	• Regulator • Rubber Roller • Steel Roller • Rewinding drums	
PPE	Proper dress, safety shoes, safety gloves	
Materials	Lamination film	
Key Point	Adjust the feeder carefully.	
Learning Outcome:	• Adjust the feeder according to the job • Mount the film roll on to the machine • Mount the delivery drum on the machine • Mount the conveyer blanket as per instruction. • Adjust the viscosity of the glue in a container as per job requirement • Mount the glue pot & fill-up with the glue • Adjust the front-lay & the side-lay • Adjust the flow of glue • Perform test run	
Precautions:	Ensure to wear safety shoes and other safety equipment before starting this process	
Instructions		**Illustrations**

1. Adjust the feeder according to size of the job	
2. Mount the lamination film roll on the machine	
3. Mount the conveyer blanket as per machine manufacturer	
4. Add the water to maintain the viscosity of glue.	
5. Adjust the front-lay and side-lay	
6. Perform test run	

Learning Unit-4

Perform lamination operation

Overview:

This learning unit describes to make printed substrate protection and glossy.

Quality checks of the lamination process:

Quality laminated films have following signs:

- High Slip
- Flat film
- Food grade and resistance to chemicals
- Textured and excellent clarity
- Finish
- Crack resistance

Practical Activity 1/1:

Module: 3	**Perform Lamination**	
	Learning Unit: 4	Perform Lamination Operation
	Practical Description:	Maintain the viscosity and level of the glue in glue pot.
Time:	62 Hours	
Equipment	Manual Lamination Machine	
Tools	Din cup, Speed switch, Allen key set, spanner set, Knife	
PPE	Proper dress, safety shoes, safety gloves	
Materials	Glue	
Key Point	Maintain the viscosity of glue by adding water.	
Learning Outcome:	• Maintain viscosity of the glue during the lamination • Adjust the speed as per substrate • Check & maintain the quality of lamination • Maintain the Glue level in the glue pot	
Precautions:	Ensure to wear safety shoes and other safety equipment before starting this process	

Instructions	**Illustrations**
1. Maintain the viscosity of glue by din cup (Viscosity cup)	
2. Adjust the speed of machine as per substrate by speed switch	
3. Continuously put glue in glue pot	

Learning Unit-5

Perform post production activity

Overview:

This learning unit describes how to clean the machine, drum and rubber roller.

Importance of the cleaning after lamination:

After every operation clean the machine, drum and rubber roller because it will protect the damage the next job.

Technique involved in sheet separation process:

There are 2 methods of separating sheets:

1. Manual Separation
2. Auto sheet separating machine

Practical Activity 1/1:

Module: 3	**Perform Lamination**	
	Learning Unit: 5	Perform post production activity
	Practical Description:	Remove the drum and roller for cleaning. Also clean the conveyer blanket
Time:	6 Hours	
Equipment	Manual Lamination Machine	
Tools	Din cup, Speed switch	
PPE	Proper dress, safety shoes, safety gloves	
Materials	Glue	
Key Point	Maintain the viscosity of glue by adding water.	
Learning Outcome:	• Remove the delivery drum from the machine as per instruction • Clean the roller as per instruction • Empty & clean glue pot • Clean-up the feeder conveyor blanket (Clean machine and tool as per instruction) • Perform sheet separation	
Precautions:	Ensure to wear safety shoes and other safety equipment before starting this process	

Instructions	**Illustrations**
1. Remove the drum from the machine for separating sheets and cleaning	
2. Remove the roller from the machine and clean thoroughly.	
3. Clean the conveyer blanket with some solvent	
4. Perform sheets separation	

Learning Unit-6

Maintain log Book

Overview:

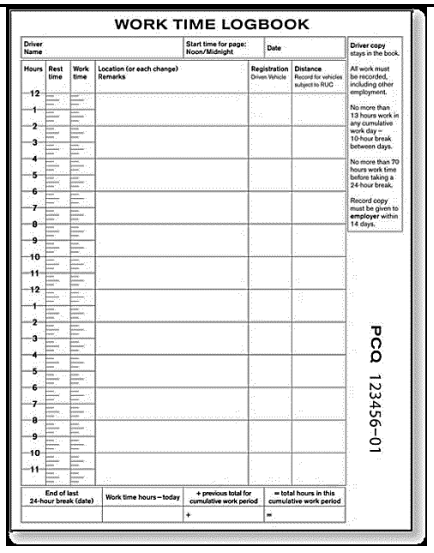
This learning unit describes how to maintain the log book and its importance.

Importance of record keeping:

Keeping accurate and up-to-date records is vital to the success of any business.
A manufacturing production log, is an excellent way of recording the 'stage by stage process of manufacturing a product. In its simplest form, it is a series of photographs accompanied by notes.

Practical Activity 1/1:

Module: 3	**Perform Lamination**	
	Learning Unit: 6	Maintain Log book
	Practical Description:	Maintain the record sheet in terms of final counter along with wastages and down time of machine.
Time:	4 Hours	
Equipment	N/A	
Tools	N/A	
PPE	N/A	
Materials	Logbook	
Key Point	Properly maintain the record sheet	
Learning Outcome:	• Record the final counter along-with the wastages • Record downtime during lamination operation	
Precautions:	Ensure to wear safety shoes and other safety equipment before starting this process	

Instructions	**Illustrations**
1. Record the total count of the quality sheets on log book	
2. Record the total count of the waste sheets on log book	
3. Record downtime of the lamination machine on log book	

Summary of the Module

In above module laminating activities are well defined and practiced through multiple practical's. Lamination procedures explained. Described the types of film. Explained the how to maintain the viscosity of glue. Explained and practiced the procedure of cleaning drum, roller. Defined logbook and explain the filling procedure of it.

Frequently Asked Questions (FAQs)

Question	Answer
Q-1: Define Importance of the substrate stacking	To avoid mis registration stacking is important.
Q-2: Describe the Importance of the front-lay & side-lay	If front-lay and side-lay work properly, there would not be mis feed of paper and film.
Q-3: Enlist the types of lamination film:	Types of lamination film are as following: BOPP (Biaxial oriented polypropylene) Film, and PET (polyester film) Film
Q-4: Write down the main parts of machine	• Regulator • Rubber Roller • Steel Roller • Glue pot • Rewinding drums • Conveyor Belt
Q-5: Kindly describe the importance of maintaining viscosity of the glue?	Keeping viscosity stable adds consistency to our process because viscosity affects application rate.
Q-6: how many signs quality laminated films have?	Quality laminated films have following signs: High Slip, Flat film, Food grade and resistance to chemicals, Textured and excellent clarity, Finish, Crack resistance
Q-7: Describe importance of the cleaning after lamination?	After every operation clean the machine, drum and rubber roller because it will protect the damage the next job.
Q-8: how many techniques involved in sheet separation process?	There are 2 methods of separating sheets: 1. Manual Separation 2. Auto sheet separating machine
Q-9: Describe importance of record keeping briefly?	A manufacturing production log, is an excellent way of recording the 'stage by stage process of manufacturing a product. In its simplest form, it is a series of photographs accompanied by notes.
Q-10: BOPP is stand for?	BOPP stands for Biaxial oriented polypropylene

Self-Assessment

(MCQs)

Please mark the correct one from the given options. You can check your answer with the Answer Key at the end of this module

Q 1. Enlist any two types of finish for lamination film.

a) Gloss Lamination
b) Mat Lamination
c) Velvet finish
d) a & b

Q 2. What are main parts of lamination machine?

a) Rubber Roller
b) Steel Roller / Impression Roller
c) Glue Pot
d) All of the above

Q 3. Select the tool used for sheet separation

a) Knife
b) Scissor
c) Hammer
d) Cutter Plier

Q 4. Identify the part which carries the sheet into the impression role

a) Knife
b) Scissor
c) Conveyor belt
d) Cutter Plier

Q 5. Glue viscosity can change, according to the job

a) True
b) False

Q 6. Enlist any two quality checks in lamination process

a) Glue viscosity
b) Wrinkle
c) Bubble
d) Substrate Alignment

Figure-3

Q 7. Identify the machine in given figure-3?

a) Crimping Machine
b) Lamination Machine
c) Cutting Machine
d) Copy Machine

Q 8. What is the reasons for cleaning the lamination machine after process?

a) Smooth operation
b) Lamination
c) Cutting smooth
d) Copy Machine

Q 9. Front lay and side lay alignment are equally important.

a) True
b) False

Q 10. Drying powder is used in lamination?

a) True
b) False

Answer Key

MCQ No.	Correct Answer
1	d
2	a
3	a
4	c
5	a
6	a & d
7	b
8	a
9	a
10	b

POST PRESS OPERATIONS (Packaging)

Learner Guide

National Vocational Certificate Level 2

Version 1 - December 2019

Module-4

Module 4: - Perform Pasting Operation

Learning Unit:

After completion of this module the learner will be able to:

LU1: Perform Substrate handling

LU2: Make ready workstation for pasting operation

LU3: Perform pasting operation

LU4: Perform post production activity

LU5: Maintain log Book

Learning Unit-1

Perform Substrate handling

Overview:

This learning unit describes the handling procedures of substrate.

Define Importance of the substrate stacking

To avoid mis registration stacking is important.

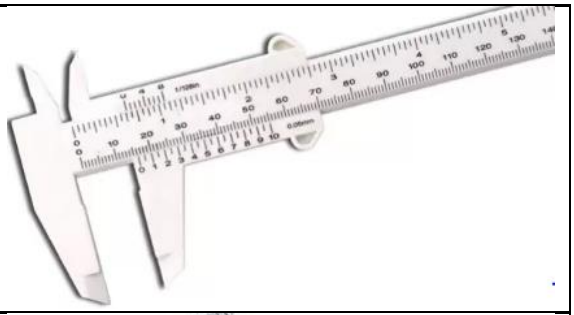
Describe the Importance of the front-lay & side-lay

If front-lay and side-lay work properly, there would not be mis feed of paper and film.

Practical Activity 1/1:

Module: 4	**Perform Pasting Operation**	
	Learning Unit: 1	Perform substrate handling
	Practical Description:	Handle the substrate to verify the thickness of substrate and length, width of skillet / unit box as per docket
Time:	8 Hours	
Equipment	Pasting Machine	
Tools	N/A	
PPE	Proper dress, safety shoes, safety gloves	
Materials	Substrate (Printed Skillet)	
Key Point	Carefully handle the substrate.	
Learning Outcome:	• Verify glue flap of the die cut substrate • Perform Substrate Stacking as per instruction. • Verify the thickness/GSM value of the substrate as per docket. • Verify the Length and width of the skillet/unit box as per docket	
Precautions:	Ensure to wear safety shoes and other safety equipment before starting this process	

Instructions	**Illustrations**
1. Keep glue flap from glue pot side	N/A
2. Perform stacking	

3. Measure the thickness of substrate with Vernier caliper	
4. Measure length and width of skillet/unit box with measuring tape	

Learning Unit-2

Make ready workstation for pasting operation

Overview:

This learning unit describes how to make workstation able to work with ease and safely.

State health and safety precautions of the pasting machine:

Before start working on pasting machine:

- Check all the belts
- Check glue and glue pots
- Check smooth running and folding of skillet
- Check counter kicker

Identify purpose of glue viscosity:

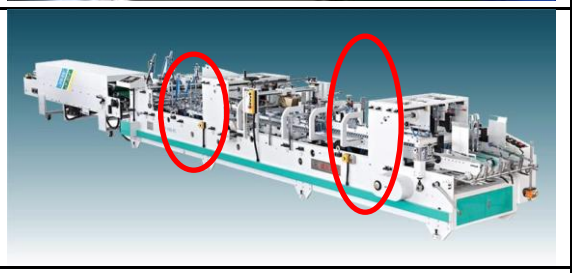
The purpose of glue viscosity is smooth pasting.

Describe purpose of feeder station:

The purpose of feeder station is smooth running of skillet

Practical Activity 1/1:

Module: 4	**Perform Pasting Operation**	
	Learning Unit: 2	Make ready workstation for pasting operation
	Practical Description:	Adjust the feeder to run the skillet
Time:	38 Hours	
Equipment	Pasting Machine	
Tools	Spanner set, Allen Key set	
PPE	Proper dress, safety shoes, safety gloves	
Materials	Substrate (Printed Skillet)	
Key Point	Carefully handle the substrate.	
Learning Outcome:	• Adjust the feeder according to the job • Adjust pre-glue / pre-fold belts according to the job • Adjust glue flap folding station according to the job • Adjust 3rd fold station according to the job • Adjust glue pot station according to the job • Adjust post-glue belts according to the job. • Adjust the impression and speed of delivery belt as per job requirement • Adjust Glue viscosity as per job requirement • Adjust flow of glue as per job requirement • Adjust the delivery conveyer belt pressure as per job requirement. • Adjust the counter photocell and kick according to the job • Perform test run	
Precautions:	Ensure to wear safety shoes and other safety equipment before starting this process	
Instructions		**Illustrations**

1. Adjust the feeder as per skillet	
2. Run the skillet on the machine and adjust the belt and pre-fold	
3. Adjust the 3rd folding	
4. Set the gluing wheel on gluing flap (Normally in the center of flap)	
5. Adjust the belts for pasting of gluing flap	
6. Adjust the kicker as required (25+50+100)	
7. Apply pressure in the pressing blankets to paste the job.	

Learning Unit-3

Perform pasting operation

Overview:

This learning unit describes the procedure of the pasting operation.

Describe purpose of Pre-glue station:

The purpose of pre-glue station is turning of glue flap and 3rd fold.

Describe purpose of glue pot station:

The purpose of glue pot station is to apply glue on gluing flap of every skillet

Describe purpose of Post-glue station:

The purpose of post-glue station is to crease fold 2nd and 4th

Describe purpose of Delivery station:

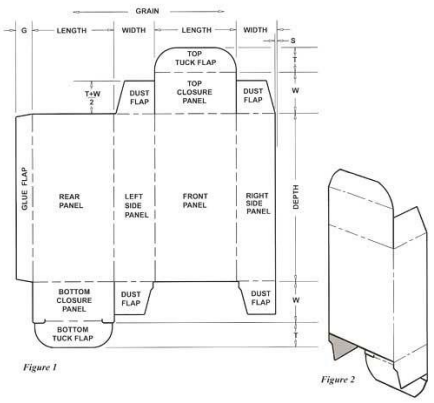
The purpose of delivery station is to press the cartons under blankets for pressure.

Describe the importance of glue position on glue flap:

The importance of glue position on glue flap is to bind the cartons together.

Practical Activity 1/1:

Module: 4	**Perform Pasting Operation**	
	Learning Unit: 3	Perform Pasting Operation
	Practical Description:	Carryout pasting operation and quality check.
Time:	84 Hours	
Equipment	Gluing, pasting and folding machine	
Tools	N/A	
PPE	Proper dress, safety shoes, safety gloves	
Materials	Substrate (Printed Skillet)	
Key Point	Carefully handle the substrate.	
Learning Outcome:	• Get approval from the supervisor • Carry out pasting operation as per instruction • Check & maintain the quality of pasting.	
Precautions:	Ensure to wear safety shoes and other safety equipment before starting this process	

Instructions	**Illustrations**
1. Take out the glued carton, check himself and take approval from supervisor	
2. Follow the instruction of pasting operation as per docket	
3. Maintain the quality of glue as per carton approved.	

Learning Unit-4

Perform post production activity

Overview:

This learning unit describes the activities of post-production.

Describe the importance of maintaining/cleaning of work station:

Cleaning a dirty workstation not only helps prevent getting infections and sicknesses, it also helps make your workspace more efficient to use

Practical Activity 1/1:

Module: 4	**Perform Pasting Operation**	
	Learning Unit: 4	Perform post production activity
	Practical Description:	
Time:	08 Hours	
Equipment	Gluing, pasting and folding machine	
Tools	N/A	
PPE	Proper dress, safety shoes, safety gloves	
Materials	Substrate (Printed Skillet)	
Key Point	Carefully handle the substrate.	
Learning Outcome:	• Remove the Glue pot from the machine as per instruction • Clean the glue pot as per instruction • Clean the machine & workplace	
Precautions:	Ensure to wear safety shoes and other safety equipment before starting this process	

Instructions	**Illustrations**
1. Remove the glue pot from the machine and clean it	
2. Remove the wheel from the machine and clean it	
3. Clean the machine its surroundings	

Learning Unit-5

Maintain log Book

Overview:

This learning unit describes how to maintain the log book and its importance.

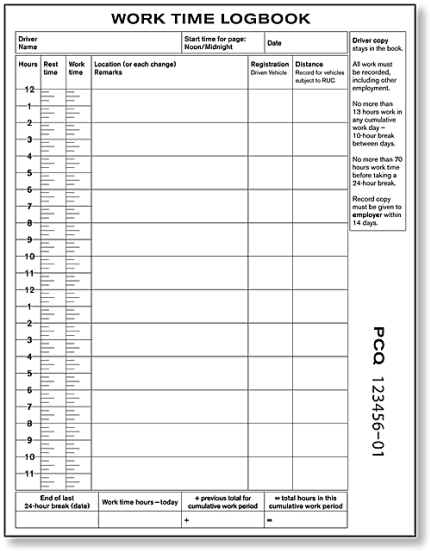
Importance of record keeping:

Keeping accurate and up-to-date records is vital to the success of any business.

A manufacturing production log, is an excellent way of recording the 'stage by stage process of manufacturing a product. In its simplest form, it is a series of photographs accompanied by notes.

Practical Activity 1/1:

Module: 4	**Perform Pasting Operation**	
	Learning Unit: 5	Maintain Log book
	Practical Description:	Maintain the record sheet in terms of final counter along with wastages and down time of machine.
Time:	6 Hours	
Equipment	N/A	
Tools	N/A	
PPE	N/A	
Materials	Logbook	
Key Point	Properly maintain the record sheet	
Learning Outcome:	• Record the final counter along-with the wastages • Record downtime of die cutting operation	
Precautions:	Ensure to wear safety shoes and other safety equipment before starting this process	

Instructions	**Illustrations**
1. Record the total count of the quality sheets on log book	
2. Record the total count of the waste sheets on log book	
3. Record downtime of the die cutting operation on log book	

Summary of the Module

In above module pasting activities are well defined and practiced through multiple practical. Pasting procedures explained. State health and safety precautions of the pasting machine. Identify glue flap. Identify purpose of glue viscosity. Describe purpose of feeder station. Describe purpose of Pre-glue station. Describe purpose of glue pot station. Describe purpose of Post-glue station. Describe purpose of Delivery station. Describe the importance of glue position on glue flap. Explained importance of record keeping

Frequently Asked Questions (FAQs)

Question	Answer
Q-1. Importance of the substrate stacking	To avoid registration stacking it is important
Q-2. What is importance of front-lay and side-lay?	There would not be mis feed of paper and film with the help of proper front-lay and side-lay adjustment
Q-3. What are the precautions of pasting machine	1. Check all belts 2. Check glue and glue pot 3. Check smooth running 4. Check counter kicker
Q-4. What is purpose of glue viscosity maintenance?	The purpose of glue viscosity maintenance is smooth pasting
Q-5. Describe purpose of pre-glue station	The purpose of pre-glue station is turning of glue flap and 3rd fold
Q-6. Describe purpose of glue post station	The purpose of glue post station is to apply glue on gluing flap of every skillet
Q-7. Describe importance of glue position on glue flap	The importance of glue position on glue flap is to bind the cartons together
Q-8. What is purpose of delivering station?	The purpose of delivering station is to press cartons under blankets for pressure
Q-9. Describe the importance of maintaining / cleaning of work station	It helps to make workshop more efficient to use.
Q-10. What is importance of record keeping	A manufacturing production log, is an excellent way of recording the 'stage by stage process of manufacturing a product

Self-Assessment

(MCQs)

Please mark the correct one from the given options. You can check your answer with the Answer Key at the end of this module

Q 1. Which instrument is used to measure the glue viscosity?

a) Vernier caliper
b) DIN / Viscosity cup
c) Micrometer
d) Height gauge

Q 2. What is the purpose of knife in the feeder of pasting machine?

a) To control glue
b) To control speed
c) To control double carton
d) To control space between carton

Q 3. You can control distance between cartons by speed of feeder?

a) True
b) False

Q 4. Can you fold all 4 creases on pasting machine?

a) Yes
b) No

Q 5. Where is gluing flap folded on the machine?

a) Pre glue pot station
b) Glue pot station
c) Post glue pot station
d) Delivery

Q 6. In which station do you control the box alignment?

a) Pre-glue
b) Feeder
c) Glue
d) Post glue

Q 7. What is the purpose of wheel in glue pot?

a) Apply glue on substrate
b) To control glue viscosity
c) To fill the pot
d) To control adhesiveness

Q 8. What is the glue wheel thickness, will be used on 8mm to 12 mm flap?

a) 2 to 3 mm
b) 4 to 6 mm

c) 8 to 10 mm
d) 10 to 12 mm

Q 9. Can you control belt speed of post glue station for flap alignment?

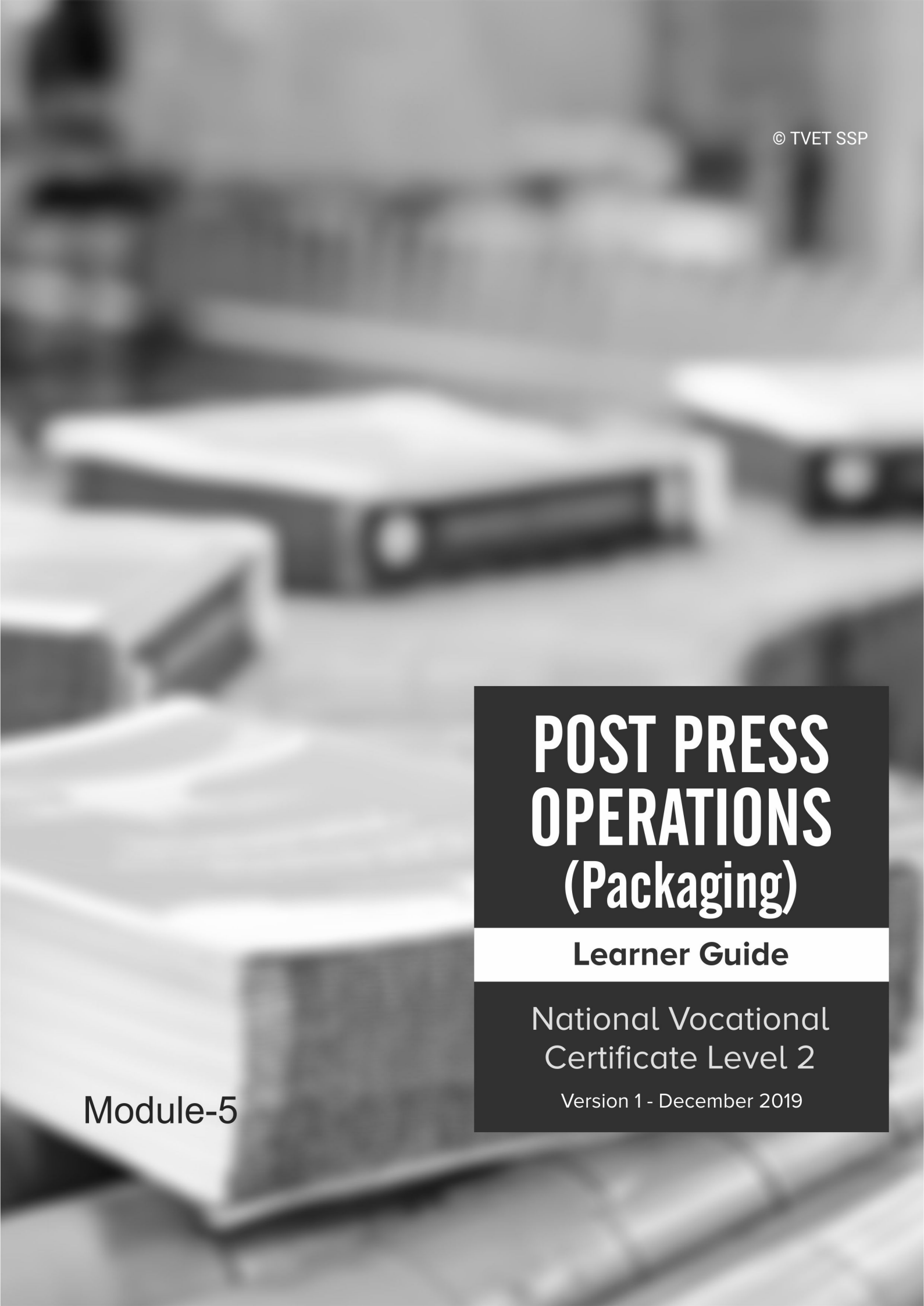
a) True
b) False

Q 10. Can you control conveyor belt speed to adjust stacking height and alignment?

a) True
b) False

Answer Key

MCQ No.	Correct Answer
1	b
2	c
3	a
4	a
5	a
6	b
7	a
8	a
9	a
10	a



POST PRESS OPERATIONS (Packaging)

Learner Guide

National Vocational Certificate Level 2

Version 1 - December 2019

Module-5

Module 5: - Perform Health and Safety

Learning Unit:

After completion of this module the learner will be able to:

LU1: Practice safe work habit to ensure safety

LU2: Use Personal Protective Equipment (PPE)

LU3: Identify hazards in press environment

LU4: Comply with Occupational Health and Safety (OHS)precautions

LU5: Carryout firefighting techniques.

Learning Unit-1

Practice safe work habit to ensure safety

Overview:

This learning unit describes safe working practices in workshop.

Importance of Safety:

The most important concept to remember is that you are responsible for your own safety and the safety of others. Most safety practices are common sense. Unfortunately, they can be forgotten or overlooked unless you make safe practices a habit or an instinct.

> Remember:
>
> Never use any machine you have not been trained to use.

Work safety procedures:

By doing things right, you and your co-workers will commit yourselves to safety on the job and everyone will benefit. Accidents occur in many ways but most often can be traced back to one of two basic factors: ignorance or carelessness. You must always be concerned with your own safety and with the safety of others around you.

The following is a general list of safety precautions you must observe in any work area:

- Don't fool around. "Horseplay" is one of the biggest causes of injuries on the job and it may be grounds for dismissal.
- Never work while under the influence of drugs or alcohol, as you are a hazard to yourself and your co-workers.
- Pay particular attention to moving parts of the machine.
- Walk; do not run, in the work areas.
- Stay completely alert on the job.
- Avoid back strain by lifting properly.

Procedures for equipment/Machine

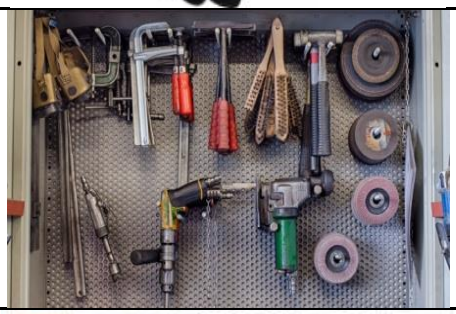
- Pull plug or throw switch to off position before cleaning or adjusting any machine. Keep fingers, hands, etc., away from moving parts. Wait until machine stops.
- Check all switches to see that they are off before plugging into the outlet.
- Never use any machine you have not been trained to use.
- Particular care must be taken when cleaning the printing machine. First pull the plug.
- Never start a machine until you are sure all parts are in their proper places. If it is a machine that operates with gears, check the gear position.

- You must be aware of the lock-out procedures that are to be followed before repairing or cleaning any machine. Lock-out procedures must be clearly posted by management near each machine.
- When using electrical power equipment, always follow the manufacturer's instructions and recommendations. Do not wear rings, a wristwatch, or a tie when operating electrical power equipment.

Practical Activity 1/1:

Module: 5	**Perform Health and Safety**	
	Learning Unit: 1	Practice safe work habits to ensure safety in the printing environment
	Practical Description:	Application of dress code in accordance with press room procedures and follow rules to ensure personal safety as well as safety of others as per press room procedure
Time:	**3 hours**	
Equipment	N/A	
Tools	N/A	
PPE	Proper dress, safety gloves, safety shoes, mask	
Materials	First aid box	
Key Point	Personal safety as well as safety of others as per press room procedure	
Learning Outcome:	• Interpret work processes and procedures to identify risk of hazards at printing press. • Recognize printing processes, tools, equipment and consumable materials that have the potential to cause harm. • Identify potential hazards to minimize accident risk. • Take appropriate action to minimize the risk.	
Precautions:	Safety First	

Instructions	**Illustrations**
1. Wear tight cloths	
2. Wear safety shoes	

3. Wear gloves	
4. Always place tools to their respective positions	
5. Handle tools and equipment carefully	
6. Never leave chemicals and solvents open	
7. Always follow SOPs	

Learning Unit-2

Use Personal Protective Equipment (PPE)

Overview:

This learning unit describes the importance and types of personal protective equipment in printing industry.

Importance of Personal Protective Equipment

Wearing personal protective equipment (PPE) can prevent accidents from happening. As a worker, you are responsible for the following:

- Making sure your uniform is well fitted.
- Keeping all uniforms clean and in good condition
- Wearing specific personal safety equipment such as gloves, and aprons when required.

To ensure that you are protecting yourself, your personal protective equipment (PPE) list should include the following items.

Clothing

This includes well-fitted pants and T shirt with all buttons fastened. Sleeves should be close fitting.

Protective clothing protects the skin or personal clothing from contact with hazardous chemicals and prevents spread of contamination. When handling printing inks or solvents, such as dispensing, storage, and conducting maintenance work, employees should always wear suitable protective clothing.

Footwear

The OHS Regulation requires that approved footwear must be worn by employees in all industrial occupations. Footwear must have a non-slip sole and a closed toe and closed back.

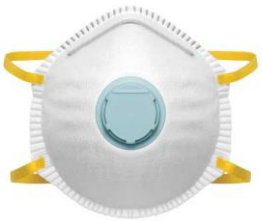
Your footwear should be sturdy and comfortable.

Hand protection

As printing workers frequently have to handle many hazardous chemicals by hands, chemical resistant gloves have to be used. Thick plastic, gloves should be used when handling cleaning products.

Respirators

Respirators should be used to protect yourself from inhaling harmful fumes or vapors. The respirator unit should be properly fitted to provide the best protection. Check the components to ensure they are not broken, cracked, or torn and that they do not have holes. Replace faulty components before use. Each unit will have a filter that should be checked regularly and replaced before the expiration date.



Practical Activity 1/1:

Module: 5	**Perform Health and Safety**	
	Learning Unit: 2	**Use personal protective equipment (PPE)**
	Practical Description:	Selection of personal protective equipment PPE in terms of type and quantity according to work order and verification of PPE to ensure optimum protection in compliance with press room procedures
Time:	**3 min**	
Equipment	N/A	
Tools	N/A	
PPE	Tight cloths as per SOP's of press room, Mask, Gloves, safety shoes, First aid box	
Materials	First aid box	
Key Point	Safety First	
Learning Outcome:	• Select personal protective equipment in terms of type and quantity according to work orders. • Verify personal protective equipment to ensure optimum protection in compliance with press room procedures. • Ensure personal protective equipment hygiene in compliance with press room procedures.	
Precautions:	N/A	

Instructions	**Illustrations**
1. Wear proper dress	
2. Wear safety shoes	

3. Wear gloves	
4. Check first aid box and its articles	
5. Read carefully the SOPs of PPE	
6. Check whether all the PPE procedure for press room has be complied	

Learning Unit-3

Identify hazards in press environment

Overview:

This learning unit explains the identification of hazard in printing industry.

It also describes the precautions, techniques and procedures to deal with hazards.

Health & safety precautions:

A clean workplace means more than just having a sparkling, fresh building. A clean workplace also ensures the safety and health of employees and visitors. In 2012 alone, nearly 3 million nonfatal workplace injuries and illnesses were reported by private industry employers. Workplace injuries can be prevented by taking action to ensure a clean, safe work environment.

List techniques and methods to control risks of identified hazards in the workplace:

1. **Clean, dry floors to prevent slips and falls.**
   Maintaining clean, dry floors is essential for the prevention of slips and falls in the workplace. In addition, keep your floors dry by using absorbent materials, such as floor mats, in functional locations to remove moisture and soil from the bottom of shoes.

2. **Proper air filtration lowers employee exposure to hazardous substances.**
   You may not see them, but dusts and vapors are hazardous substances that can create an unsafe environment for employees. Building ventilation is one important factor in reducing airborne transmission of respiratory infections and maintaining the health and productivity of workers. Maintaining humidity around 40 to 60 percent through the use of a dehumidifier is also important in eliminating air pollutants and promoting clean air in the workplace.

3. **Clean light fixtures improve lighting efficiency.**
   Dirty light fixtures can reduce essential light levels, making it difficult and unsafe for employees to complete their daily tasks. Clean light fixtures significantly improve lighting efficiency in the workplace. Sometimes we need special graphic lights. Well-lit stairways and aisles are also important in preventing accidents and maintaining a safe work environment.
4. **Proper disposal of waste and recyclable materials keeps work areas clutter-free.**
   Allowing trash to pile up not only produces clutter, but it also presents a breeding ground for pests that pose a threat to your work environment. Placing “no-touch” wastebaskets in key locations throughout your facility ensures materials are disposed of and reduces the spread of germs. Recycling materials using clearly labeled waste receptacles also makes for a more sustainable environment.
5. Worker must be in proper uniform, loose clothing should not be allowed.
6. All hazardous chemicals and solvent should be kept away from the machine area.
7. All the electric connections should be connected properly and there should be no leakage.
8. All wire connected to machine must be well insulated.

9. If found any unusual thing report immediately to the supervisor/senior personnel

List types of hazards that are most likely to cause harm to health and safety:

1. **Chemical:**
   Chemical hazards are hazardous substances that can cause harm. These hazards can result in both health and physical impacts, such as skin irritation, respiratory system irritation, blindness, corrosion and explosions.
   a. Cleaning chemicals

   Cleaning chemicals are used in almost every workplace to maintain good hygiene standards. Incorrect use of cleaning chemicals can have serious impacts, including allergic reactions, asthma and respiratory irritation, dermatitis and skin or eye burns.

   b. Welding activities pose many hazards**:**

   including exposure to invisible gaseous fumes. These fumes include ozone, nitrogen oxides, chromium and nickel oxides, and carbon monoxide. Exposure to these gases can cause serious health impacts, including Pneumonia, occupational asthma, cancer, metal fume fever and respiratory irritation. If not properly controlled, the fumes can impact the welder and anyone working in the vicinity.

2. **Physical:**
   Physical hazards are environmental factors that can harm an employee without necessarily touching them, including heights, noise, radiation and pressure.
   a. Electricity

   Exposure to electrical live parts can result in serious injuries and fatalities, including electric shocks, burns, explosions and falls from height. The risk is increased in wet conditions, where a worker's equipment and surroundings can also become live

   b. Fires

   Every workplace is at risk of fire. However, some workplaces are at an increased risk – either due to the work activities or types or employees/residents.

c. Confined spaces

Working in confined spaces poses serious hazards to employees. They can be especially dangerous because of the reduced oxygen levels and potential build-up of gases, which can result in fires, explosions, asphyxiation and loss of consciousness

3. **Safety:**

These are hazards that create unsafe working conditions. For example, exposed wires or a damaged carpet might result in a tripping hazard. These are sometimes included under the category of physical hazards.

a. Unguarded machinery.

Unguarded moving machinery parts pose a safety hazard as employees can sustain serious injury and fatalities if they were to accidentally come into contact with them. For example, clothes, lanyards, hair or body parts could become entangled in unguarded machinery and can result in bruising, broken bones, loss of limbs, head injuries and death.

b. Frayed and faulty cords, wiring or cables:

These could pose a risk of electric shock, burns and fires. Exposure to live electricity can also result in a fall from height. For example, if an employee sustained an electric shock while using a ladder.

Practical Activity 1/1:

Module: 5	**Perform Health and Safety**	
	Learning Unit: 3	Identify hazards in printing press
	Practical Description:	Recognize printing processes, tools, equipment and consumable material that have the potential to cause harm
Time:	**3 hours**	
Equipment	Fire extinguisher, Fire Blanket	
Tools	N/A	
PPE	Proper dress code, safety shoes, safety gloves, mask	
Materials	Copy of SOP's, Copy of safety guide, List of tools and equipment, Machine manual, Chemical, Solvents, First aid box	
Key Point	Recognize hazards	
Learning Outcome:	The learner will be able to Recognize printing processes, tools, equipment and consumable material that have the potential to cause harm	
Precautions:	Ensure safety	

Instructions	**Illustrations**
1. Arrange the required tool set equipment in order	
2. Store chemicals and solvents at appropriate place	

3. Segregate the hazardous chemicals, equipment, tools and solvents which have to cause harm	
4. Clean the tools after completion of task	
5. Store the tools, equipment, chemicals and solvents to their respective places	
6. Wash your hands with soap.	

Learning Unit-4

Comply with Occupational Health and Safety (OHS) precautions

Overview:

This learning unit states the OHS procedure, risk and hazards that cause harm to health and safety.

Occupational Health & safety procedures:

A workplace health and safety program is a process for managing the prevention of work-related injuries and diseases in the workplace.

Workplace safety procedures and instructions:

Safe work practices are generally written methods that define how tasks are performed while minimizing risks to people, equipment, materials, environment, and processes. Safe Work Procedures are documented procedures for performing tasks.

Different types of Workplace safety procedures and instructions:

Accessibility

Provide full accessibility to electrical control panels. Never block the panels, which are used to shut down power in an emergency, with materials or other equipment. Also, never block sprinklers, firefighting equipment or emergency exits and observe clearances when stacking materials.

Handling chemicals – these involves procedures on how to handle chemicals in workplace where these are used.

Lifting and moving objects – are procedures that pertain to how objects are to be lifted and moved safely and without strain to the person or worker.

Working at heights – these are procedures that underscore what a worker must observe to keep himself safe while working in an elevated structure or environment.

Slips, trips and falls – are procedures that pertain to safety procedures that should be in place to prevent slips, trips and fall accidents in the workplace.

Proper Waste Disposal--Discard fire hazards like oily rags by placing them in a covered metal container and emptying it on a regular basis.

Housekeeping – are procedures that pertain to how housekeeping activities should be done while keeping in mind safety, health and well-being of workers in a facility or workplace.

Electrical equipment – these are safety procedures that pertain to the installation, repair and maintenance of electrical equipment.
Maintenance--Make sure the machines in your workplace are properly maintained to prevent overheating and friction sparks. Check and perform maintenance on machines regularly and keep a record of this routine maintenance

Fully Charged Fire Extinguishers--Check fire extinguishers often by looking at the gauges and making sure they're fully charged and ready for use. If they're not fully charged or if the attached tag indicates that the last inspection occurred more than a month ago, call for maintenance. Also, encourage all workers to learn how to use a fire extinguisher and provide the proper training.

Emergency Numbers and Proper Signage

Emergency phone numbers, as well as your company address, should be posted by the phone station for quick access. If necessary, create additional information sheets in the native languages for your employees. Make sure you have exit signs installed in your facility and a fire evacuation plan in the event of an emergency.

Fire Drills and Evacuation Plan

Conduct fire drills at least twice a year and have a designated spot where employees will meet once they exit the building. Assign employees to be fire drill captains and make sure everyone knows what the proper procedure is. Review your plan with your local fire company to assess its effectiveness

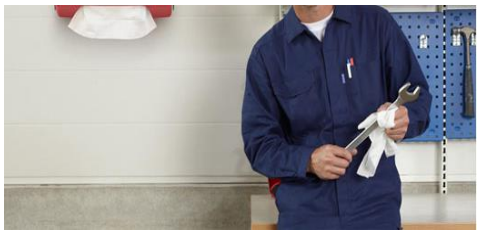
Method of Cleaning and Storing Basic Hand Tools

Cleaning of Hand Tools:

Quality tools should last a lifetime, do a thorough cleanup immediately after each use.

- Usually cleaning with water and soap will do the job. Sticky stuff can be removed with lighter fluid.
- Always dry tools and lightly oil after each cleaning.

- Excess oil should be wiped away, always keep an oil soaked rag handy and use it to wipe down tools before putting them away.
- Cleaning your hand tools from time to time will prevent rust buildup and can lengthen the life of your tools.
- A tool should always be kept clean and free of dust so that it remains in a good condition and a tool in good condition gives the maximum efficiency.
- When rust forms on tools, remove it by using a fine abrasive cloth or scrubber.
- The moving parts of the tools must be kept working freely and hence it is necessary to lubricate them regularly.



Storing of Hand Tools:

- Tools should be kept in a tool box or a tool cabinet or work bench.
- Each tool should be kept in its own individual place so that it is easily accessible and can be replaced readily after they have been used.
- The compartments in a tool box or a cabinet should be designed and placed in such a way that there is no danger of one tool coming in contact with the other.
- Tools should not lie idle on the floor or in the working area as they are a hazard to anyone working there or passing by.
- Sharp tools should be placed in their respective holders so that there is no danger of cutting oneself when picking it out or replacing it.
- Store hand tools in a dry, sheltered environment.
- Place similar tools together so that people can see easily what is available.

Practical Activity 1/1:

Module: 5	**Perform Health and Safety**	
	Learning Unit: 4	**Comply with occupational health and safety (OHS) precautious**
	Practical Description:	Comply with health and safety precautions and relevant guidelines and identify OHS hazards in printing press to prevent from potential accidents
Time:	**3 hour**	
Equipment	N/A	
Tools	N/A	
PPE	Mask, Gloves, Tight cloths as per SOP's of press room, safety shoes	
Materials	Copy of guideline of safety and health precautions, copy of Occupational health and safety (OHS) hazards SOP's,	
Key Point	Make sure personal safety	
Learning Outcome:	Comply with health and safety precautions and relevant guidelines and identify OHS hazards in printing press to prevent from potential or accidents	
Precautions:	Safety first	

Instructions	**Illustrations**
1. Adopt proper dress code	
2. Ensure cleaning of surrounding area	
3. Check electric phases and connections	

4. Keep hazardous articles at their proper place	
5. Check the oil level of machine	
6. Arrange tools in order	
7. Ensure safe handling of tools	
8. Remove and dispose of used and waste articles as per SOPs	

Learning Unit-5

Carryout firefighting techniques

Overview:

This learning unit explains the causes and types of fire. It also gives knowledge of firefighting equipment and firefighting method in printing industry.

Causes of fire:

- Fires are caused both when the printing machine is in operation and when it is undergoing cleaning operations and the machine has been shut down.
- The main deficiencies are: machine not cleaned sufficiently, lack of locking mechanisms for ink dryers, and defective electrical and mechanical maintenance.
- The most frequent type of fire in printing presses and workshops is derived from solid combustible materials (**class A fires**), such as paper, cardboard, wooden pallets, dirty cloths, and plastic. There are also combustible liquids used in the production processes that can cause fires (**class B fires**), such as alcohols, oils, and solvents.

Some other causes of fire are:

1. Improper handling of solvents and chemical
2. Substandard and leakage in electric wiring
3. Short circuit in electrical panel or wiring

Types of Fire:

There are four types, or classes, of fire:

- **Class A** fires involve solid materials of an organic nature such as wood, paper, cloth, rubber and plastics that do not melt.

- **Class B** fires involve liquids. They include petrol, diesel, thinners, oils, paints, wax, cooking fat and plastics that melt.

- **Class C** fires involve electricity.

- **Class D** fires involve flammable metals such as magnesium, aluminum, titanium, sodium and potassium.

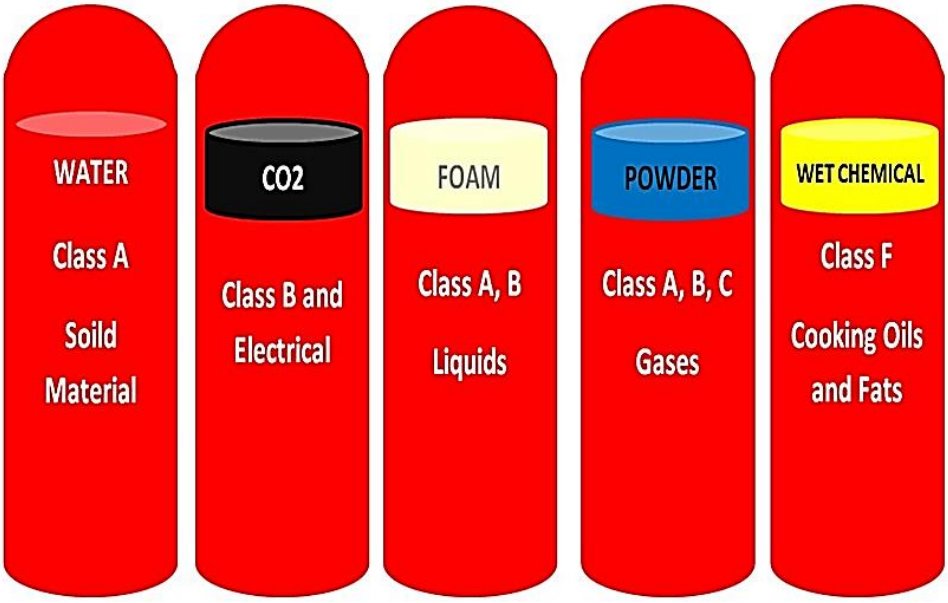
Firefighting equipment:

There is various firefighting equipment:

1. **Fire extinguisher:** A portable apparatus containing chemicals that can be discharged in a rapid stream to extinguish a small fire.

Types of Fire extinguisher: There are four types of fire extinguisher;

- **Water Fire Extinguishers** are recommended for class A fire fighting and are effective in case of wood, paper or plastic ignition. Not suitable for Class B (Liquid) fires, or where electricity is involved.
- **Foam Fire Extinguishers** are more expensive than water, but more versatile. They are used for Classes A & B fires. Foam spray extinguishers are not recommended for fires involving electricity.
- **Dry Powder Fire Extinguishers** contain some powder based agent, able to break the chemical chain reaction, sustaining the fire. Often termed the 'multi-purpose' extinguisher, as it can be used on classes A, B & C fires. Best for running liquid fires (Class B).
- **Carbon Dioxide Fire Extinguishers** Carbon Dioxide is ideal for fires involving electrical apparatus, and will also extinguish class B liquid fires, but has NO POST FIRE SECURITY and the fire could re-ignite.



Fire Extinguisher Chart

Extinguisher		Type of Fire				
Colour	Type	Solids (wood, paper, cloth, etc)	Flammable Liquids	Flammable Gasses	Electrical Equipment	Cooking Oils & Fats
	Water	✓ Yes	✗ No	✗ No	✗ No	✗ No
	Foam	✓ Yes	✓ Yes	✗ No	✗ No	✓ Yes
	Dry Powder	✓ Yes	✓ Yes	✓ Yes	✓ Yes	✗ No
	Carbon Dioxide (CO2)	✗ No	✓ Yes	✗ No	✓ Yes	✓ Yes

2. **Sand/Water Bucket:** A fire sand bucket is steel bucket filled with sand which is used to put out fires. Typically, fire buckets are painted bright red and have the word 'fire' stenciled on them in white lettering. In order to extinguish the fire, the sand in the bucket is dumped on the fire. This method of fighting liquid fires has generally been replaced by modern foaming agents.

3. **Fire Blankets** may be used by firefighters to protect furnishings from water damage during firefighting. A fire blanket is made of fire-resistant material such as fiberglass and is used in smothering a fire. They can also be used if a person's clothing has caught fire.

4. **Fire Hose** is a high-pressure hose used to carry water extinguish a fire. Outdoors, it is attached either to a fire engine or a fire hydrant. Indoors, it can be permanently attached to a building's plumbing system.

5. **A fire detection and alarm system is** recommended to install these systems on industrial sites in case of outbreaks of fire that may develop at any time when the premises are not occupied.

6. **Emergency lighting and signage**. The evacuation routes shall be provided with emergency lighting and markings so that all occupants can evacuate safely.

Practical Activity 1/1:

Module: 5	**Perform Health and Safety**	
	Learning Unit: 5	Demonstrate Firefighting Skills
	Practical Description:	Stop fire by applying fire-fighting policies
Time:	**3 hours**	
Equipment	Fire extinguisher, Fire Blanket	
Tools	N/A	
PPE	Safety clothing, safety shoes, safety gloves, First aid box	
Materials	Dust bins, Fire extinguisher	
Key Point	Apply firefighting policies	
Learning Outcome:	• Make decision in the process of fighting a fire as per instruction. • Stop fire by applying firefighting policies. • Apply safety precautions when fighting a fire. • Apply the procedure after a fire has been put out as per instruction.	
Precautions:	Safety first	

Instructions	**Illustrations**
1. In case of fire immediately inform supervisor	
2. Act on instructions of supervisor, use fire extinguisher accordingly	

3. Wear necessary dress and article before extinguishing the fire	
4. After extinguishing the fire check the press room properly	
5. Shift all the undamaged articles to safe place	
6. Apply SOPs procedure when fire has been put out	

Summary of the module:

Adopt the following occupational and health safety (OHS) measures according to the manual:

- Observe and practice all safety rules, regulations, and advice given in the press manual and by the facilities hazard communication program and lock out / take out program.
- Obey all verbal and written instructions before operating the press.
- Always wear personal protective equipment (PPE)
- Avoid wearing of loose clothing that will become and entangled in any part of the press equipment.
- Ensure stand clear of the equipment when the “run” warning signal is sounded.
- Always make sure the press is completely stopped and the save button is set off before touching machine parts.
- Ensure safe functioning of safety devices
- Never switch off or by pass safety devices.
- Check that all guards, covers and swiveling footrest are securely fastened or completely locked in place before operating the press.
- Clean the ink fountains while the press is stopped and the safe button is pressed to avoid personal injuries and press damage.
- Never work on moving parts with tools because of the high risk of accident and personal injury

Frequently Asked Questions (FAQs)

Question	Answer
1. What is PPEs?	PPEs stand for personal protective equipment.
2. Why PPEs are important during printing operation?	PPEs protect the worker from severe injury & accidents.
3. What is safety reporting procedure?	If any unusual thing happen in the press room, inform the supervisor immediately
4. If worker is not wearing industrial shoes what damage may occur?	If worker is not wearing industrial shoes it may harm to his toes.
5. SOP stands for?	SOP stands for Standard operating procedure.
6. What hazard can occur due to substandard electric wiring?	It can cause short circuit.
7. OHS stands for?	It is stand for occupational health and safety
8. How should the worker be dressed on its workplace?	Worker should be in proper dress, no loose clothing and should wear industrial shoes
9. How to prevent electrical hazard in printing press	Check the electric connections before starting the machine and inform supervisor if found any damaged wires

Self-Assessment

MCQs

Please mark the correct one from the given options. You can check your answer with the Answer Key at the end of this module.

Q 1. What can be harm of loose dress?

a. machine can catch loose cloth
b. it can be burnt
c. damage of cloth
d. shrinking of cloth

Q 2. Which PPE is necessary to handling of toxic chemical

a. must wear goggles
b. must wear mask, gloves and shoes
c. must wear mask
d. must wear tight cloth

Q 3. If electrical sparking held, what should we do?

a. Put the water
b. Put the clay
c. Extinguisher
d. Foam chemical

Q 4. What is the benefit of goggles in safety rules?

a. It can save face
b. It can save our eyes from dangerous splashing
c. It can save hair
d. It can save dress and shoes

Q 5. Gloves is used for?

a. Save the hands
a. Save the nose
b. Save the elbow
c. Save the forehead

Q 6. What is the benefit of first aid box?

a. save electrical fire
b. save ground of working
c. Immediate medical treatment
d. Save the lives

Q 7. What is the benefit of mask?

a. Safety from dangerous chemical inhaling
b. Safety from burning
c. Safety from area pollution
d. No idea

Q 8. Kerosene oil is used for?

a. Cleaning Floor
b. Cleaning rollers
c. Cleaning tools and machines from outside
d. Cleaning damping roller

Q 9. In any accidental and fire burning problem the learner should _____.

a. Alarm
b. Inform the supervisor
c. Press the Emergency button
d. Extinguisher

Answer Key

MCQ No.	Correct Answer
1	a
2	b
3	d
4	b
5	a
6	c
7	a
8	c
9	c

POST PRESS OPERATIONS (Packaging)

Learner Guide

National Vocational Certificate Level 2

Version 1 - December 2019

Module-6

Module 6: - Apply Basic computer operation

Learning Unit:

After completion of this module the learner will be able to:

LU1: Apply Basic computer operation

LU2: Prepare Word document

LU3: Prepare spread sheet as per required information

LU4: Prepare power point presentation

LU5: Perform email communication

Learning Unit-1

Apply Basic computer operation

Overview:

This learning unit describes the basic computer operation as input, output and central processing unit (CPU).

Discussing the four main functions of computer hardware:

Four main functions of computer hardware are following: Input, Processing, Output, and Storage.

Input can be defined as Information and programs are entered into the computer through Input devices such as the keyboard, disks, or through other computers via network.

Output Devices displays information on the screen (monitor) or the printer and sends information to other computers.

The CPU or central processing unit is sometimes called the Control Unit and directs the operation of the input and output devices. The Coprocessor or the Arithmetic-Logic Unit does arithmetic and comparisons.

The memory or RAM temporarily stores information (files and programs) while you are using or working on them and known as storage.

Describing major hardware components

A typical computer system consists of:

Computer case:

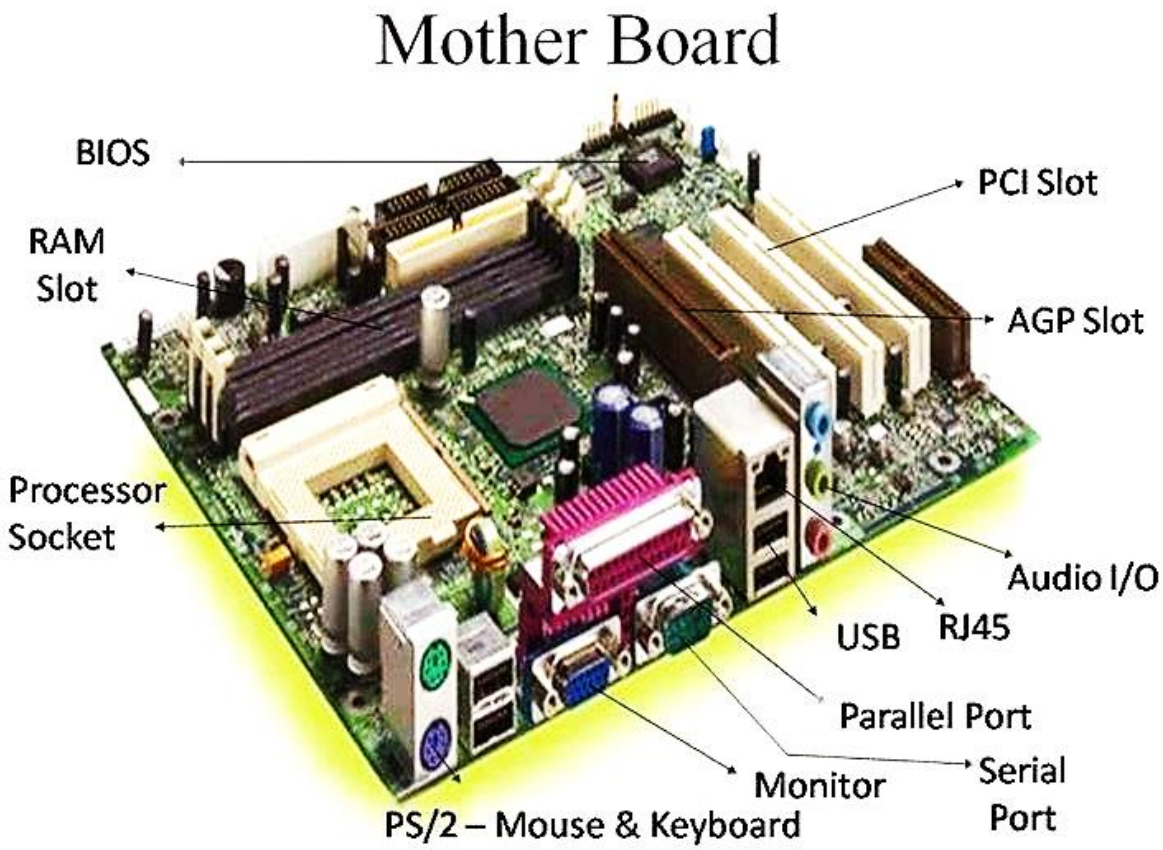
A computer case, also known as a computer chassis, tower, system unit, CPU (when referring to the case as a whole rather than the processor), or cabinet, is the enclosure that contains most of the components of a personal computer (usually excluding the display, keyboard, and mouse).

Power supply unit:

A power supply unit (or PSU) converts mains AC to low-voltage regulated DC power for the internal components of a computer. Modern personal computers universally use switched-mode power supplies.

Motherboard:

A printed circuit board containing the principal components of a computer or other device, with connectors for other circuit boards to be slotted. It is very important part of CPU.



Main memory:

Main memory refers to physical memory that is internal to the computer. The word main is used to distinguish it from external mass storage devices such as disk drives. Other terms used to mean main memory include RAM and primary storage.

The main storage is a region of a computer, to which the central processor has immediate or direct access.

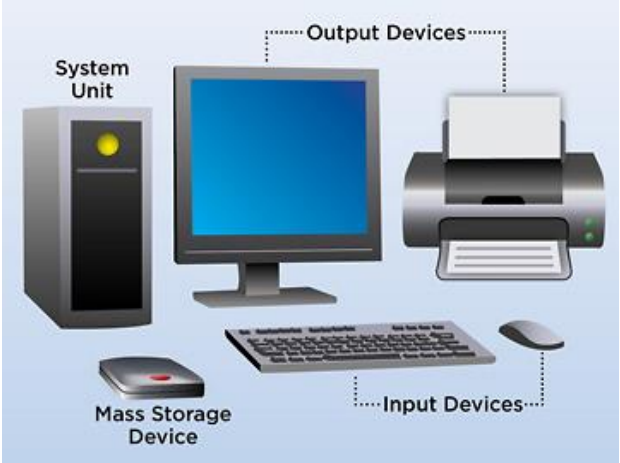
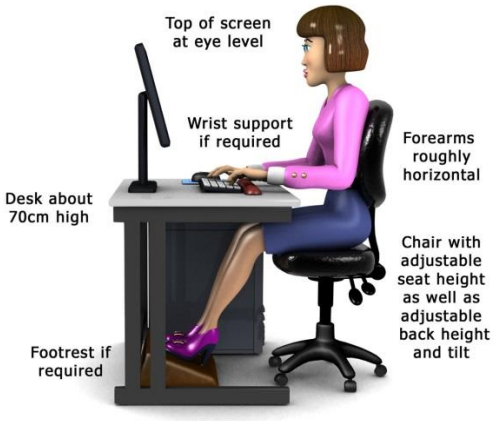
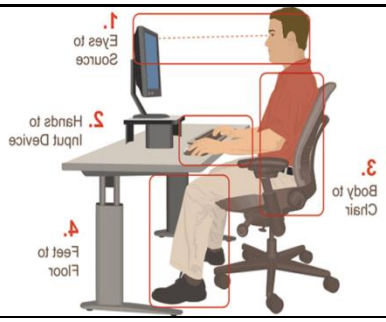
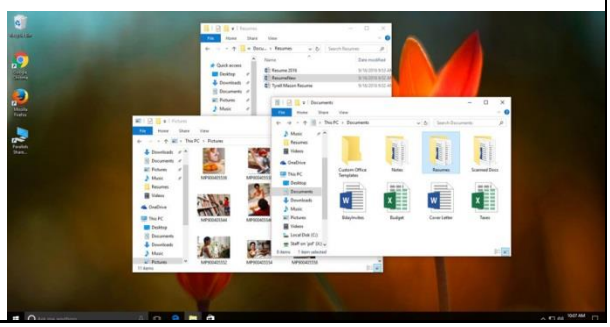
A hard disk drive:

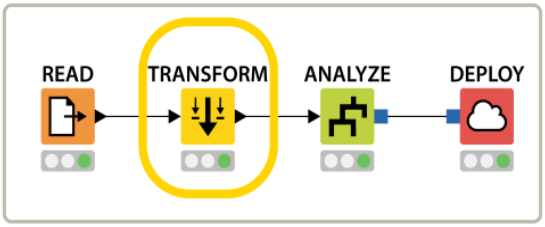
A hard disk drive (HDD) is a non-volatile computer storage device containing magnetic disks or platters rotating at high speeds. It is a secondary storage device used to store data permanently, random access memory (RAM) being the primary memory device.

Further Input devices include a keyboard, mouse, microphone, video camera, and image scanner. Output devices include a monitor, speakers, and a printer.

Practical Activity 1/1:

Module: A	**Develop Computer Application Skills**	
	Learning Unit: 1	Apply Basic computer operation
	Practical Description:	Identify computer components, safety precautions, Maintain workstation, Navigate operating systems, & troubleshooting
Time:	9 Hours	
Equipment	Computer	
Tools	N/A	
PPE	N/A	
Materials	Computer & multimedia, Presentations on related topic, Handout on related topic	
Key Point	Proper safety precautions regarding computer system are necessary for users.	
Learning Outcome:	• Identify computer system components • Identify safety precautions associated with computer use • Maintain workstation, equipment and supplies • Navigate operating systems and software programs • Troubleshoot computer problems • Troubleshoot printer malfunction • Manipulate data/software/operating system • Use file management techniques	
Precautions:	Ensure to wear safety shoes and other safety equipment before starting this process	
Instructions		**Illustrations**

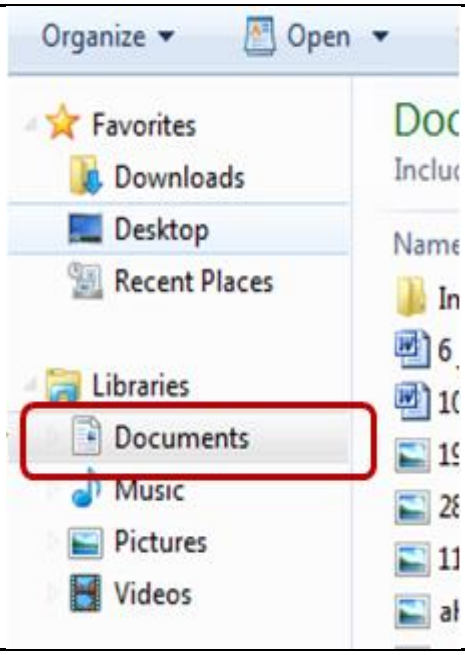
7. **Identify computer system components:** Monitor is used to show display, keyboard is used for typing purpose & preparing documents, mouse is a pointing device and CPU is a central processing unit.	
8. **The following precautions associated with computer use must be considered:** ✓ Remove your watch and jewelry and secure loose clothing. ✓ Turn off the power and unplug equipment before performing service. ✓ Cover sharp edges inside the computer case with tape. ✓ Never open a power supply or a CRT monitors.	
Maintain workstation, equipment and supplies Workstation must be neat and clean, equipment should be on their right places.	
Navigation: With a computer, navigation refers to the act of opening and moving through computer menus, like the Start menu in Windows, opening software programs, or viewing files in Windows Explorer.	

Trouble shooting: 1) Free up RAM by closing other open programs. 2) Restart the software. 3) Shut down and restart your computer.	
computer problems: 1) Unplug and restart your printer. 2) Check cables or wireless connection. 3) Uninstall and reinstall your printer. 4) Install the latest driver for your printer. 5) Run the printing troubleshooter. 6) Clear and reset the print spooler. 7) Fix printer problems after updating Windows 10. 8) Change a printer's status to "online".	
Manipulation of data: Data manipulation is the process of changing data to make it easier to read or be more organized. Computers may also use data manipulation to display information to users in a more meaningful way, based on code in a software program, web page, or data formatting defined by a user.	

File management techniques:

Place all documents under a single "root" folder.

For a single user in a Windows environment, the default location is the My Documents folder.



Learning Unit-2

Describing formatting styles and their effect on formatting, readability and appearance of documents

Overview:

In this learning unit we deal with formatting styles and their effect on formatting, readability, Outline purpose, uses and functions. To Understand MS Word to create documents, explain the effect of formatting and appearance.

Paragraph Styles –

They apply to a minimum of an entire paragraph, and contain paragraph formatting (alignment, indents, etc.)

ON THE INSERT TAB, THE GALLERIES INCLUDE ITEMS THAT ARE DESIGNED TO COORDINATE WITH THE OVERALL LOOK OF YOUR DOCUMENT. YOU CAN USE THESE GALLERIES TO INSERT TABLES, HEADERS, FOOTERS, LISTS, COVER PAGES, AND OTHER DOCUMENT BUILDING BLOCKS.

When you create pictures, charts, or diagrams, they also coordinate with your current document look. You can easily change the formatting of selected text in the document text by choosing a look for the selected text from the Quick Styles gallery on the Home tab.

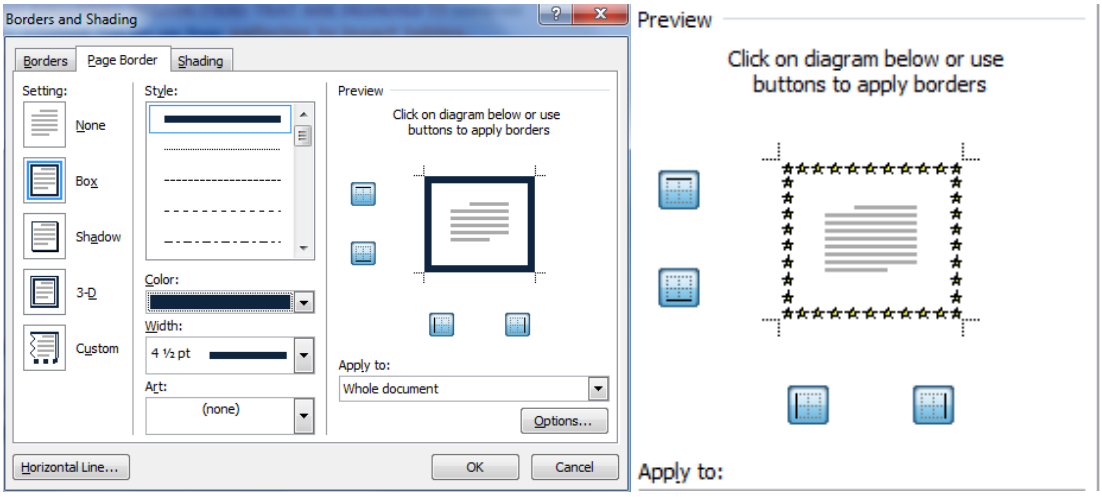
Character Styles –

They can apply to as little as one letter, and contain only character formatting.

ON THE INSERT TAB, THE GALLERIES INCLUDE ITEMS THAT ARE DESIGNED TO coordinate with the overall look of your document. You can use these galleries to insert tables, headers, footers, lists, cover pages, and other document building blocks.

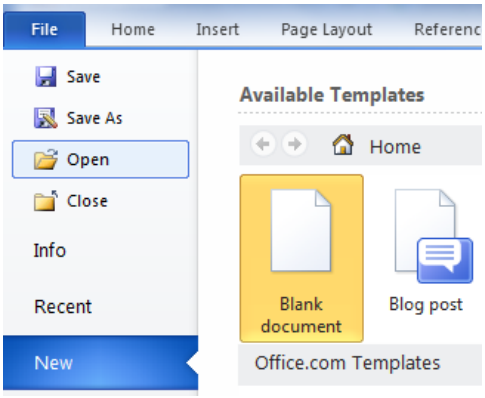
Outline purpose, use and function of word-processing software:

By this window box, from page layout tab and page background group we can select the style, color and width of outline and we can put the by default art-designed outline too.



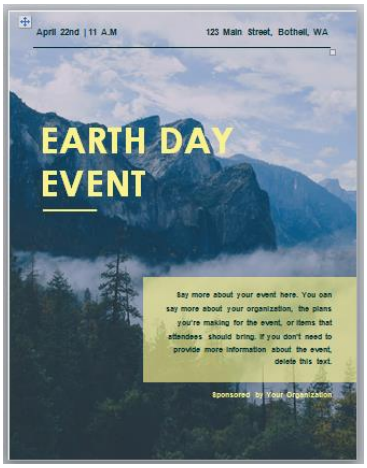
Understand MS Word to create documents, flyers, publications:

To create a new blank document:



1) Click the Microsoft Office button.
2) Select New. The New Document dialog box appears.
3) Select blank document under the blank and recent section. It will be highlighted by default.
4) Click Create. A new blank document appears in the Word window.

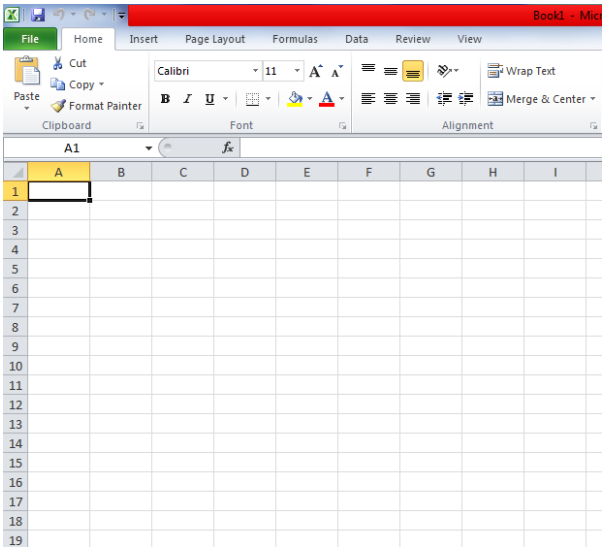
Create a Flyer in Microsoft Word Using Templates:



1) In Word, open the File tab and select New from the menu.
2) Under the search bar, select Flyers. ...
3) Browse through the free flyer templates Word displays until you find a design you like.
4) Select it, and then choose Create. ...
5) To change the text, select it and type the new information.

Publication:
The same way publication is done by distributing and emailing to the relevant people around.

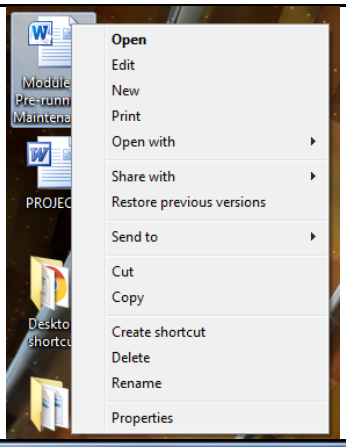
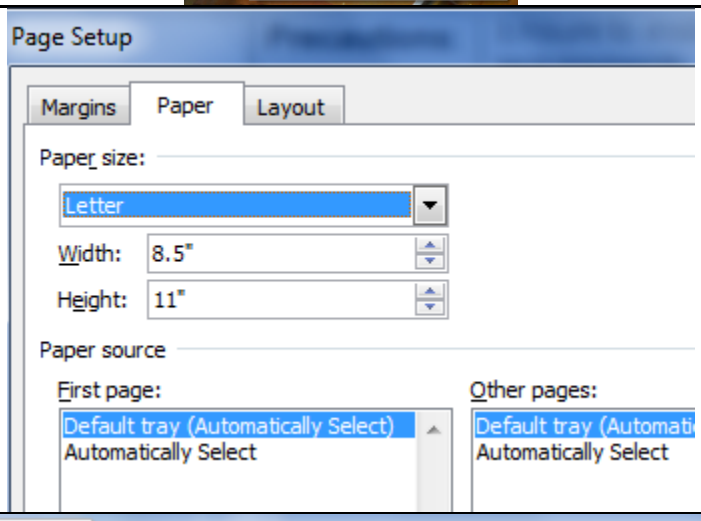
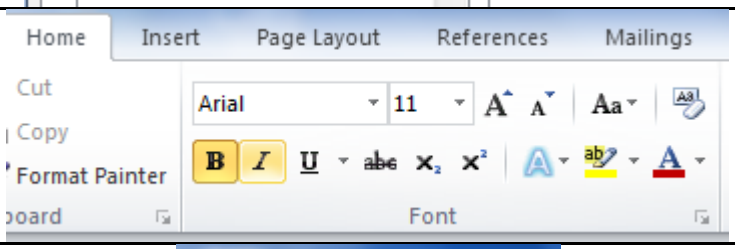
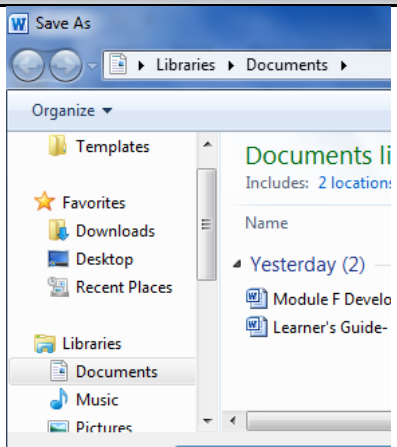
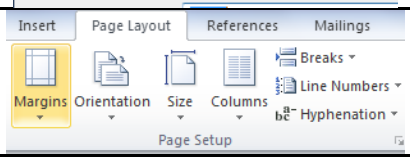
Explain the effect of formatting and appearance on the readability and usability of spreadsheets:

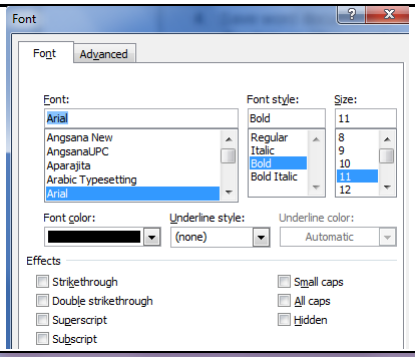
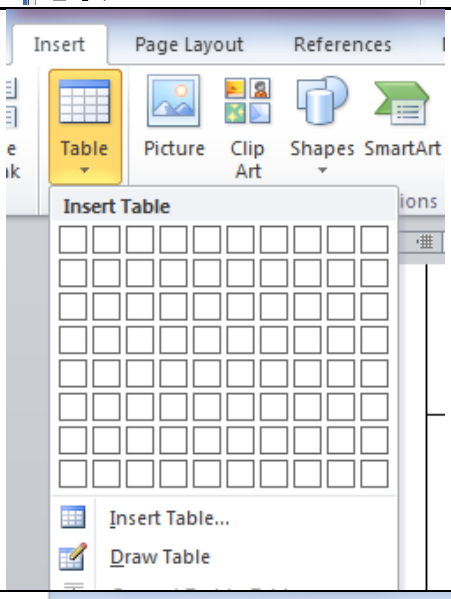
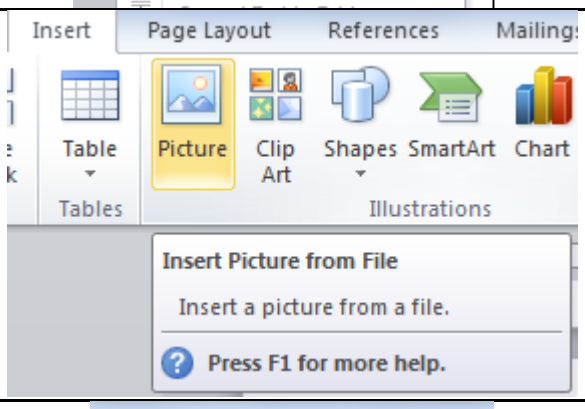
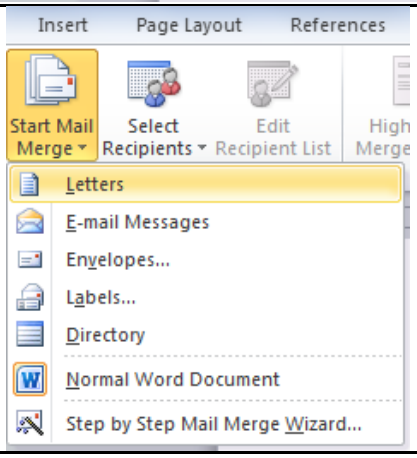


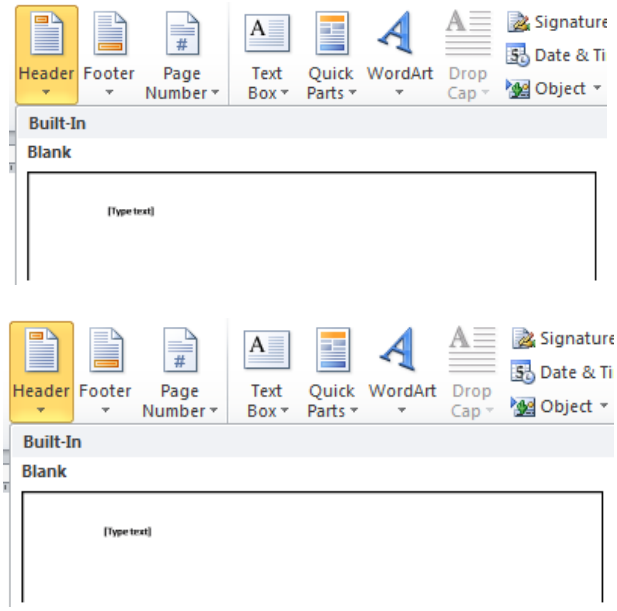
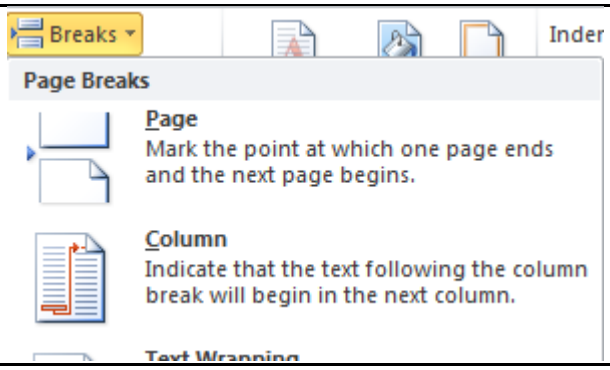
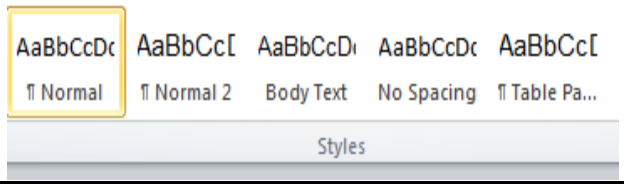
1) Spreadsheets provide complex processing in ways that even people with little technical experience can access.
2) Editing when you build a spreadsheet, the user enter data into a worksheet.
3) The ability to enter mathematical formulas is the key quality and useful characteristic of spreadsheets.
4) Graphical displays of data and can represent it organizations and institutes.
5) Preset functions.

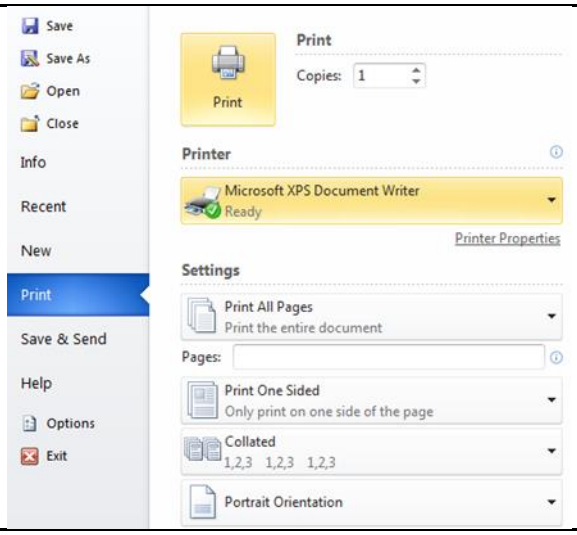
Practical Activity 1/1:

<table>
<tr><td rowspan="3">Module: A</td><td colspan="2">Develop Computer Application Skills</td></tr>
<tr><td>Learning Unit: 2</td><td>Prepare Word document</td></tr>
<tr><td>Practical Description:</td><td>Set up & describe about page in a word document, customize basic settings to meet page layout conventions, and overall setting of page</td></tr>
<tr><td>Time:</td><td colspan="2">9 Hours</td></tr>
<tr><td>Equipment</td><td colspan="2">-</td></tr>
<tr><td>Tools</td><td colspan="2">-</td></tr>
<tr><td>PPE</td><td colspan="2">-</td></tr>
<tr><td>Materials</td><td colspan="2">Computer & multimedia, Presentations on related topic, Handout on related topic</td></tr>
<tr><td>Key Point</td><td colspan="2">Word document can smoothly create all types of documents, flyers and brochures</td></tr>
<tr><td>Learning Outcome:</td><td colspan="2">• Open word processing application to add data according to information requirements
• Set up page in a word document
• Edit word document as required
• Use simple formatting tools when creating the document
• Save word document to directory
• Customize basic settings to meet page layout conventions
• Use formatting features and styles as required
• Insert table in a word document
• Insert appropriate images into document as necessary
• Perform mail merge in a word document
• Insert header/footer in a word document to incorporate necessary data
• Insert section break in a word document
• Set style in word document
• Select basic Print settings
• Print the document</td></tr>
<tr><td>Precautions:</td><td colspan="2">Ensure to install the right version of MS-Office according to the requirements</td></tr>
<tr><td colspan="2">Instructions</td><td>Illustrations</td></tr>
</table>

1. Open word processing application to add data according to information requirements	
2. Set up page in a word document. Edit word document as required	
3. Use simple formatting tools when creating the document	
4. Save word document to directory as “documents”. The user can also change the file name.	
5. Customize basic settings to meet page layout conventions	

6. Use formatting features and styles as required: Like font theme, font style and font size. It can also be used to change font color, underline style and underline color.	
7. Insert table in a word document	
8. Insert appropriate images into document as necessary	
9. Perform mail merge in a word document	

10. Insert header/footer in a word document to incorporate necessary data	
11. Insert section break in a word document	
12. Set style in word document; These are heading styles, are used step by step according to requirement.	

13. Select basic Print settings: Install printer; check all the necessary setting, place papers in printer, then click the button print. Print the required document.	

Learning Unit-3

Understand MS Excel to store, organize, and manipulate data:

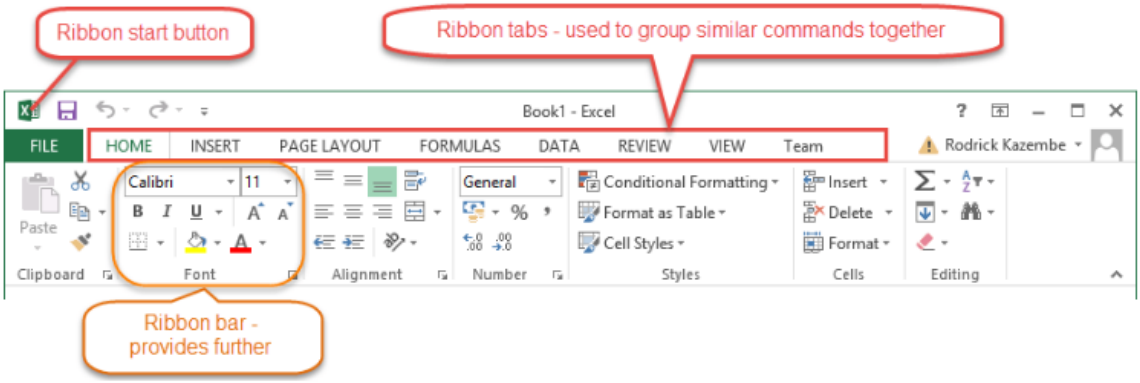
Overview:

Uses of Microsoft Excel in daily life are to perform the calculation, analysis, and visualization of data and information. Microsoft Excel is one of the most important workplace applications that help to organize the business system and processes of data and information by the use of columns and rows with formulas

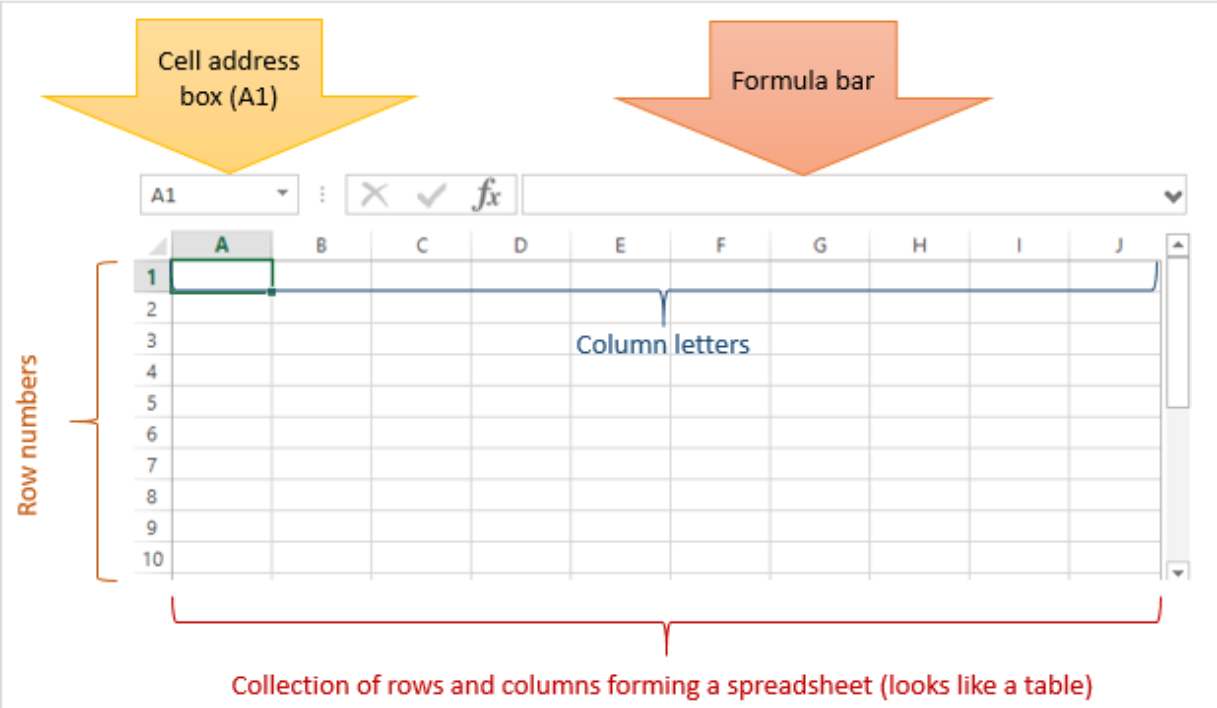
MS-Excel:

Microsoft Excel is a spreadsheet program that is used to record and analyses numerical data. Spreadsheet as a collection of columns and rows which can form a table smoothly.

We can access tabs, groups and command buttons for performing a task according to requirement.

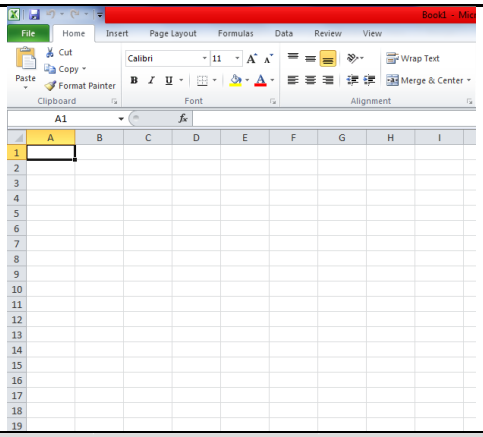
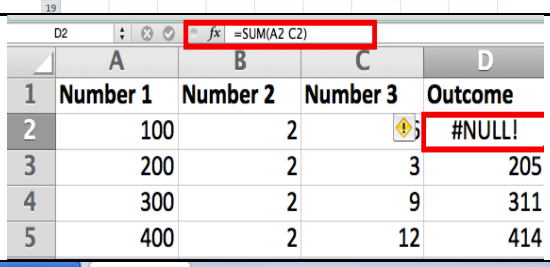
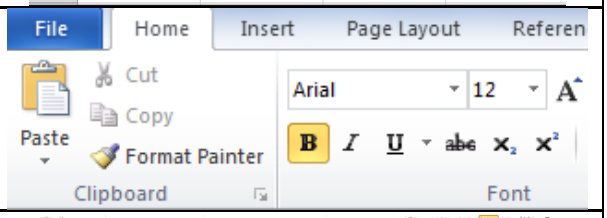
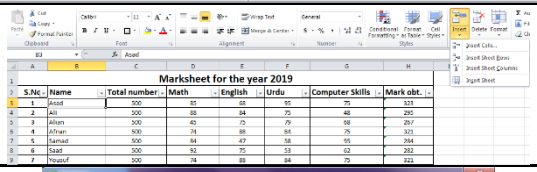
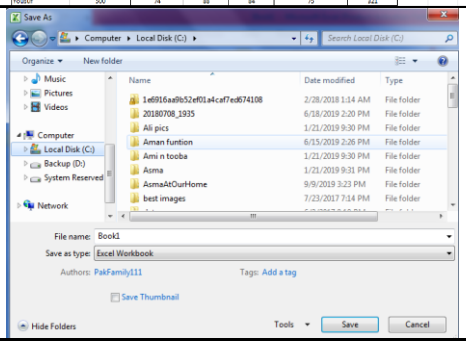
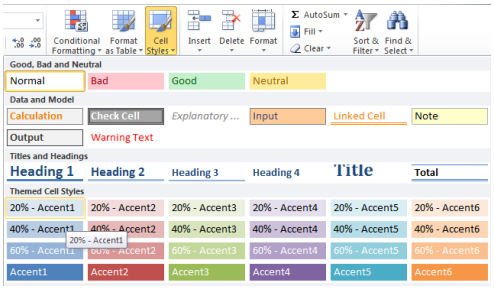


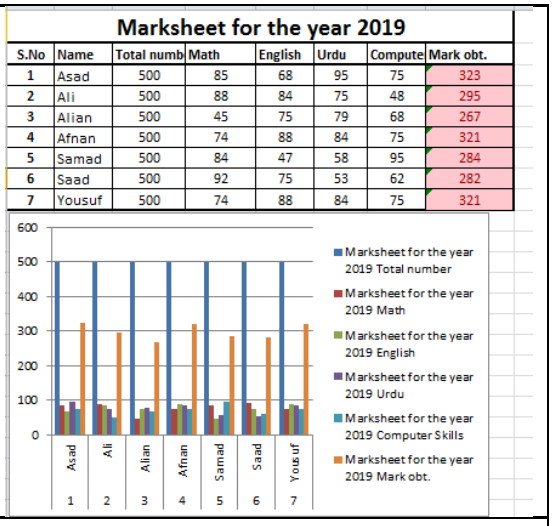
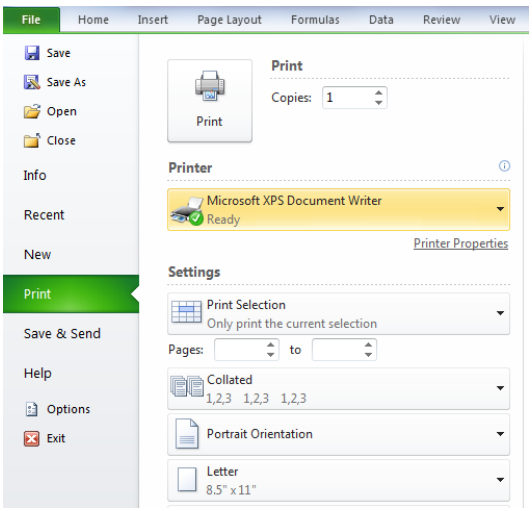
Alphabetical letters are usually assigned to columns and numbers are usually assigned to rows. The point where a column and a row meet is called a cell. The address of a cell is given by the letter representing the column and the number representing a row.


Cell address box (A1)
Formula bar
A1
A B C D E F G H I J
1 2 3 4 5 6 7 8 9 10
Column letters
Row numbers
Collection of rows and columns forming a spreadsheet (looks like a table)

Practical Activity 1/1:

Module: 6	**Develop Computer Application Skills**	
	Learning Unit: 3	**Prepare spread sheet as per required information**
	Practical Description:	
Time:	9 hours	
Equipment	Computer,	
Tools	-	
PPE	-	
Materials	-	
Key Point	Spread sheet is well-known for complicated calculations.	
Learning Outcome:	• Create workbook according to information requirements • Insert sheet according to information requirements • Enter basic formulae / functions using cell referencing when required • Correct formulas when error messages occur • Use a range of common tools during spreadsheet development • Edit columns and rows within the spreadsheet Filter data • Save the spreadsheet to a folder on a storage device • Format spreadsheet using formatting features as required • Incorporate object and chart in spreadsheet • Print spreadsheet	
Precautions:	Usage of Kerosene oil is prohibited in printing machine. It harms plate, roller, blanket and dampening system.	
Instructions		**Illustrations**

1. Create workbook according to information requirements 2. Insert sheet according to information requirements	
3. Enter basic formulae / functions using cell referencing when required 4. Correct formulas when error messages occur	
5. Use a range of common tools during spreadsheet development	
6. Edit columns and rows within the spreadsheet Filter data	
7. Save the spreadsheet to a folder on a storage device	
8. Format spreadsheet using formatting features as required	

9. Incorporate object and chart in spreadsheet	
10. Print spreadsheet	

Marksheet for the year 2019

S.No	Name	Total numb	Math	English	Urdu	Compute	Mark obt.
1	Asad	500	85	68	95	75	323
2	Ali	500	88	84	75	48	295
3	Alian	500	45	75	79	68	267
4	Afnan	500	74	88	84	75	321
5	Samad	500	84	47	58	95	284
6	Saad	500	92	75	53	62	282
7	Yousuf	500	74	88	84	75	321

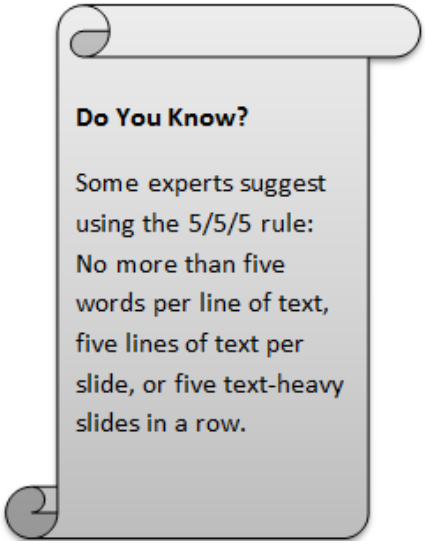
Learning Unit-4

Prepare power point presentation

Overview:

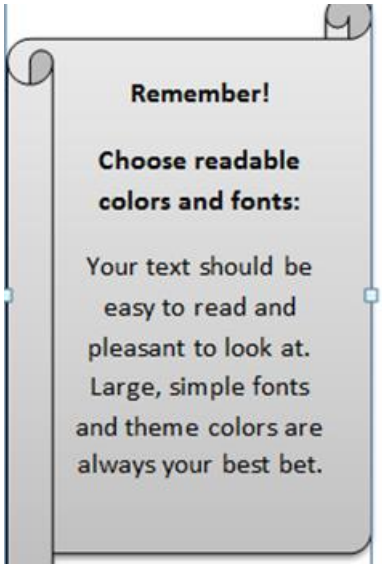
PowerPoint is a presentation program developed by Microsoft. It is included in the standard Office suite along with Microsoft Word and Excel.

Power point application allows users to explore from basic slide shows to complex presentations. This keeps a uniform look among all the slides in the presentation.

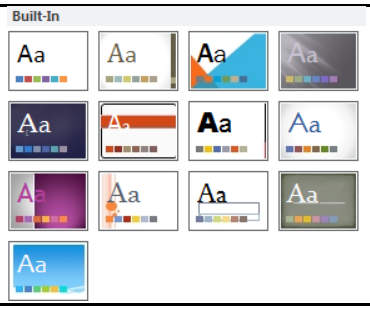


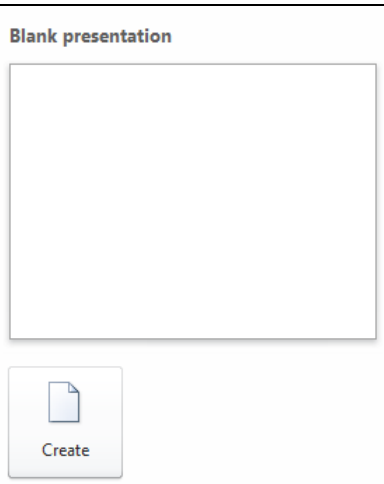
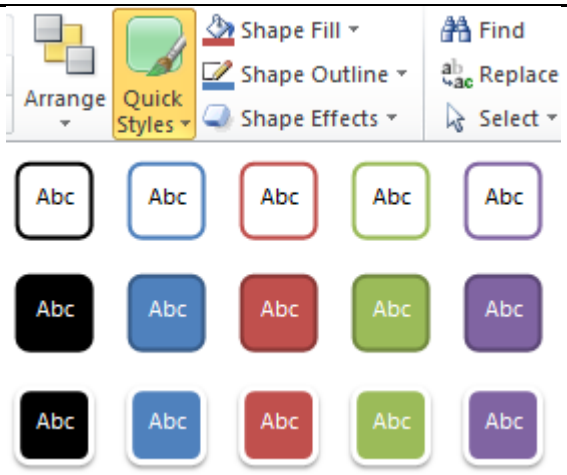
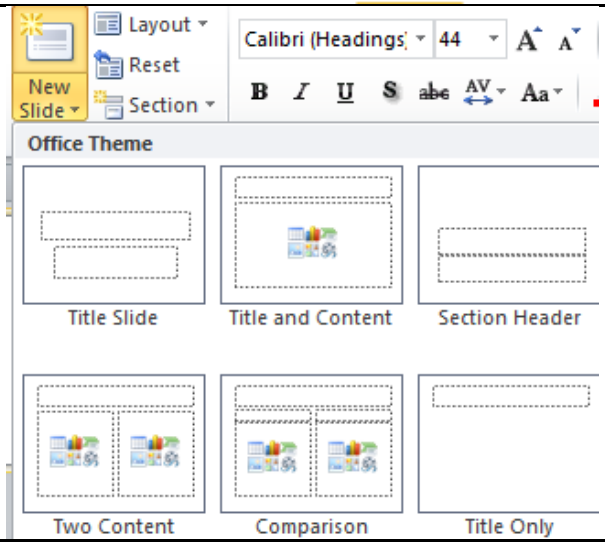
Understand MS PowerPoint to create presentations:

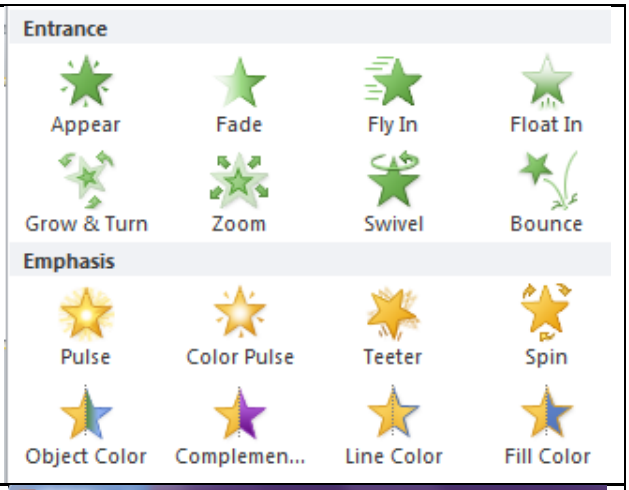
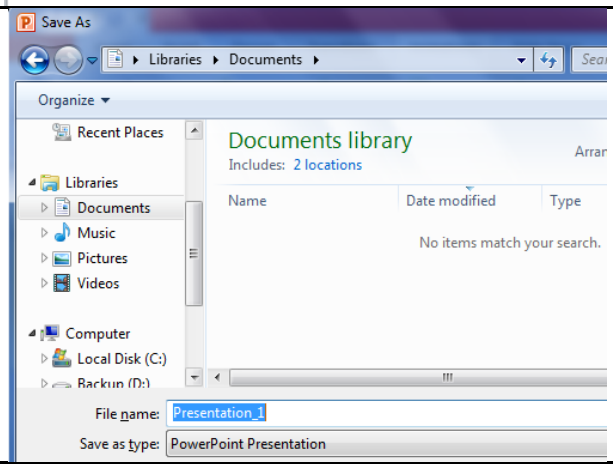
Step 1: Open Microsoft PowerPoint.
Step 2: Go to File at the top of the screen and click New.
Step 3: In the “New Presentation” dialog box, click on “From Design Template”.
Step 4: Slide Design.
Step 5: Slide Layout.
Step 6: Adding Text.
Step 7: Adding Pictures.
Step 8: Resizing Pictures.



Practical Activity 1/1:

<table>
<tr><td rowspan="3">Module: 6</td><td colspan="2">Develop Computer Application Skills</td></tr>
<tr><td>Learning Unit: 4</td><td>Prepare power point presentation</td></tr>
<tr><td>Practical Description:</td><td>Prepare presentation using all necessary elements and options</td></tr>
<tr><td>Time:</td><td colspan="2">9 hours</td></tr>
<tr><td>Equipment</td><td colspan="2">Computer, handouts, required Slides</td></tr>
<tr><td>Tools</td><td colspan="2">-</td></tr>
<tr><td>PPE</td><td colspan="2">-</td></tr>
<tr><td>Materials</td><td colspan="2">-</td></tr>
<tr><td>Key Point</td><td colspan="2">Keep your presentation simple. Power point uses slides with a horizontal or “Landscape” orientation.</td></tr>
<tr><td>Learning Outcome:</td><td colspan="2">• Create a simple design for a presentation
• Open blank presentation and add text / graphics
• Apply existing styles within a presentation
• Use presentation template and slides to create a presentation
• Use various tools to improve the look of the presentation
• Save presentation to the appropriate storage device and folder</td></tr>
<tr><td>Precautions:</td><td colspan="2">To keep your audience from feeling overwhelmed, you should keep the text on each slide short and to the point.</td></tr>
<tr><td colspan="2">Instructions</td><td>Illustrations</td></tr>
<tr><td colspan="2">4. Create a simple design for a presentation
We can chose different built-in styles from here.</td><td> 
</td></tr>
</table>

5. Open blank presentation and add text / graphics When you click on create button, new blank presentation is opened.	
6. Apply existing styles within a presentation. We can apply different sort of styles from Quick style button.	
7. Use presentation template and slides to create a presentation. These are also called layout of slide, can be implemented according to requirement.	

8. Use various tools to improve the look of the presentation Entrance, Emphasis & other various type of tools can be used to improve the look of presentation.	
9. Save presentation to the appropriate storage device and folder. We can type the file name according to requirement and save it to the appropriate folder.	

Learning Unit-5

Perform email communication

Overview:

This module deals with effective communication by the use of Internet. Enhance expertise regarding Emailing and E-mail writing ethics.

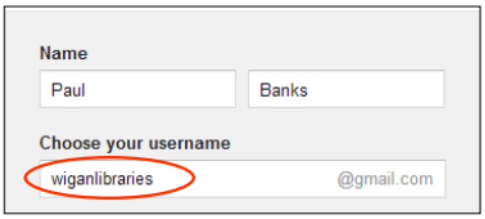
Express steps of creating new e-mail account:

First Steps:

Click on the Google link on the People's Network. Then click on the Gmail link near the top left of the page. If using a computer elsewhere perform an Internet search for Gmail.
Click on Create Account.

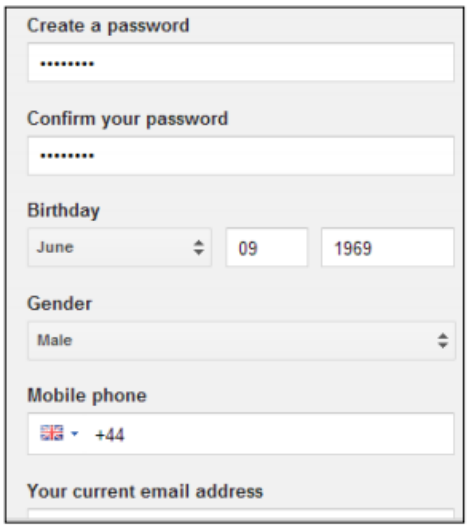
Second Step:

Choosing your email address to set up your new account, Google needs some information about you. Type your first and last names. To create an email, you need to choose a username. Your email address will be your username followed by '@gmail.com'.

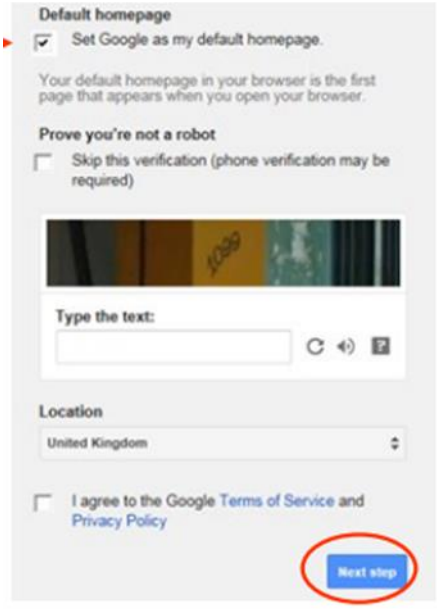


Third Step:

Choosing your password "Choose a password" that is 8 characters or more.
Make sure your password is secure and one that you can remember, Secure passwords include combinations of upper and lowercase letters and numbers.
Verifying your "Gmail account" Type your "Birthday and Gender".
Enter your mobile telephone number or an alternative email address if you have one.



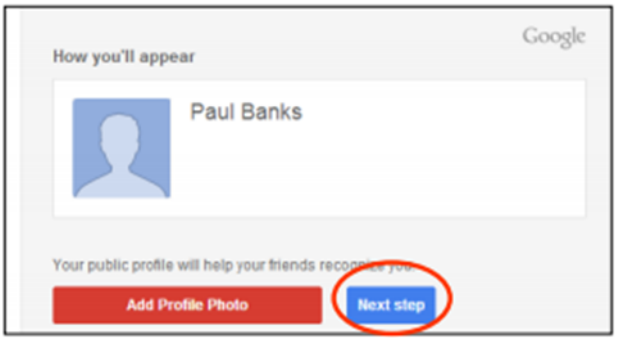
Fourth Step:



Prove you're not a Robot!
You may want to uncheck the box next to Set Google as my default homepage'.
Type in the letters or digits as they appear on the screen.
Agree to the terms of service by checking the box.

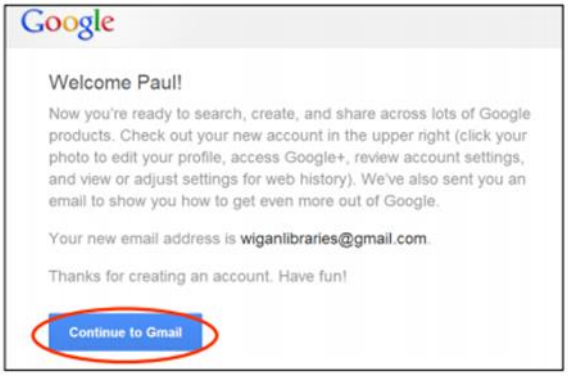
Fifth Step:

Click Next step. (You can add a profile picture at a later stage).



Congratulations!

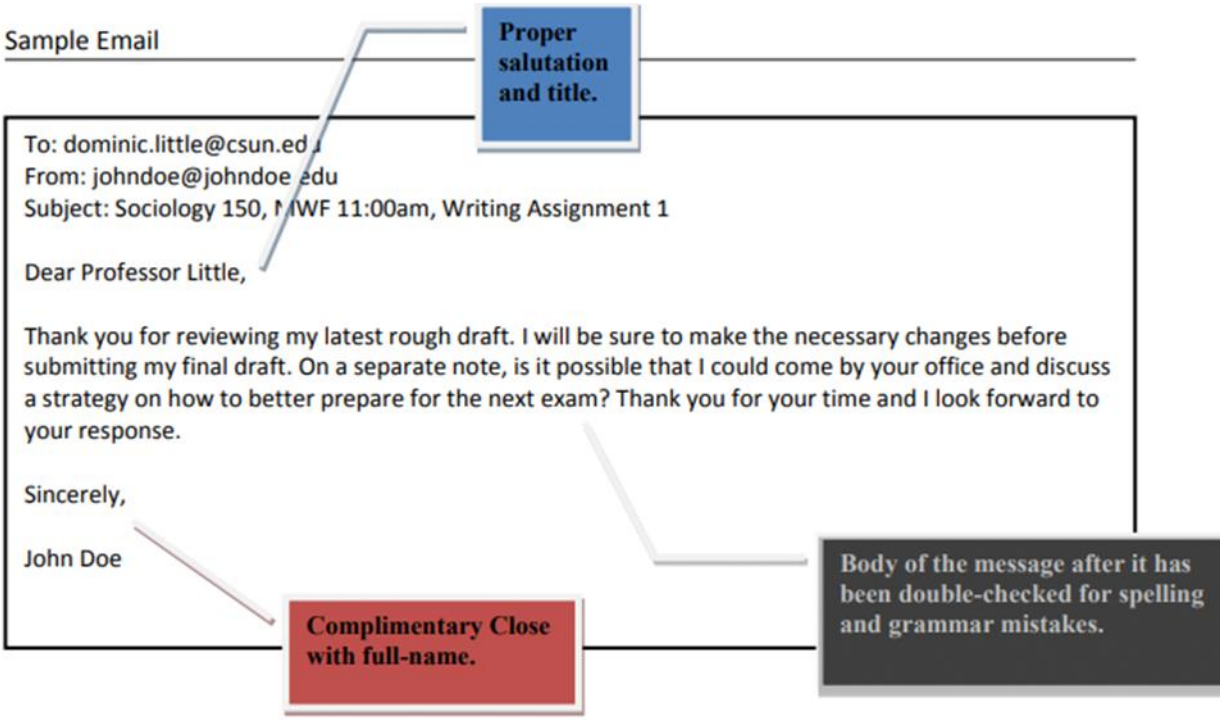
You have created an email account, (To start using email click on Continue to Gmail).



State e-mail writing ethics:

What is Email Etiquette?

If you are writing to coworkers that you communicate with frequently and have developed working relationships with them, you can be as flexible as the environment allows. However, if you are corresponding with supervisor, you will need to be more careful with your behavior.



Answer swiftly

Your customers' send you email because they want quick responses. The golden rule for email is to reply within 24 hours

Use a meaningful

Subject line Try to use a subject that is meaningful to the recipient as well as yourself

Use the BCC

Field When sending to many people, some people put all the email addresses in the To: field.

Read your email

Before you send it treat email like any other official company document. Read it before you send it. Spelling and grammar errors are just as unfortunate in email as anywhere else in your corporate correspondence

Don’t attach unnecessary files

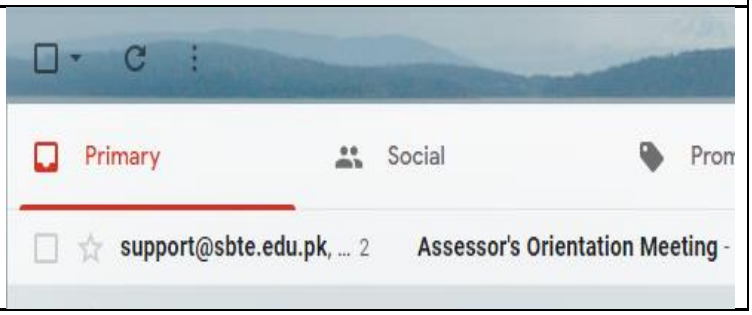
Wherever possible try to compress attachments and only send attachments when they are productive.

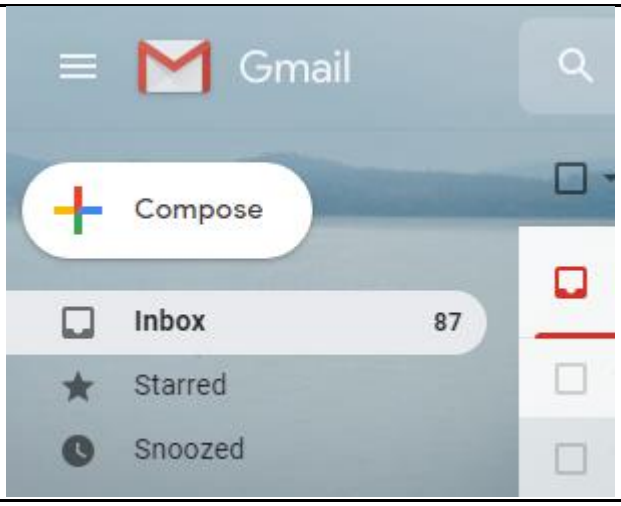
Email Marketing Tip!

Design a corporate email signature that all employees use. Include your marketing slogan or sales pitch, address, phone numbers and other vital contact information.

Practical Activity 1/2:

Module: 6	**Develop Computer Application Skills**	
	Learning Unit: 5	Perform email communication
	Practical Description:	Interpret E-mail received, prepare E-Mail for vendor, and send E-mail to vendor enclosed with picture
Time:	**4 hours**	
Equipment	Computer system with internet availability	
Tools	-	
PPE	-	
Materials	-	
Key Point	The quality of printing improves due to proper humidity levels	
Learning Outcome:	• Interpret E-mail received on personal E-mail address. • Prepare E-Mail for vendor applying E-mail writing ethics • Send E-mail to vendor enclosed with picture of print design	
Precautions:	N/A	

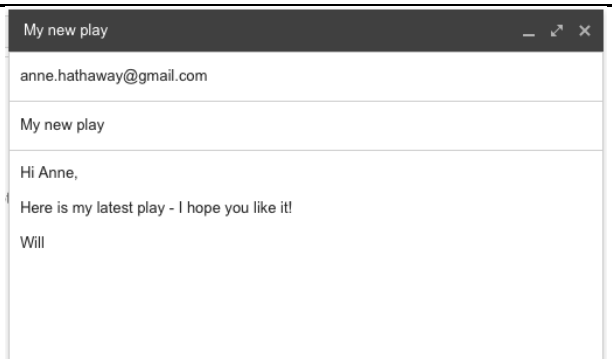
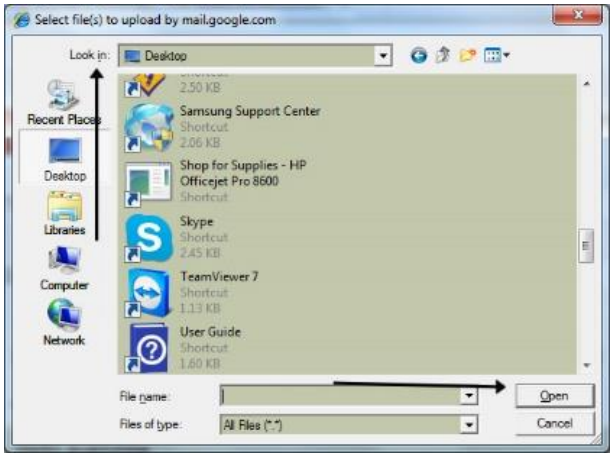
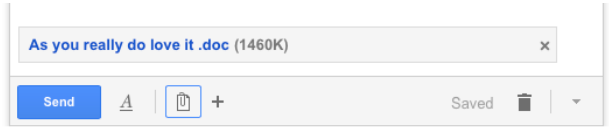
Instructions	**Illustrations**
1. The email you received lastly will be shown as bold in your inbox. When the user clicks on email, it will be opened, you can read and reply to email as well.	

2. The emails we did not read yet, these all are shown in inbox with bold highlighted headings and the number of unread email will be appeared in the extreme left column well.	

Practical Activity 2/2

<table>
<tr><td rowspan="3">Module: 6</td><td colspan="2">Develop Computer Application Skills</td></tr>
<tr><td>Learning Unit: 5</td><td>Perform email communication</td></tr>
<tr><td>Practical Description:</td><td>Prepare E-Mail for vendor applying E-mail writing ethics & Send E-mail to vendor enclosed with picture of print</td></tr>
<tr><td>Time:</td><td colspan="2">5 hours</td></tr>
<tr><td>Equipment</td><td colspan="2">Computer system with Internet Availability</td></tr>
<tr><td>Tools</td><td colspan="2">-</td></tr>
<tr><td>PPE</td><td colspan="2">-</td></tr>
<tr><td>Materials</td><td colspan="2">-</td></tr>
<tr><td>Key Point</td><td colspan="2">Composing Email, Attaching Documents, Sending Email</td></tr>
<tr><td>Learning Outcome:</td><td colspan="2">• Prepare E-Mail for vendor applying E-mail writing ethics
• Send E-mail to vendor enclosed with picture of print</td></tr>
<tr><td>Precautions:</td><td colspan="2">Keep the reliable Internet access</td></tr>
<tr><td colspan="2">Instructions</td><td>Illustrations</td></tr>
<tr><td colspan="2">Step 1: Log in to your email account so that you are on the dashboard (front page) of your mail account.

Step 2: Click Compose. Alternatively, you can reply to an email that you've received by double-clicking on it in your list of received emails, then following the same steps</td><td> 
</td></tr>
</table>

Step 3: Once your new email is open, type your recipient's email address in the 'To' field. Then put a title for your email in the 'Subject' box and type your message	
Step 4: Click on the paper clip icon at the bottom of the compose window. **Step 5:** Browse through your Windows folders until you reach the document you want to attach to your email. Highlight this by clicking on it and then click **Open**. This will add the document as an attachment to your email.	
Step 6: You can tell that your document has been attached to you email by its file name appearing in blue text at the bottom of the compose window. **Step 7:** If you want to attach another document, click the paperclip icon again and repeat **steps 4 and 5**.	N/A
Step 8: When you're ready to send your email, click **Send**.	

Summary of the Module

In above module we describe about four main functions of computer hardware: input, processing, output, and storage. It includes major hardware components. We also study the formatting styles and their effect on formatting, readability and appearance of documents. We understand MS Word to create documents, flyers, publications. Understand MS Excel to store, organize, and manipulate data. We also learn how to create presentations in power point. We also express steps of creating new e-mail account and state e-mail writing ethics.

Frequently Asked Questions (FAQs)

Question	Answer
1. What email ethics?	Email ethics involves the proper subject line, proper salutation etc
2. What is subject line in E-mail	Subject line is covering of email body
3. What should be the phrase for confirming the email sent completely?	Looking forward to seeing/meeting …
4. What is email marketing tip?	Design a corporate email signature that all employees use to pitch the marketing of company
5. What is the use of BCC?	Field When sending to many people
6. What is spreadsheet?	Spreadsheet provides complex processing in ways that even people with little technical experience can access
7. What is power point application?	Power point application allows users to explore from basic slide shows to complex presentations.
8. How should be workstation for working on computer?	Workstation must be neat and clean, and equipment should be on their right places.
9. What is Central Processing Unit (CPU)?	The CPU or central processing unit is sometimes called the Control Unit and directs the operation of the input and output devices.
10. Describe about the memory of RAM.	The memory or RAM temporarily stores information (files and programs) while the user is using or working on them and known as storage.

Self-Assessment

(MCQs)

Q-1: What is abbreviation of E-Mail?

a) Emerging Email
b) Evaluate Email
c) Electronic Email
d) None of the above

Q-2 What does E-mail Ethics means?

a) Correct email
b) Etiquettes of email
c) Develop email
d) None of above

Q-3 What is meaning of composing email?

a) Sending email
b) Receiving email
c) Sharing email
d) Writing email

Q-4 What is purpose of CC?

a) Sending email other the recipient of To: Addressee
b) Copy code email
c) Cascade email
d) None of the above

Q-5 _____ refers to the act of opening and moving through computer menus, like the Start menu in Windows, opening software programs.

a) Programming
b) Application
c) Navigation
d) None of the above

Q-6 A _____ is a non-volatile computer storage device containing magnetic disks or platters rotating at high speeds.

a) Hard disk drive (HDD)
b) Universal serial bus (USB)
c) Random access memory (RAM)
d) None of the above

Q-7 _____ is a region of a computer, to which the central processor has immediate or direct access.

a) Read only memory (ROM)
b) The Main Storage
c) Compact Disk (CD)
d) None of the above

Q-8 _____ is a spreadsheet program that is used to record and analyses numerical data.

a) Microsoft Power point
b) Microsoft Word
c) Microsoft Excel
d) None of the above

Q-9 _____ are usually assigned to columns and numbers are usually assigned to rows.

a) Numerical letters
b) Alphabetical letters
c) (a & b) both
d) None of the above

Q-10 A printed circuit board containing the principal components of a computer or other device, with connectors for other circuit boards to be slotted is called _____.

a) Mother Board
b) Processor
c) Basic Input output Devices (BIOS)
d) None of the above

Answer Key

Question No.	Answer
1	c
2	b
3	d
4	a
5	C
6	a
7	b
8	c
9	b
10	a

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