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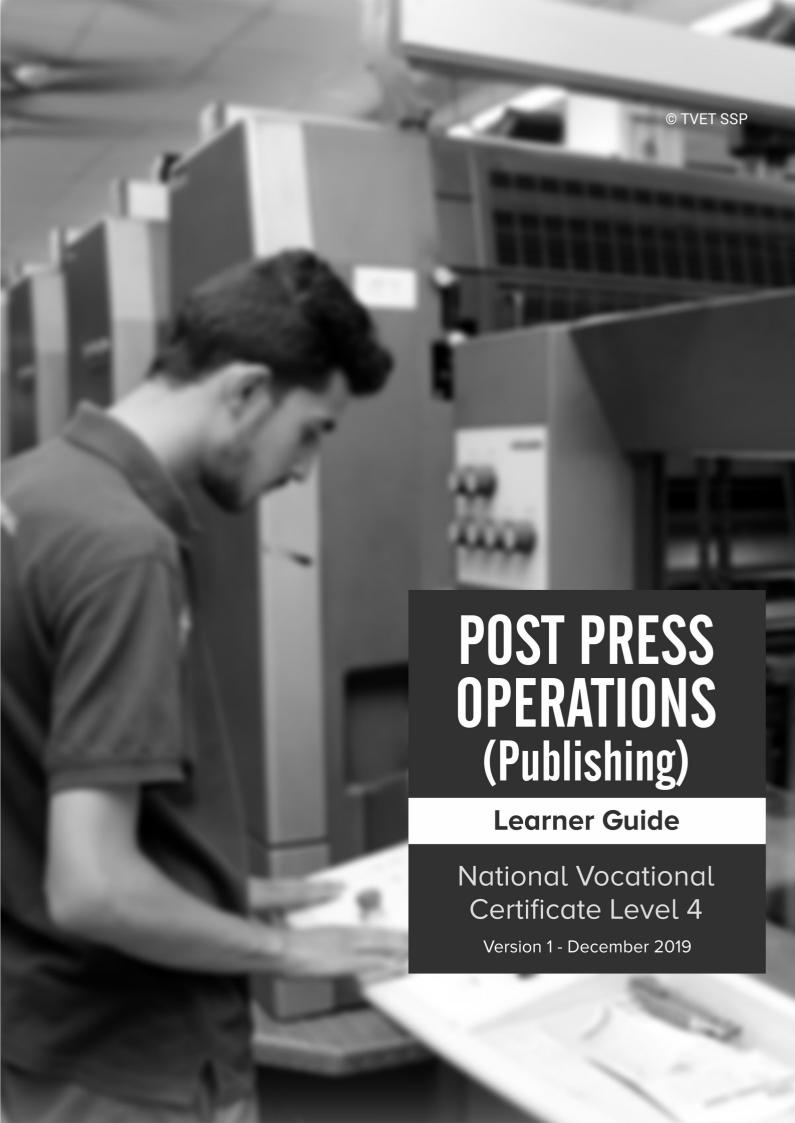
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Introduction:

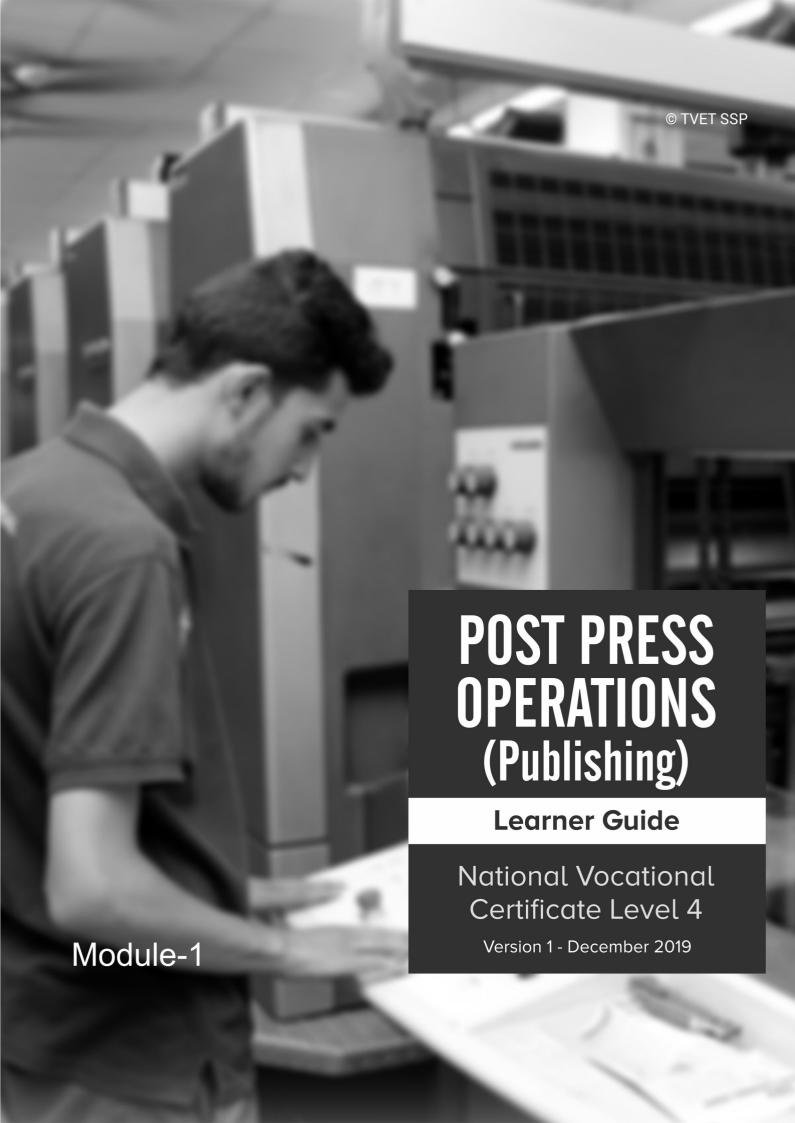
This Learner's Guide is developed on the basis of competency standards and curriculum of "Post Press Operations".

The National Vocational & Technical Training Commission (NAVTTC) has developed a national qualification entitled, "National Vocational Certificate Level-4 in Post press Operations (Senior Binder)". 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 Spiral Binding
- Module .2 Perform Hard Cover Binding
- Module .3 Perform Numbering Machine Operation
- Module .4 Perform Cutting and Trimming
- Module .5 Solve problem at workplace
- Module .6 Develop Communication Skill



Module 1: - Perform Spiral Binding

Learning Unit:

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

LU1: Perform substrate handling

LU2: Verify spiral/wire-o material and size

LU3: Make ready workstation for spiral binding operation

LU4: Perform spiral binding operation room

LU5: Perform post production activity

LU6: Maintain log book

Learning Unit 1-:

LU-1: Perform Substrate handling

Overview: The purpose of this learning unit is to inform the learner about side lay and front lay and their importance when performing substrate handling.

What is substrate?

The substrate, also called stock, is typically paper, but can also refer to plastics, foil, metal, cloth, or any other surface to which printing ink will be applied.

Identify side lay and front lay of substrate:

The purpose of side lay is to keep a perfect binding of the substrate from the pin side.

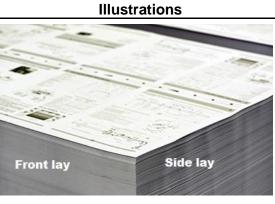
The purpose of front lay is to keep a perfect handling of the substrate in binding from the front lay side.



Practical activity 1/1:

		Per	form Spiral Binding
Module: 1	Learning Unit: 1	Perform	substrate handling
	1		e substrate according to dummy, counting g to docket/job card
Time:	04 hours		
Equipment	N/A		
Tools	N/A		
PPE	Proper dress code, safety shoes		
Materials	Substrate as per job card		
Key Point	Carefully handle the substrate		
Learning Outcome:	 Verify side lay and Front lay of the printed substrate. Verify page number sequence as per dummy Prepare paper stacking. 		
Precautions:	N/A		
Instructions	Illustrations		

Verify side lay and Front lay of the printed substrate.



2. Verify page number sequence as per dummy



3. Prepare paper stacking.



Learning Unit 2-:

LU-2: Verify spiral/wire-o material and size

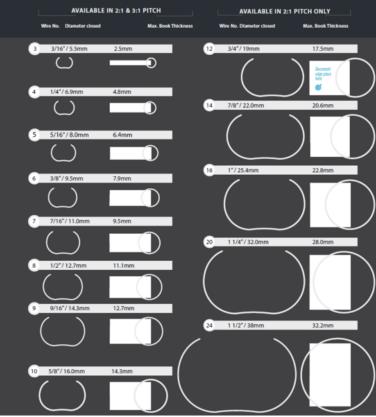
Overview:

Spiral/ wire-o binding, also known as Coil Binding, is a common method for joining the pages and cover of a bound document. It utilizes a durable plastic or metal coil that is inserted and twisted through small holes punched along the spinal edge of the book's cover and pages. It may be in different sizes according to job requirement.

Enlist the regular sizes of spiral:

As per spine thickness from 8mm to 20 mm and can be customized as per requirement.





Practical Activity 1/1:

	Perform Spiral Binding			
Module: 1	Learning Unit: 2	Verify spiral/wire-o material and size		
	Practical Description:	Verify the spiral/wire-o size, color, material & side of the binding.		
Time:	04 hours			
Equipment	N/A			
Tools	Measuring scale	e, Cutter p	olier	
PPE	Proper dress co	de, safety	/ shoes	
Materials	N/A			
Key Point	N/A			
	Select th	ne spiral/ v	wire-o as per Docket	
Learning Outcome:		-	o with the help of Vernier caliper.	
Precautions:	N/A			
Instructions			Illustrations	
Select the spiral/ wire-o as per Docket				
	piral/ wire-o as p	er		

Learning Unit 3 & 4:

Make ready workstation for spiral binding / Perform spiral binding operation room

Overview:

The purpose of this learning unit is to inform the learner about pre-run operations of spiral binding & arrange spiral room to manage the work efficiently.

Enlist the tools required for spiral binding

- Spanner set
- Nose plier
- Allen key set
- Screw driver set
- Heavy duty scissor
- Hammer
- Punching machine
- Wire-o closer

Advantages of Spiral/wire-o binding

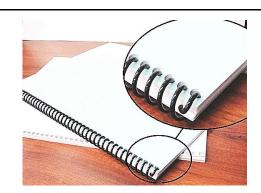
- 1. It is idea to use for short run & immediate binding.
- 2. Usually it uses for calendars & notebooks.



Practical Activity 1/1:

		Perfo	orm Spiral Binding
Module: 1	Learning Unit: 3 & 4		ady workstation for spiral binding / Perform
	Practical Description:	•	e spiral/ wire-o size, color, material & side
Time:			26 hours
Equipment	Punching mach		
Tools	Spanner set, No scissor, Hamme	•	Allen key set, Screw driver set, Heavy duty
PPE	Proper dress co	de, safety	/ shoes
	wire-o / Spiral		
Materials			
Key Point	Always use wire	o or spiral	as per book spine.
Learning Outcome:	 Always use wiro or spiral as per book spine. Verify hole punch size as per instruction. Adjust punch machine impression as per instruction Adjust spiral/ wire-o as per book/ calendar size. Adjust wire-o closer as per instruction. Perform test run. Perform punching on the binding side of the book as per docket. Insert wire/spiral on the binding side of the book as per instruction. Make a sample copy for approval from supervisor. Press wire-o as per approved sample. Perform Spiral binding operation as per approved sample. 		
Precautions:	To keep the alignment perfect, always punch title and pages at same setting.		
Instructions			Illustrations

Verify hole punch size as per instruction.



2. Adjust punch machine impression as per instruction.



3. Adjust spiral/wiro as per book/ calendar size.



4. Adjust wire-o closer as per instruction.



5. Perform test run. 6. Perform punching on the binding side of the book as per docket. 7. Insert wire-o /spiral on the binding side of the book as per instruction. 8. Make a sample copy for approval from supervisor.

9. Press wire-o as per approved sample.



Perform Spiral binding operation as per approved sample.



LU-5 & 6: Perform post production activity/ Maintain log book.

Overview: The purpose of this learning unit is to inform the learner about importance of record keeping and house-keeping.

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

Importance of record keeping:

The essence of good record keeping is good bookkeeping. Efficient bookkeeping will save you time and money in the long run. Proper business record keeping provides the business a real advantage over the competition in different ways.

Practical Activity 1/1:

	Perform Spiral Binding			
Module: 1	Learning Unit: 5 & 6	Describe the importance of maintaining/cleaning work station/ Importance of record keeping		
	Practical Description:	Cleaning workstation with clean cloths & right chemical / record keeping in efficient manner.		
Time:			14 hours	
Equipment	N/A			
Tools	N/A			
PPE	Proper dress co	ode, safety	/ shoes	
Materials	Log book			
Key Point	Cleaning workstation to save time for the next job & record keeping			
	Stack the finished items as per instruction			
Learning	2. Clear the workstation			
Outcome:	3. Record the final count along with the wastages			
	4. Record	the down	time	
Precautions:	N/A			
Instructions			Illustrations	
	inished items as nstruction	per		

Operator

2. Clear the workstation



Record the final count along with the wastages



4. Record the down time

Format -	Д	Daily Production report					
Spiral bind	piral binding				Date :		
Operator Name	Job card no.	Client name	Total Quantity	Final Quantity	Wastage	Remarks	

Summary of the Module

In above module of spiral binding, activities are well defined and practiced through multiple practical and theory. Spiral binding procedures explained. State health and safety precautions of the pasting machine. Identify purpose of spiral and wire-o-binding. In this module usage of spiral & wire-o-binding describe well.

Identify side lay and front lay of substrate regular sizes of spiral. 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. Define number of punch holes per inch as per wiro/spiral size. Advantages of Spiral/wiro binding. Importance of maintaining/cleaning of work station & Importance of record keeping.

Frequently Asked Questions (FAQs)

	(17	(QS)
	Question	Answer
1.	What is the purpose of spiral and wire-o binding?	Ans: Ideally, wire-o & Spiral binding used for short run quantity & quick turnaround binding. That's why it's using in photocopy shops.
2.	What is the purpose of spiral binding?	Ans: It is one of the types of book binding.
3.	What is the shape of spiral?	Ans: Spring shape
4.	What is the shape of wire-o-binding?	Ans: Clip shape
5.	What is the difference between spiral & wire-o-binding?	Ans: Spiral usually used for thin spine & Wire-o used for thin & large page extent of books.
6.	What is the purpose of punching?	Ans: To insert spiral or wire-o-binding.
7.	Does spiral & wire-o-binding available in variety of colors?	Ans: Yes, you can also paint & prepare spiral & wire-o as per job requirement.
8.	What is the punch shape of spiral binding?	Ans: Only round shape.
9.	What is the punch shape of Wire-obinding?	Ans: Square shape only.
10	What material can be used for wire-obinding?	Ans: Metal only

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

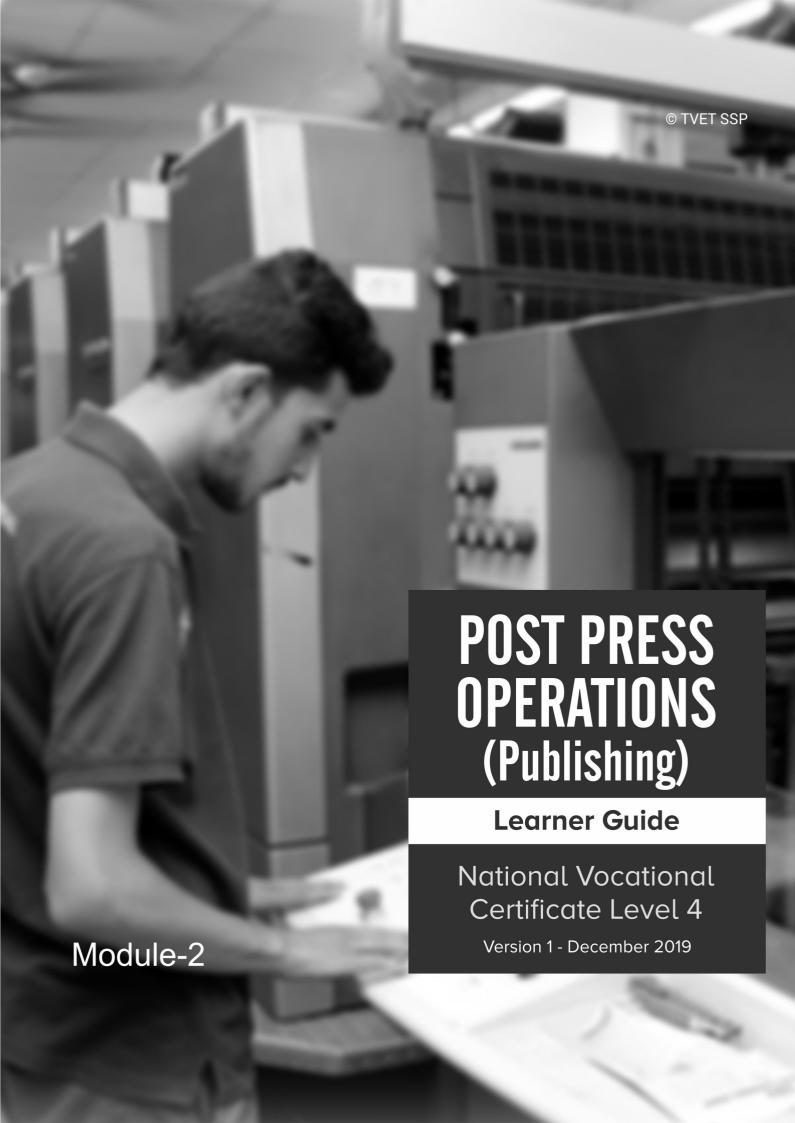
Q 1.	On which part of the book, spiral binding operation will be performed?
	a) Spine
	b) Head
	c) Foots
	d) Side
Q 2.	Wire ring binding is a type of spiral binding?
	a) True
	b) False
Q 3.	Plastic grip binding is a type of spiral biding?
	a) True
	b) False
Q 4. substr	Punching for spiral binding makes on the ate.
Q 5.	Wire spiral binding is available in different colors?
	a) True
	b) False
Q 6.	In spiral binding wire diameter is determine according to?
	a) Thickness/ Spine of book
	b) Color of the book
	c) Weight of the book
	d) Printing type

Q 7.	Operator should ensure proper alignment of papers before punching in
wiro bi	nding?

- a) True
- b) False
- Q 8. Wire-o binding includes usage of glue?
 - a) True
 - b) False
- Q 9. Gathering of spiral binding should be?
 - a) In sequence
 - b) Not in sequence
- Q 10. Punching hole is adjusted according to the page size?
 - a) True
 - b) False

Answer Key

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



Module 2: - Perform Hardcover Binding

It carries 7 learning modules which are as under:

LU1: Perform Substrate handling

LU2: Verify Material quality

LU3: Prepare workstation for Hard cover binding operation

LU4: Prepare Hard cover

LU5: Perform Hard cover binding operation

LU6: Perform post production activity

LU7: Maintain log Book

Learning Unit-1

Perform Substrate handling

Overview:

This learning unit describes the handling procedures of substrate of grey board & other type of boards.

Define Importance of the substrate stacking

To stack the pages together.

Identify side lay and front lay of cover

The purpose of side lay is to keep a perfect registration of the substrate from the pin side. The purpose of front lay is to keep a perfect handling of the substrate from the front lay side

Practical Activity # 1/1

	Perform Hard cover Binding			
Module: 2	Learning Unit: 1	Perform substrate handling		
	Practical Description:	Verify the substrate according to dummy, counting according to docket/job card		
Time:		04 hours		
Equipment	N/A			
Tools	N/A			
PPE	Proper dress co	ode, safety shoes		
	Substrate as pe	er job card		
Materials				
Key Point	Carefully handle	e the substrate		
	Verify side lay and Front lay of the printed substrate.			
Learning	Verify page number sequence as per dummy			
Outcome:	Prepare paper stacking.			
Precautions:	Ensure to wear starting this pro	safety shoes and other safety equipment before ocess		
Instructions		Instructions		
Verify side lay and Front lay of the printed substrate.		y of Front lay Side lay		

2. Verify page number sequence as per dummy.



3. Prepare paper stacking.



Learning Unit-2

Verify Material quality

Overview:

This learning unit describes the verification process and quality of the material.

Define Importance of the material quality verification.

To meet the provided sample & desired specifications as per job.

Describe the types of cover.

Following are the types of covers

- a) Leather cover.
- b) Rexine / Artificial leather Cover.
- c) Laminate paper cover.

Describe the types of grey board

Grey board is a product that is **made** from 100% recycled materials and has many uses from backing card to packaging, creating displays, model making & mounting art prints.

Grey board Backing Card

Useful applications where the rigidity of the front or back cover is important. Examples of use as backing card are paper pads, books, and music sheets.

Describe the importance and application of glue

Adhesives are used in a wide variety of paper bonding applications ranging from corrugated box construction and the lamination of printed sheets to packaging material used for all types of consumer's products to the production of large industrial tubes and cores used by manufacturers of role goods and other materials. They can also be found in the products used by consumers everyday such as bathroom tissue, paper towels, and books



Practical Activity # 1/1

	Perform Hard cover Binding			
Module: 2	Learning Verify Material quality Unit: 2		laterial quality	
	Practical Description: Verify the material quality as per of		e material quality as per docket.	
Time:			14 hours	
Equipment	N/A			
Tools	Measuring scale Scissor, Knife,	e, Docket	Weighing scale with cutter, Hammer,	
PPE	Proper dress co	de, safety	y shoes	
	Glue, Rexine, G	ray board	ds, Cotton yarn,	
Materials				
Key Point	Perform the wo place.	rk with pre	esence of mind & place right cover at right	
Learning Outcome:	 Verify Grey board size as per docket. Verify the spine of sewed book as per docket. Verify ounce (OZ) of grey board as per docket. Verify bookmark ribbon size/color as per docket. Verify Zip size as per docket Verify glue viscosity as per instruction. 			
Precautions:	Precautions: Remember to check book sequence & place of the cover.			
Instructions			Illustrations	
Verify Grey board size as per docket.			300-3000gsm Grey Board Manafacturer	
			0.5-5mm Grey Chipboard Paper	

Verify the spine of sewed book as per docket.	
3. Verify ounce (OZ) of grey board as per docket.	
Verify bookmark ribbon size/color as per docket.	
5. Verify Zip size as per docket	
6. Verify glue viscosity as per instruction.	

Learning Unit – 3:

Prepare workstation for hard cover binding operation

Overview:

This learning unit describes the process of the preparation of workstation to perform the job of hard cover binding operations.

Define Importance of the workstation preparation:

This is important to avoid delays in perform a specific job.

Understand the procedure of hard cover binding operation

Following are the steps for hard cover binding operation.

- Apply glue on spine of sewed book.
- o Press the spine of dried glue book as per instruction
- Perform three side trimming as per instruction
- Paste bookmark ribbon and Zip on the book spine as per instruction
- Paste binding cloth/paper on the spine of a book.
- Place the dried book inside the hard cover as per instruction.
- Apply the glue on first blank page and press it gently.
- Apply the glue on last blank page and press it gently.
- Carry out Hard cover binding operation as per instruction
- Record the final counter along-with the wastages.

Hardcover Binding

Hard cover binding, commonly referred to as hardcover binding, involves the construction of an exterior case made of cardboard wrapped with paper. Hard cover binding is a more complicated process compared to other typical types of binding.

Case Construction

The first step in hard cover binding is the construction of the hardcover, also known as the case. First, sheets of cardboard are cut to their proper size to form the rigid skeleton of the cover. From there, printed and finished cover sheets are fed into one end of a case manufacturing machine, while the pre-cut cardboard is fed into the other, and the two are combined through several gluing and folding operations into the final case.



Smyth Sewing

Next, the collated signatures of the book block are sewn together using the smyth sewing technique. Smyth sewing uses thread to first sew through the folds of each signature and then sew the entire group of signatures, (also known as the book block) together, resulting in a durable binding that can be opened very wide.



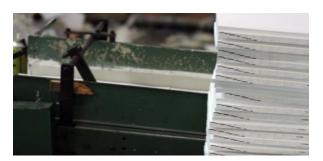
Trimming

Next, the sewn book blocks are trimmed down to size. With some softcover books, this happens after the cover is applied, but because the hardcover case is larger than the book block, in Hard cover binding the trimming step happens before the book block is glued into the case.



Gluing

Finally, the finished book blocks and cases are placed into a hardcover binding machine where they are glued together into a completed hardcover bound book. First, the sewn book block has glue applied to its spine, and a piece of fabric (called the super) is placed on top of the glue. Farther down the line, the hardcover case is wrapped around the book block. At this point, books with 60 pages or more will also have end sheets added to hold the entire book together.



Practical Activity # 1/1

	Perform Hard cover Binding		
Module: 2	Learning Unit: 3	Prepare workstation for Hard cover binding operation	
	Practical Description:	Set the quad on table to place the cover as per instruction.	
Time:	18 hours		
Equipment	N/A		
Tools	Quads		
PPE	Proper dress code, safety shoes		
	Glue, Cotton yarn, Needle, Grey board, Rexine,		
Materials			
Key Point	A clean workplace ensures to efficiently use of material i.e. graybeard, glue.		
Learning Outcome:	 Set the quad on table to place the cover as per instruction. Fill the glue in the glue pot 		
	Perform Substrate Stacking as per instruction.		
Precautions:	Ensure to wear safety shoes and other safety equipment before starting this process		
Instructions		Illustrations	
Set the quad on table to place the cover as per instruction.		the	

2. Fill the glue in the glue pot.



3. Perform Substrate Stacking as per instruction.



Learning Unit - 4 & 5:

Prepare Hard cover, Perform Hard cover Binding

Overview:

This learning unit describes the process of the preparation of hard cover and to perform the job of hard cover binding operations.

Define the importance of the prepare hard cover and perform operation of hard cover binding:

This learning unit describes the process of preparation of required / desired hardcover & operation of the hard cover binding.

Understand the procedure of hard cover preparation.

Hardcovers typically consist of a page block, two boards, and a cloth or heavy paper covering. The pages are sewn together and glued onto a flexible spine between the boards, and it too is covered by the cloth.

Enlist the material used in hard cover binding operation

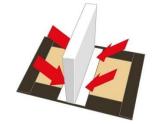
- o Leather.
- o Grey board.
- o Glue
- o Laminate paper.

	Perform Hard cover Binding			
Module: 2	Learning Unit: 4 & 5		Hard cover, Perform Hard cover	
	Practical Description:	Prepare	gray board and Rexine to preform binding.	
Time:			72 hours	
Equipment	N/A			
Tools	Paper cutter, Pa	aint brush	, Scissor,	
PPE	Proper dress c	ode, safet	y shoes,	
	Sponge, Grey b	oard, Cov	vers, Stitched book, Gloves,	
Materials				
Key Point	Perform hard co	over bindir	ng with presence of mind as per docket.	
	Apply glue on cover as per instruction			
	2. Place the grey board as per instruction3. Fold and press the cover on grey board as per instruction			
	4. Apply glue on spine of sewed book.			
	5. Press the spine of dried glue book as per instruction			
	6. Perform three side trimming as per instruction			
Learning Outcome:	Paste bookmark ribbon and Zip on the book spine as per instruction			
Outcome.	8. Paste binding cloth/paper on the spine of a book.			
	9. Place the dried book inside the hard cover as per instruction.			
	10. Apply the glue on first blank page and press it gently.			
	11. Apply the glue on last blank page and press it gently.			
	12. Get approval from the supervisor			
13. Carry out Hard			binding operation as per instruction	
	14. Check & maintain the quality of hard cover binding operation.			
Precautions:	Ensure to wear safety shoes and other safety equipment before starting this process			
Instructions			Illustrations	

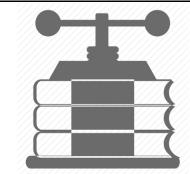
Apply glue on cover as per instruction



2. Place the grey board as per instruction



3. Fold and press the cover on grey board as per instruction



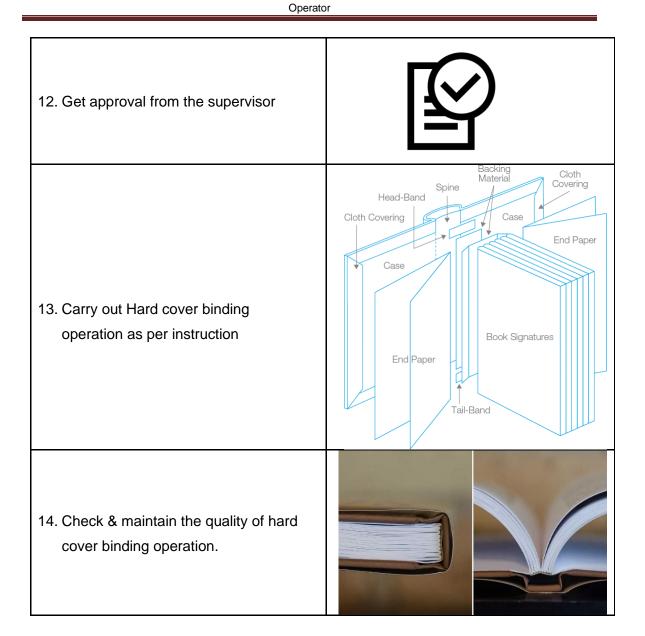
4. Apply glue on spine of sewed book.



Press/ nipping the spine of dried glue book as per instruction



Perform three side trimming as per instruction	
7. Paste bookmark ribbon and Zip on the book spine as per instruction	10 Pt-2-2-2-1
8. Paste binding cloth/paper on the spine of a book.	
9. Place the dried book inside the hard cover as per instruction.	
10. Apply the glue on first blank page and press it gently.	
11. Apply the glue on last blank page and press it gently.	



Learning Unit - 6 & 7:

Perform post production activity/ Maintain log book.

Overview:

The purpose of this learning unit is to inform the learner about importance of record keeping and maintain house keeping

> Describe the importance of maintaining/cleaning of work station.

Cleaning and tidiness can help control or eliminate workplace hazards. Poor housekeeping practices frequently contribute to incidents.

Effective cleaning is an ongoing operation: it is not a one-time or hit-and-miss cleanup done occasionally. Periodic "panic" cleanups are costly and ineffective in reducing incidents.



The workplace environment influences employees' productivity, performance and well-being. No matter the industry, maintaining a clean workplace may help keep staff members safe, healthy and efficient. However, busy production schedules and increasing workloads may cause standards to dip.

While it may be tempting to put off dusting or other types of cleaning around the office or worksite, doing so may put employees at risk of suffering an injury or illness and may even impact performance levels. Maintaining a clean workplace is vital for employers to reduce their workers compensation claims and keep efficiency high.

Importance of record keeping

The essence of good record keeping is good bookkeeping. Efficient bookkeeping will save you time and money in the long run. Proper business record keeping provides the business a real advantage over the competition in different ways.

	Perform Hard cover Binding		
Module: 2	Learning Unit: 6	Perform post production activity	
	Practical Description:	Clean th	e workstation.
Time:	6 Hours		
Equipment	Manual Lamina	tion Mach	ine
Tools	Din cup, Speed	switch	
PPE	Proper dress, s	afety shoe	es, safety gloves
Materials	Glue		
Key Point	Clean the workstation.		
Learning Outcome:	 Remove the waste material as per instruction Clean the work station as per instruction 		
Precautions:	Ensure to wear safety shoes and other safety equipment before starting this process		
Instructions			Illustrations
Remove the waste material as per instruction.		per	
Clean the work station as per instruction			

	Perform Hard cover Binding		
Module: 2	Learning Unit: 7	Maintain	Log book
	Practical Description: Maintain the record sheet in terms of final counter along with wastages and down time of machine.		along with wastages and down time
Time:			8 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 hard cover binding operation 		
Precautions:	Ensure to wear safety shoes and other safety equipment before starting this process		
Instructions			Illustrations
Record the final counter along-with the wastages		with the	WORK TIME LOGBOOK Driver Date Date Driver copy
Record downtime during hard cover binding operation		cover	PCQ 1234556-001

Frequently Asked Questions (FAQs)

Question	Answer
Describe the importance of maintaining/cleaning of work station	Cleaning and tidiness can help control or eliminate workplace hazards. Poor housekeeping practices frequently contribute to incidents.
2. OSHA stands for?	It stands for Occupational Safety and Health Administration
3. PPE stands for?	It stands for Personal Protective Equipment
How to maintain log book? Write down steps.	Fill and record the log book. Ensure following records are filled: a) Total counter b) Wastage c) Down Time Any other remarks
Write down importance of record keeping?	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.

Self-Assessment

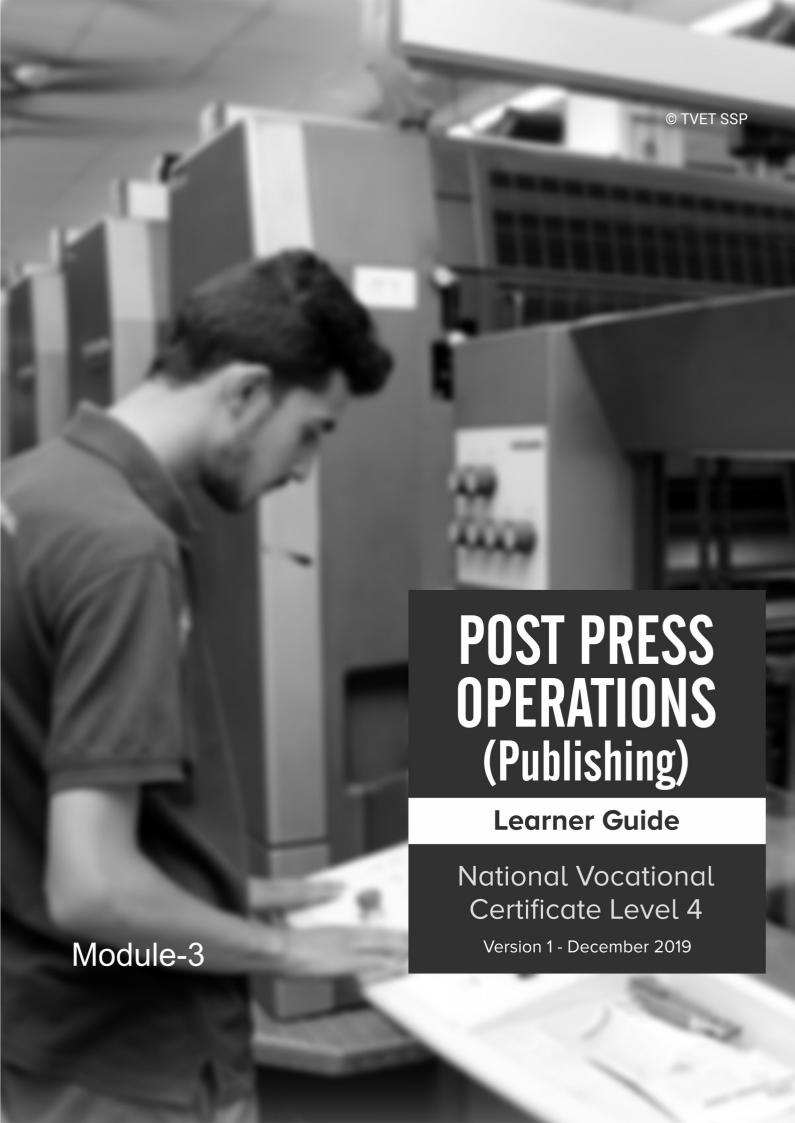
(MCQs)

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 cover.
 - a. Leather cover.
 - b. Rexine / Artificial leather Cover.
 - c. Laminate paper cover.
- Q 2. Enlist any two grey board standard weights.
 - a) 16 oz.
 - b) 12 oz.
 - c) 20 oz.
- Q 3. Glue is not a type of coating material?
 - a) True
 - b) False
- Q 4. Identify which operation is involved in hard cover binding?
 - a) Book Mark.
 - b) Gathering.
 - c) Die cutting.
 - d) Saddle pin.
- Q 5. Identify which operation is involved in hard cover preparation?
 - a) Pasting Binding cloth on grey board.
 - b) Counting of pages.
 - c) Counting of gathering.
 - d) Sewing binding.
- Q 6. Enlist, any two types of material is used in hard cover binding operation.
 - a) Leather.
 - b) Grey board.
 - c) Glue
 - d) Laminate paper.
- Q 7. Grain is important in binding.
 - a) True.
 - b) False
- Q 8. Glue viscosity will remain same for art paper and off set paper.
 - a) True.
 - b) False

Answer Key

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



Module 3: - Perform Numbering Machine Operation

Learning Unit:

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

LU1: Perform substrate handling

LU2: Make ready workstation for numbering machine operation.

LU3: Perform numbering machine operation

LU4: Perform post production activity

LU5: Maintain log book.

Learning Unit -:

LU-1: Perform Substrate handling

Overview: The purpose of this learning unit is to inform the learner about side lay and front lay and their importance.

Identify side lay and front lay of a printed substrate:

The purpose of side lay is to keep a perfect binding of the substrate from the pin side.

The purpose of front lay is to keep a perfect handling of the substrate in binding from the front lay side.

Sheet Alignment

Alignment precision has to be met within sufficiently narrow tolerances wherever a sheet has to run through the press a second time. This applies for the front and reverse sides with straight printing and perfecting, it applies for finishing at the paper cutting unit, at the folder, and also for punching, embossing, or creasing. It also applies for a second sheet pass when imprinting other colors such as decorative colors for multicolor printing, and for spot coating or hot foil stamping.

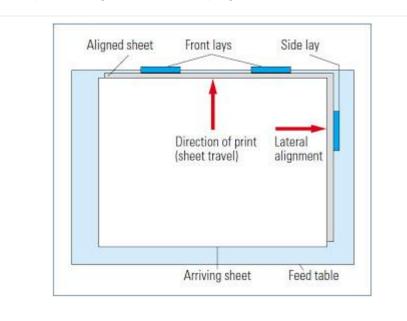
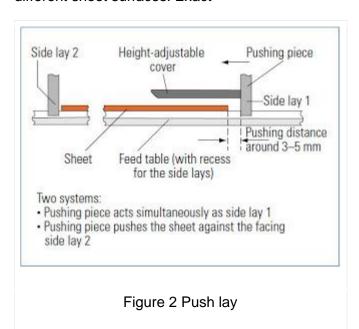


Figure 1. Sheet alignment on the feed table at front and side lays

To align the sheet on the feed table with the required accuracy, it is usually aligned at *two front lays* and *one side lay* (figure 1). On large format presses, which are equipped with six front lays, unneeded front lays are disengaged when smaller formats are processed, so that only two front lays are used for the alignment. To be able to align the printed sheets at the same side for the finishing operation, the alignment points have to be marked in the printed product (e.g., manual marking in the delivery pile). Whether these alignment points must then be used in finishing depends on the product and the required tolerances. Since there are different alignment systems in printing and finishing,

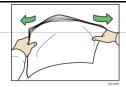
it is very important for the front edges of the sheets to be cut as straight as possible and within narrow tolerances, as well as for the angle between the front and side edges to deviate as little as possible from an exact right angle.

The accurate position of the print image on the sheet can only be achieved if each sheet is aligned individually before it enters the press. During the actual alignment process, the sheet is pushed or pulled with light force against the alignment guides. Guide elements, such as belts, brushes, rollers, pulling segments, or the suction plates of the side guides, slide gently over the sheet and, assisted by sliding friction, take it to the correct final position. It must be possible to adjust the sheet feeding systems to allow for the great variety of sheet sizes, the variable sheet thickness, and the different sliding friction of the different sheet surfaces. Exact



Alignment is made more difficult if the sheets do not lie completely flat and have a certain waviness at the edges. With suitable components in the feed area (e.g., pull lays and rotary suckers) the lead edge of the sheet can be tensioned so that it lies flat.

	Perform Numbering Machine Operation		
Module: 3	Learning Unit: 1	Perform Substrate handling	
	Practical Description:	Handle the substrate to verify side-lay & front- lay of the printed substrate and size for Numbering machine.	
Time:		8 hours	
Equipment	N/A		
Tools	N/A		
PPE	Proper dress, safety shoe	es, safety gloves	
Materials	Substrate (Paper / Box Bo	pard)	
Key Point	Carefully handle the subs	trate.	
Learning	Verify side lay and fro	nt lay of the printed substrate.	
Outcome: • Prepare paper stacking as per instruction.		ng as per instruction.	
Precautions:	Ensure to wear safety shoes and other safety equipment before starting this process		
Instructions		Illustrations	
1. Verify Side	lay and Front lay	Aligned sheet Front lays Side lay Direction of print Lateral (sheet travel) alignment	
2. Adjust Side	e lay and Front lay	Arriving sheet Feed table	
3. Check bind	ling side		



4. Perform fanning



5. Paper feeding in machine



6. Set paper on machine according to the requirement



LU-2 & 3: Make ready workstation for numbering machine operation & Perform numbering machine operation

Overview:

The purpose of this learning unit is to inform the learner about make ready operations of numbering machine operation.

Understand function of feeder.

The purpose of feeder station is smooth running of skillet.

Method of numbering impression

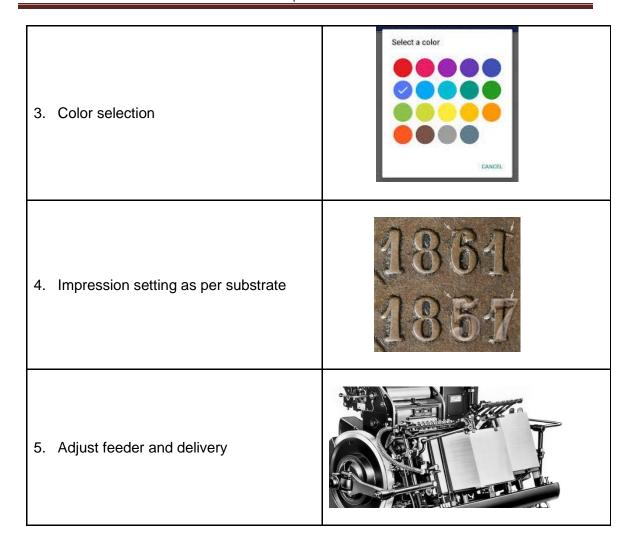
Below mentioned points are considered to perform numbering process in numbering machine.

COMPONENT IDENTIFICATION

- Verify Side lay and Front lay
- Adjust Side lay and Front lay
- Placement of numbering
- Type of numbering
- Color selection
- Impression setting as per substrate
- Adjust feeder
- Adjust delivery



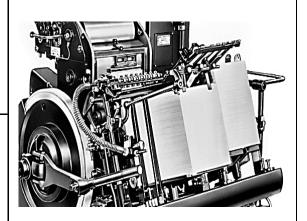
	Perform Numbering Machine Operation		
Module: 3	Learning Unit: 2	Make ready workstation for numbering machine operation.	
	Practical Description:	Perform Pre-process operations of numbering machine	
Time:		16 hours	
Equipment	Numbering mad	chine (Platen)	
Tools	Allen key set, P	Plier set, Spanner set	
PPE	Proper dress, s	afety shoes, safety gloves	
Materials	Substrate (Printed Skillet)		
Key Point	Carefully handle the substrate.		
Learning Outcome:	 Prepare numbering ink as per docket Adjust numbering sequence as per docket Adjust feeder as per substrate size. Stack substrate in machine feeder Adjust air vacuum of feeder as per substrate. Adjust substrate delivery as per substrate size. Adjust numbering impression as per instruction. 		
Precautions:	Ensure to wear safety shoes and other safety equipment before starting this process		
Instructions	Illustrations		
Placement of numbering		Side lay 2 Height-adjustable cover Cover Side lay 1 Pushing distance around 3-5 mm Feet table (with recess for the side lays) Two systems: Pushing piece acts simultaneously as side lay 1 Pushing piece pushes the sheet against the facing side lay 2	
2. Type of numbering		Abel Fafface ABCCCD DEFGIIJKLMNOPQRSSTUV WYYZAbecedder ghijklm nopprestu WYYZAbecedder ghijklm nopprestu WYYZAbecedder ghijklm nopprestu WYYZABCE GATSON (************************************	



	Perform Numbering Machine Operation		
Module: 3	Learning Unit: 3 Perform numbering machine operation		
	Practical Description:	Perform operations of numbering machine	
Time:		46 hours	
Equipment	Numbering mad	chine (Platen)	
Tools	Allen key set, P	lier set, Spanner set	
PPE	Proper dress, s	afety shoes, safety gloves	
Materials	Substrate (Printed Skillet)		
Key Point	A clean workplace ensures the safety and health of employees and visitors.		
Learning Outcome:	 Make a sample copy as per docket. Get approval from the supervisor Print numbering as per docket. 		
Precautions:	Ensure to wear safety shoes and other safety equipment before starting this process		
Instructions		Illustrations	
Placement of numbering		999917	
2. Type of numbering		Abril Fatface ABCCCDDEFGIILIKLINOPQRSSTUV WXYZZałoccedactghijk imnopprestu vx xyz 21231 507890 % "1" (%) = { (6) }	

3. Adjust feeder and delivery

4. Make a sample copy as per docket



LU - 4 & 5: Perform post production activity & Maintain log book.

Overview: The purpose of this learning unit is to inform the learner about importance of record keeping.

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

Importance of record keeping:

The essence of good record keeping is good bookkeeping. Efficient bookkeeping will save you time and money in the long run. Proper business record keeping provides the business a real advantage over the competition in different ways.

	Perform Numbering Machine Operation		
Module: 3	Learning Unit: 4	Perform post production activity	
	Practical Description:	Perform post production process	
Time:		8 hours	
Equipment	Numbering mad		
Tools	•	er set, Brush, Oil can, IPA	
PPE	Proper dress, s	afety shoes, safety gloves	
Materials	Substrate (Print	ed Skillet)	
Key Point	Carefully handle	e the substrate.	
Learning Outcome:	Stack the finished items as per SOP.Clean ink on the numbering unit.		
Precautions:	Ensure to wear starting this pro	safety shoes and other safety equipment before cess	
Instructions		Illustrations	
Substrate stacking			
2. Clean the ink duct			

3. Clean the number punch



4. Manage waste material



	Perform Numbering Machine Operation		
Module: 3	Learning Unit: 5	Maintain log book.	
	Practical Description:		the record sheet in terms of final counter th wastages and down time of machine.
Time:			6 hours
Equipment	N/A		
Tools	N/A		
PPE	N/A		
Materials	Log book		
Key Point	Properly mainta	ain log boo	ok
Learning Outcome:	 Record the final count along with the wastages Record the down time during numbering machine operation. 		
Precautions:	Ensure to wear starting this pro	•	oes and other safety equipment before
Instructions Illustrations		Illustrations	
Record the total count of the quality sheets on log book		uality	WORK TIME LOGBOOK Property
Record the total count of the waste sheets on log book		aste	DAILY REPORT SCHEEN
Record downtime of the numbering machine on log book		ering	

Summary of the Module

This short guide will help you to manage substrate handling, Make ready workstation for numbering machine operation, perform numbering operation, maintain housekeeping and log book. When you narrow it down for your jobs, it also give you the below mentioned competences.

- Prepare numbering ink as per docket
- Adjust numbering sequence as per docket
- Adjust feeder as per substrate size.
- Stack substrate in machine feeder
- Adjust air vacuum of feeder as per substrate.
- Adjust substrate delivery as per substrate size.
- Adjust numbering impression as per instruction
- Stack the finished items as per SOP.
- Clean ink on the numbering unit.
- Clear the workstation and machine.
- Ensure house-keeping of workplace.
- Record the final count along with the wastages
- Record the down time during numbering machine operation.

Frequently Asked Questions (FAQs)

Question	Answer
Q-1: Define Importance of the substrate stacking	To avoid miss 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 miss feed of paper and film.
Q-3: Why we maintain log book?	To check and ensure the daily productivity
Q-4: What is the rule to verify page number sequence?	Verify page number sequence of gathered book as per dummy.
Q-5: What is the logical sequence of the type of machines used for numbering?	a) Cylinderb) Offset printing machinec) Hand numbering machine
Q-6: Which type of ink is used for numbering operation?	Letter Press ink
Q-7: 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.

a) Trueb) False

Self-Assessment

(MCQs)

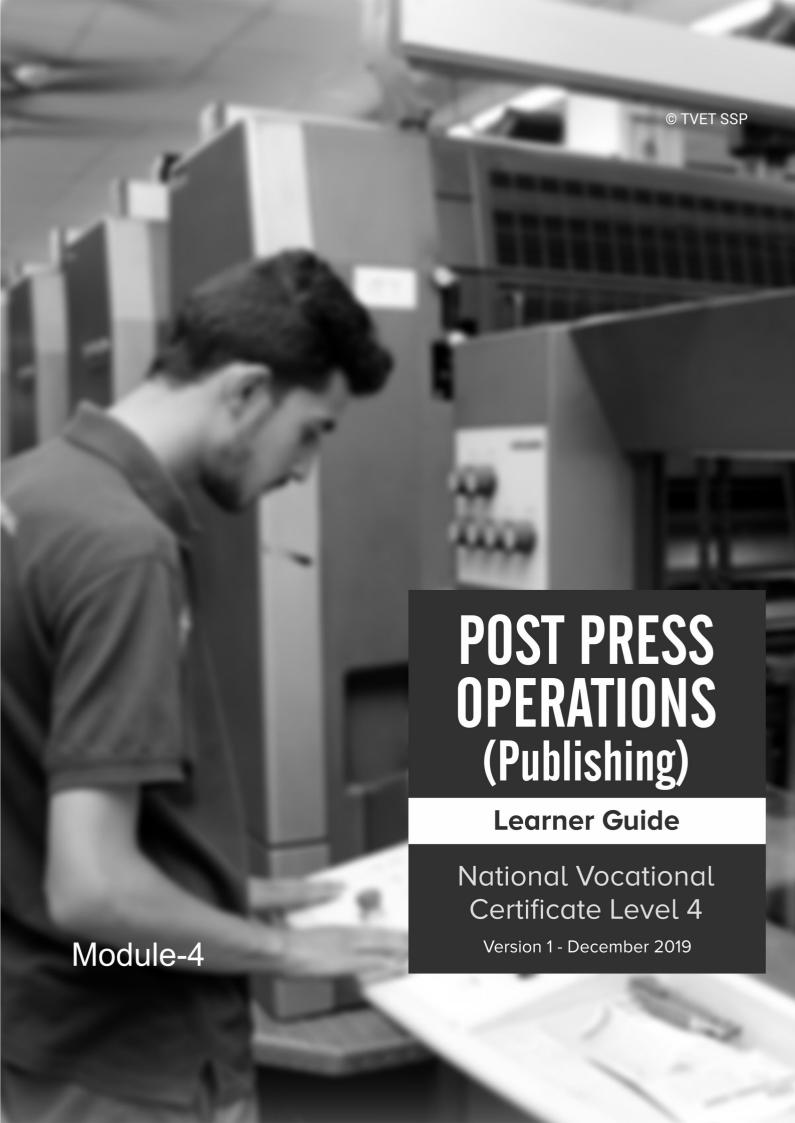
Please mark the correct one from the given options. You can check your answer with the Answer Key at the end of this module

Q 1.	Feeder adjusts for the numbering purpose? a) True. b) False
Q 2.	Numbering impression can be adjusted according to substrate? a) True. b) False
Q 3.	In numbering operation air vacuum can be adjusted through? a) Machine Valve. b) Engine Valve. c) Compressor Valve. d) Water level.
Q 4.	Which type of ink is used for numbering operation?a) Letter Press inkb) Water ink.c) Gravening ink.d) UV ink.
Q 5.	Form numbers are important for gathering and page sequence. a) True b) False
Q 6.	Enlist logical sequence of the type of machines used for numbering: a) Cylinder b) Platin c) Offset printing machine d) Hand numbering machine
Q 7.	Numbering sequence is important?

- Q 8. In machine numbering operation, sequence performs in reverse order?
 - a) True
 - b) False
- Q 9. Enlist types of numbering?
 - a) Roman numbering
 - b) Numerical
 - c) Alphabetical
- Q 10. Random order sequence can be done in numbering operation?
 - a) True
 - b) False

Answer Key

MCQ No.	Correct Answer
1	A
2	Α
3	С
4	Α
5	Α
6	B, C & D
7	Α
8	Α
9	A & B
10	В



Module 4: Perform Cutting & Trimming

Learning Unit:

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

LU1: Perform Substrate handling

LU2: Make ready workstation for cutting and trimming operation

LU3: Perform cutting and trimming 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.

Describe types of substrate:

Types of substrate in terms of paper

- 1. Offset paper
- 2. Copy Paper
- 3. Hard Paper Glossy
- 4. Hard Paper Matt Finish
- 5. News Print
- 6. Adhesive Paper (Gum Paper)

Types of paper in terms of Box Board

- 1. Bleach Board
- 2. Metallize Board
- 3. Hard Card
- 4. Fancy Card

	Perform Cutting and Trimming				
Module: 4	Learning Unit: 1	Perform	Perform substrate handling		
	Practical Description:		he substrate to verify grain and r square meter of the printed		
Time:	8 Hours				
Equipment	N/A				
Tools	N/A				
PPE	Proper dress, safety shoes, safety gloves				
Materials	Substrate (Pape				
Key Point Carefully handle the substrate.					
	Verify grain of the substrate				
Learning	Verify Gram per square meter (GSM) of the substrate				
Outcome:	Prepare paper stacking/jogging				
Precautions:	Precautions: Ensure to wear safety shoes and other safety equipment before starting this process				
Instructions			Illustrations		
Tear or twist the grain	he substrate to ve	erify the			

2. Measure the substrate with the help of GSM cutter and scale to verify the gram per square meter (GSM)



- 3. Verify maximum stack height of cutting machine
- 4. Perform Paper Stacking as per identified stack height



Learning Unit-2 Make ready workstation for cutting and trimming operation

Overview:

This learning unit describes the procedure of making workshop ready for cutting and trimming.

List the programing parameters

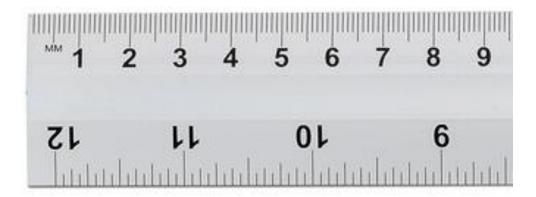
1. Cutting according to given size

Understand the use of measuring instrument (scale, calculator, weight machine)

Scale:

Each scale of measurement satisfies one or more of the following properties of measurement.

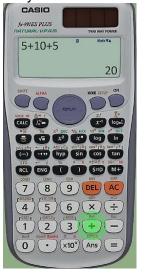
- **Identity**. Each value on the measurement scale has a unique meaning.
- **Magnitude**. Values on the measurement scale have an ordered relationship to one another. That is, some values are larger and some are smaller.
- **Equal intervals.** Scale units along the scale are equal to one another. This means, for example, that the difference between 1 and 2 would be equal to the difference between 19 and 20.
- A minimum value of zero. The scale has a true zero point, below which no values
 exist



Calculator:

Learning Basic Functions

- 1. **Find the power button if there is one.** Although most newer calculators are solar powered—meaning light turns them on automatically—some also have an "ON" or "ON/OFF" button. If you spot any one of these power buttons, press it to turn the calculator on and off.^[1]
 - If your calculator has an "ON" button, press it when the calculator is powered on to turn it off.
 - Some calculators automatically turn off after remaining unused for a few minutes



- 2. Divide numbers or turn fractions into decimals with the "÷" or "/" key. For example, to divide 2 by 1, press "2," "÷," and "1" and then "=." To change the fraction 4/5 to a decimal, press "4," "/," "5," and then "=
 - If you're using a physical calculator, the division key is likely "÷." For computer calculators, the division key is probably "/."
 - Divide in a series by pressing "÷" or "/" followed by a number. For example, if your calculator says "2 ÷ 1," hit "÷," "2," and then "=" to get a final answer of "1."

Weight Machine

Used for the measuring the mass of objects.

Practical Activity # 1/1

	Р	erform Cutting and Trimming		
Module: 4	Learning Unit: 2	Make ready workstation for cutting and trimming operation.		
	Practical Description:	Fix cutting knife and cutting stick as per SOP		
Time:	44 hours			
Equipment	Cutting Machin	e		
	N/A			
Tools				
PPE	Hand Gloves, S	Safety Shoes		
11.2	Spanner se	•		
	Oil can			
Materials	Tommy bar Crasse gun			
	Grease gun			
	Guillotine machine-			
	Programma	able		
Key Point	A clean workplace ensures the safety and health of employees and visitors.			
	Fix cutting knife as per instruction.			
	Adjust knife	impression as per instruction		
Learning	Verify cutting knife fixing.			
Outcome:	Fix cutting stick in machine as per OEM.			
	Feed cutting program as per docket.			
	. 555 Satting program do por doortot.			
Precautions:	Ensure safety of hands from and parts of body from cutting knife			
Instructions	Instructions Illustrations			
1. Fix the cutting	. Fix the cutting knife as per SOP.			

2. Adjust the knife impression as per SOP



3. Fix cutting stick in machine as per OEM

4. Feed cutting program as per size given



Learning Unit-3

Perform cutting and trimming operation

Overview:

This learning unit describes the procedure of cutting and trimming.

Describe the standard paper sizes:

There are different sizes of paper according to machines

- 1. 115 mm
- 2. 90 mm
- 3. 76 mm

Practical Activity # 1/1

	В	orform	Cutting and Trimming	
	Perform Cutting and Trimming			
Module: 4	Learning Perform cutting Unit: 3		cutting and trimming operation	
	Practical Description:	Set the r	machine according to paper size and trim	
Time:	82 hours			
Equipment	Cutting Machin	ne		
Tools	N/A			
PPE	Safety Shoes,	Hand Glo	ves	
	Guillotine m	achine-		
	Programma	ble		
Materials		· ·		
	A clean workplace ensures the safety and health of employees and			
Key Point	visitors.			
Learning	Make a sam	nple trim/c	cut for approval from supervisor.	
Outcome:	carryout cut	ting/trimm	ning operation as per instruction	
Precautions:	Ensure safety of hands from and parts of body from cutting knife			
Instructions		Illustrations		
Set the machine according required paper size and trim it, sample submit to supervisor for approval.			sales@arpsapparts.com	

Learning Unit-4

Perform post production activity

Overview:

This learning unit describes the procedure of post-production activity.

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:

	Perform Cutting and Trimming			
Module: 4	Learning Unit: 4	Perform	post production activity	
	Practical Description:		e finished product on pallet and segregate ned waste.	
Time:	8 hours			
Equipment	N/A			
Tools	Pallet, Bin			
PPE	Hand gloves, S	Safety Sho	pes	
	Cleaning brush	-		
Materials				
	A clean workpla	ace ensure	es the safety and health of employees and	
Key Point	visitors.			
litey i onit	Tielle i e			
	 Stack the fir 	nished iter	ns on pallets as per instruction.	
Learning	Store the se	areaated	trimmed waste at the designated bin.	
Outcome:		3 - 3	3	
	Clear the workstation.			
Precautions:	Ensure to wear safety during manual handling.			
Instructions			Illustrations	
Stack the finished substrate on pallets.				
Store the segregated trimmed waste at the designated bin and clean the workshop.				



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:

	Perform Cutting and Trimming			
Module: 4	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			
	Logbook			
Materials				
Key Point	Properly maintain the record sheet			
Learning Outcome:	 Record the final count along with the wastages Record the down time. 			
Precautions:	Precautions:			
Instructions Illustrations			Illustrations	
Record the total count of the quality sheets on log book		uality	WORK TIME LOGBOOK Driver Start time for page: Book Date Date Start time for page: Start time for page: Book Date Date Start time for page: Start time for pa	
Record the tot sheets on log	al count of the waste book			
3. Record downtime of the die cutting operation on log book The production of the die cutting operation on log book		11		

Summary of the Module

In above module types of substrate described, defined programing parameters. Explained use of measuring instrument (scale, calculator, weight machine). Described standard size of paper and importance of log book.

Frequently Asked Questions (FAQs)

	(FAQS)				
	Question	Answer			
. 1.	Define the magnitude of scale?	Values on the measurement scale have an ordered relationship to one another. That is, some values are larger and some are smaller.			
2.	Enlist types of substrate in terms of paper	 a. Offset paper b. Copy Paper c. Hard Paper Glossy d. Hard Paper Matt Finish e. News Print f. Adhesive Paper (Gum Paper) 			
3.	How to measure the substrate?	Measure the substrate with the help of Vernier to verify the gram per square meter (GSM)			
4.	Describe the standard paper sizes?	There are different sizes of paper according to machines a. 115 mm b. 90 mm c. 76 mm			
5.	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.			
6.	Explain importance of record keeping?	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			
7.	How to fix cutting stick in machine?	Fix cutting stick in machine as per OEM			
8.	How to adjust knife impression?	Adjust the knife impression as per SOP or requirement.			
9.	What do you mean by Equal Interval on Scale?	Scale units along the scale are equal to one another. This means, for example, that the difference between 1 and 2 would be equal to the difference between 19 and 20.			
10	. Define about Learning Basic Functions	Find the power button if there is one. Although most new calculators are solar powered—meaning light turns those on automatically—some also have an "ON" or "ON/OFF" button. If you spot any one of these power buttons, press it to turn the calculator on and off.[1]			

Self-Assessment

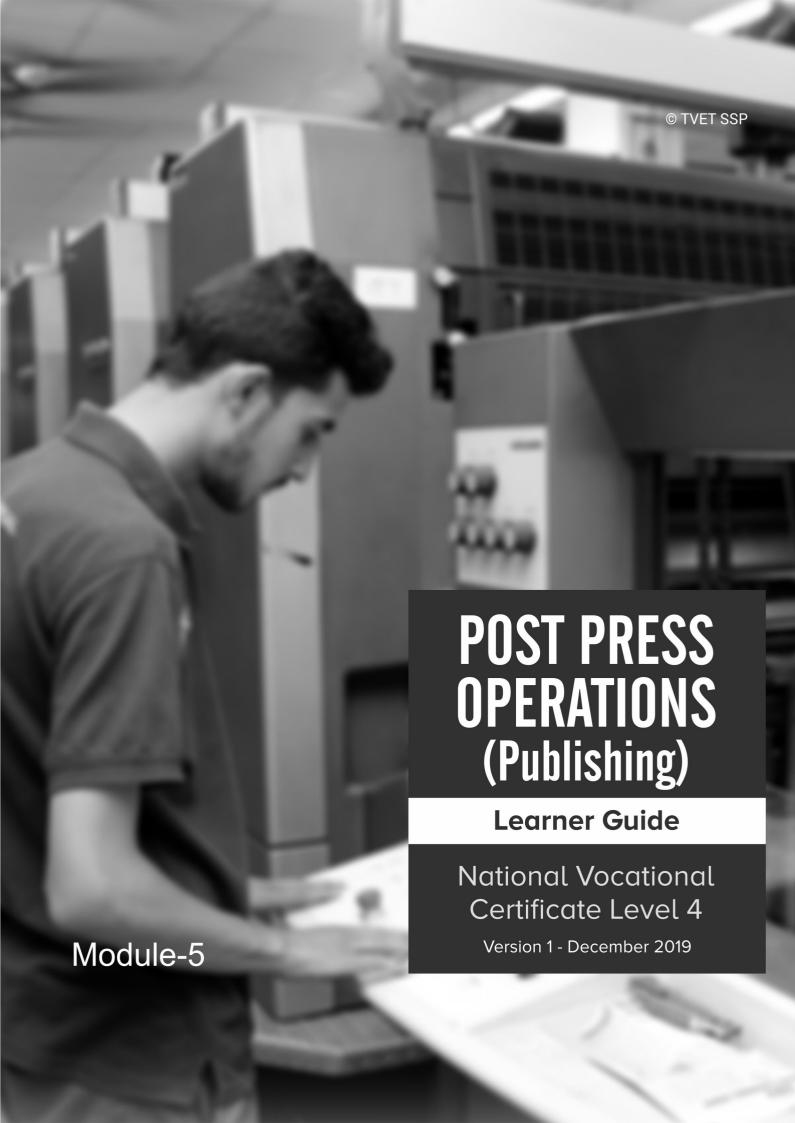
(MCQs)

1)	on to turn it off. a. "ON" b. "OFF" c. a and b d. none of above
2)	Values on the measurement scale have a relationship to one another. a. Ordered b. Dis-ordered c. Managed d. Proper
3)	The scale has a true point, below which no values exist a. Zero b. One c. Two d. Five
4)	Fix cutting stick in machine as per Original a. SOPs b. Original Equipment Manufacturer (OEM) c. Requirements d. None of above
5)	Stack the finished substrate on a. Floor b. Table c. Pallets d. None of above
6)	Keeping record is vital to the success of any business. a. Sequential b. Step by step c. Accurate and up-to-date d. None of them
7)	Record the count of the waste sheets on log book. a. Total b. Half c. Partial d. None of above

- 8) SOP stands for?
 - a. Standard Operating Procedure
 - b. State Operating Program
 - c. Static Operating Process
 - d. None of them
 - e.
- 9) Some _____ automatically turn off after remaining unused for a few minutes.
 - a. Machines
 - b. Calculators
 - c. Splitters
 - d. Air Conditioner
- 10) Values on the measurement scale have an ordered relationship to one another.
 - a. True
 - b. False

Answer Key

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



Module 5: - Solve Problems at workplace

Learning Unit:

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

LU1: Analyse the problem

LU2: Identify possible Solutions

LU3: Recommend solution to higher management

LU4: Implement solution

LU5: Evaluate/monitor results and outcome

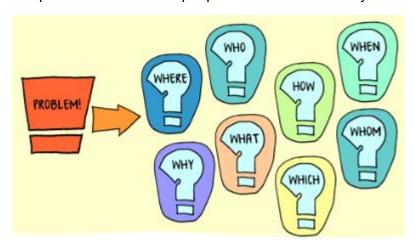
Learning Unit -:

LU-1: Analyze the problem

Overview:

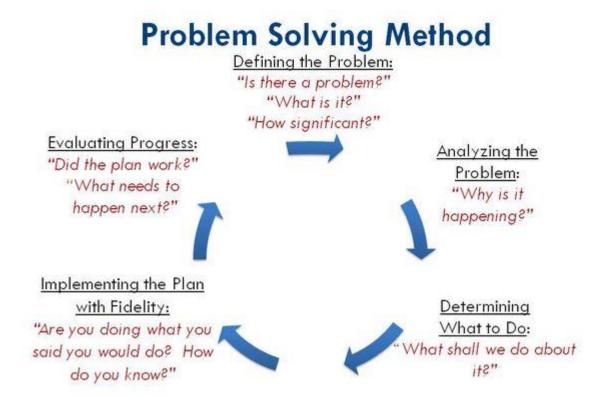
Explain Analytical skills and broad knowledge of diagnostic tools

The ability to solve problems is a basic life skill and is essential to our day-to-day lives, at home, at school, and at work. We solve problems every day without really thinking about how we solve them. For example: it's raining and you need to go to the store. What do you do? There are lots of possible solutions. Take your umbrella and walk. If you don't want to get wet, you can drive, or take the bus. You might decide to call a friend for a ride, or you might decide to go to the store another day. There is no right way to solve this problem and different people will solve it differently.



Here are seven-steps for an effective problem-solving process.

- 1. Identify the **issues**. Be clear about what the **problem** is. ...
- 2. Understand everyone's interests. ...
- 3. List the possible solutions (options) ...
- 4. Evaluate the options. ...
- 5. Select an option or options. ...
- 6. Document the agreement(s). ...
- 7. Agree on contingencies, monitoring, and evaluation



Explain broad knowledge of the client business domain

In order to utilize technology effectively it must fit the user's goals. It is no good developing a database that manages stock when the requirement was for a system that manages contacts of potential customers. To ensure that you get off on the right track it is important to have an understanding of the organization's business domain.

What is the client's core business? Sometimes it is apparent what the organisation's core business is. Coca Cola for example, which has a high profile world-wide, is in the business of producing non-alcoholic beverages. For other organisations it is not always straightforward. How can you find out what an organisation's core business is?

Documents produced at a high level in the organisation are usually a good source of information for determining a company's core business or businesses. **Mission statements**, **strategic goals** and **organisation charts** are good examples of these.

- **Mission statement** states the main purpose of the organisation and usually incorporates its financial, social and/or environmental goals.
- **Organisation charts** can provide a graphical representation of the business in terms of how it is organised to fulfil its core business.

Elaborate broad understanding of organizational systems and functions

Understanding an organisation's core business helps to put into context the business itself. With this in mind we can begin to look at the various areas that an organisation consists of. All businesses perform basic business functions such as:

- producing a product or service
- selling
- marketing
- accounting
- Managing its human resources.

This is usually the case regardless of its size. In small operations, one person may perform all the basic business functions. Larger organisations may be organised around the business functions. Information technology is another function of business that is becoming commonplace. As well as these basic business functions some organisations perform functions that are common to a few or unique to it alone. Research and development, legal consultancy and special projects are some examples these.

LU-2: Identify possible Solutions

Outline communication skills according to the type of audience

Formal lines of communication are another aspect that is depicted in an organisation chart. This has significance when analysing the requirements for a given area within an organisation and how it interacts with other departments. This needs to be interpreted from an informal perspective as well as a formal one.

Describe the ways to develop critical thinking

5 Ways to Improve Your Critical Thinking Skills

- 1. Formulate **the** question (DEFINE)
- 2. Gather information (DISCOVER, DREAM)
- 3. Apply **the** information (DESIGN, DELIVER)
- 4. Consider **the** implications (DEBRIEF, DISCOVER, DESIGN)
- 5. Explore other points of view (DEBRIEF)

Practical Activity # 1/1

Case Study - ABC customer report a problem regarding envelop pasting, there were order of 2000 envelop and out of which 500 envelop are not pasted properly and the documents are falling out

Solve problems at work place			oblems at work place	
Module: 5	Learning Unit: 1 & 2		nalyze the problem entify possible Solutions	
	Practical Description:	regarding 2000 env	dy - ABC customer report a problem envelop pasting, there were order of elop and out of which 500 envelop are not operly and the documents are falling out	
Time:			5 hours	
Equipment	N/A			
Tools	N/A			
PPE	N/A			
	Flip Chart, Pen,	Pencil, Pa	aper , Note book	
Materials				
Key Point	N/A			
Learning Outcome:	 Evaluate issues/concerns based on data gathered. Identify possible causes of problem within the area of responsibility as based on experience Use problem solving tools/analytical techniques. Develop possible cause statements based on findings. Use analogies to support reasoning. Identify cause and effects based on the criteria or information provided to support reasoning 			
Precautions: N/A				
Instructions Illustrati			Illustrations	
Evaluate issues/concerns based on data gathered.		ed on	EVALUATE	

 Identify possible causes of problem within the area of responsibility as based on experience



- 3. Use problem solving tools/analytical techniques.
- Develop possible cause statements based on findings.



- 5. Use analogies to support reasoning.
- Identify cause and effects based on the criteria or information provided to support reasoning









Perform SWOT (Strength & weaknesses) analysis



8. Evaluate Past experience



9. Take Corrective measures to solve the problem



LU-3: Recommend solution to higher management

Explain methods and techniques for decision making within a limited range of options

According to Patterson, Grenny, McMillan, and Switzler, there's four common ways of making decisions:

- Command decisions are made with no involvement.
- Consult invite input from others.
- Vote discuss options and then call for a vote.
- Consensus talk until everyone agrees to one decision.

Describe general customer service skills

The most common customer service skills

- 1. Patience. Patience is crucial for customer service professionals. ...
- 2. Attentiveness. ...
- 3. Ability to **communicate** clearly. ...
- 4. Knowledge of the product. ...
- 5. Ability to use positive language. ...
- 6. Acting skills. ...
- 7. Time management skills. ...
- 8. Ability to read customers.
- 9. Unflappability
- Goal-oriented focus
- 11. Ability to handle surprises
- 12. Persuasion skills
- 13. Tenacity
- 14. Closing ability
- 15. Empathy
- 16. Willingness to learn

Explain the methods of questioning and active listening employed to clarify general information

There are a range of question types that can be used for different purposes. Some questions provide structure, others direct flow, and some help us to reach closure. Question types include:

- Open questions: to gather information and facts, for example "What are your concerns and worries about this situation?"
- Probing questions, to gain additional detail, e.g. "Can you explain why that matters?"
- Hypothetical questions, to suggest an approach or introduce new ideas. An example might be "If you could get additional funding or resources, how might that help?"
- Reflective questions, to check understanding, such as "So would you priorities the most critical areas for attention first and make sure that everyone knew what was most important?"
- Leading questions, to help a person reach a conclusion or have an 'idea' that you feel will be beneficial; a few well planned questions can very often lead the person towards the idea and instead of responding to your request, they have their idea of how to help you be more successful.
- Deflective questions to defuse an aggressive or defiant situation by redirecting the force of the other person's attack instead of facing it head-on. 'Attacks' are synonymous with dissatisfaction, insubordination or resistance and prevent you from moving forward. Dealing with a strong objection by responding with similar force creates conflict. Deflective questions help to transform the negative situation into a collaborative problem-solving6 occasion. Some examples include: o
 - Dissatisfaction: I'm not happy with this project!
 - Response: What can WE do to make it right?
 - Insubordination: I have major concerns. I won't do it!
 - Response: How can WE address your concerns?
 - Resistance: I disagree with the approach!
 - Response: If you were to do it, what would be your approach?
- Closing questions, to bring agreement, commitment and conclusion, e.g. "When will you talk to your team and the client about this?"

Questions are not neutral:

- Asking 'leading questions' when you are seeking information closes off options;
- Whereas asking 'open questions' when you are intending to move a person towards the conclusion you want them to reach can be counterproductive.

Hypothetical, reflective and leading questions help generate ideas, motivate people and develop insights, they are particularly useful when leading knowledge workers. Other question sets are designed to gather information. To be effective, you need to know the objectives of the questions you are asking and then design the questions to support the objective.

LU-4: Implement solution

Elaborate problem solving tools:

Cause/effect

Cause and Effect Analysis is a technique that helps you identify all the likely causes of a problem. This means that you can find and fix the main cause, first time around, without the problem running on and on

o Pareto

Pareto Analysis is a simple technique for prioritizing problem-solving work so that the first piece of work you do resolves the greatest number of problems. It's based on the Pareto Principle (also known as the 80/20 Rule) – the idea that 80 percent of problems may be caused by as few as 20 percent of causes.

Multi criteria matrix

A criteria matrix is a valuable decision-making tool that is used to assess and rank a list of options based on specific criteria. For example, the simplest criteria matrix will compare the Pros and Cons of each option



LU-5: Evaluate/monitor results and outcome

Explain the ways to improve teamwork in reference to personal responsibility



If you want your employees to work together and produce great results, here are some tips to improve teamwork within your organization.

- 1. Encourage Informal Social Events. ...
- 2. Clarify Roles. ...
- 3. Specify Goals. ...
- 4. Reward Excellent Teamwork. ...
- 5. Don't Micro-manage. ...
- 6. Establish Effective Communications. ...
- 7. Celebrate Individuality.
- 8. Use Project Management Tools
- 9. Get Feedback From Everyone
- 10. Hire Wisely



Explain the ways of time management and planning

10 Practical Ways to Improve Your Time Management Skills



- 1. Delegate Tasks. It is common for all of us to take more tasks than our desired potential. ...
- 2. Prioritize Work. Before the start of the day, make a list of tasks that need your immediate attention. ...
- 3. Schedule Tasks. ...
- 4. Set up Deadlines. ...
- 5. Overcome Procrastination. ...
- 6. Deal with Stress Wisely. ...
- 7. Avoid Multitasking. ...
- 8. Start Early.
- 9. Take Regular Breaks
- 10. Learn to Say No

Practical Activity # 1/1

Prepare report and implement solution

	Solve problems at work place		
Module: 5	Learning Unit: 3, 4 & 5 Recommend solution to higher management solution Implement solution Evaluate/monitor results and outcome		
	Practical Description:	Prepare report and implement solution	
Time:		5 hours	
Equipment	N/A		
Tools	N/A		
PPE	N/A		
	Flip Chart, Pen, Pencil, Paper, Note book		
Materials			
Key Point	Prepare report	and implement solution	
	Prepare report or documentation		
Learning Outcome:	Present recommendations to appropriate personnel.		
	Follow up re	ecommendations	
Precautions:	N/A		
Instructions	Instructions Illustrations		
Prepare repor	t	Man	

2. Present report to appropriate personnel



3. Prepare plan to solve the issue



4. Implement solution



5. Monitor the activity as per plan



Summary of the Module

Problem solving is the art in resolving conflicts at workplace. Here, following point were discussed and explained to make understand the problem solving techniques.

- Analyse the problem
- Identify possible Solutions
- Recommend solution to higher management
- Implement solution
- Evaluate/monitor results and outcome

With the help of above mentioned point student can analyse the ways how problem can be asses and how we can resolve the problem in any organization or at any workplace. And we also have explained an effective problem-solving process.

Frequently Asked Questions (FAQs)

Question	Answer	
What are the techniques of problem solving?	 Identify the issues. Be clear about what the problem is Understand everyone's interests List the possible solutions (options) Evaluate the options Select an option or options Document the agreement(s) Agree on contingencies, monitoring, and evaluation 	
What are the 7 steps to problem solving?	 Step 1: Identifying the Problem. Ask yourself what the problem is Step 2: Defining Goals Step 3: Brainstorming Step 4: Assessing Alternatives Step 5: Choosing the Solution Step 6: Active Execution of the Chosen Solution Step 7: Evaluation. 	
3) What is creative problem solving techniques?	Creative problem solving (CPS) is a way of solving problems or identifying opportunities when conventional thinking has failed. It encourages you to find fresh perspectives and come up with innovative solutions, so that you can formulate a plan to overcome obstacles and reach your goals.	
4) What is a problem solving model?	After you have the problem defined, the model leads you through analyzing data you gather about the process, determining the root cause of the problem , and identifying possible solutions to the problem The problem-solving model , introduced below, incorporates an effective set of skills into a step-by-step process.	
5) Why is problem solving important?	Problem-solving is important both to individuals and organizations because it enables us to exert control over our environment Problem-solving gives us a mechanism for identifying these things, figuring out why they are broken and determining a course of action to fix them.	

Self-Assessment

(MCQs)

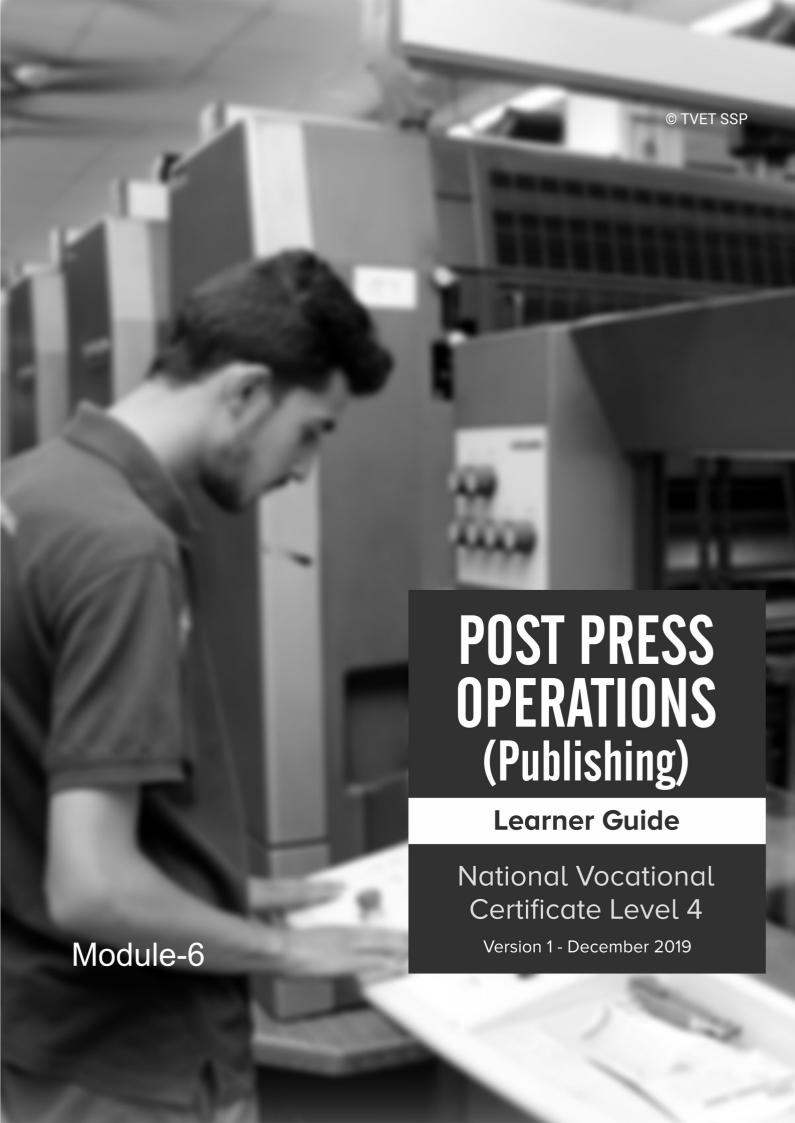
Please mark the correct one from the given options. You can check your answer with the Answer Key at the end of this module

- Q 1. What is the first step of solving a problem?
 - a) Identify the problem
 - b) Prepare alternative
 - c) Take decision
 - d) None of the above
- Q 2. When an employee leave work due to low wage, is it a cause or effect?
 - a) Effect
 - b) Cause
- Q 3. What is not the communication skills?
 - a) Listening
 - b) Delegating
 - c) Meeting
 - d) Non-verbal communication
- Q 4. It is important to complete paper work after every operations?
 - a) True
 - b) False
- Q 5. Who should you contact if you have a recommendation to improve work process?
 - a) Supervisor
 - b) CEO
 - c) Sales Dept.
 - d) Marketing dept.
- Q 6. What is SWOT?
 - a) Strength, Weakness, Opportunity, Threats
- Q 7. The first step when making a plan is?
 - a) To-do-list
 - b) Prioritized options

- c) Take decision
- d) None of the above
- Q 8. For a team, goals are?
 - a) Individual
 - b) Not assigned
 - c) Collective
 - d) As per policy
- Q 9. What is active listening?
 - To pay full attention to someone's voice to get a clear message
 - b) Listening to Radio
 - c) Listening current affairs.
 - d) None of above
- Q 10. Decision making matrix has two dimensions?
 - a) Options and factors
 - b) Cause and effect
 - d) Cost & revenue
 - c) None of the above

Answer Key

MCQ No.	Correct Answer
1	Α
2	Α
3	С
4	A
5	A
6	A
7	A
8	С
9	A
10	A



Module 6: - Develop communication skills

Learning Unit:

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

LU1: Make telephone calls

LU2: Instruct labors

LU3: Communicate with supervisor

LU4: Maintain relations with people

Learning Unit 1-:

LU-1: Make Telephone Calls

Overview:

With regular phone calls you can know what products a potential customer is interested in, what are their objectives, what do they expect from you and if it results in a conversion. These information will help marketers and business owners to better understand the quality of their customers

Concentrate on commands/speeches

Here are two techniques that will enable you to speak clearly when you're talking to someone on the phone.

- a) Speak in phrases. When speaking on the phone, be sure to slow down. The best way to slow down is to speak in phrases. ...
- Use the correct intonation. When talking on the phone, you're usually asking questions.

Record information about enquiry or complaint as per company's practice

Collecting and storing customer information

Collecting and storing information about customers is essential to tailoring your customer service program and growing your business. However, there are legal requirements regarding what you can do with the information you have collected.

Privacy

Any customer information that you collect must comply with privacy laws, whether you use this information or not. The laws also cover how you can store and use the information.

Learn more about protecting privacy and information.

Collecting information

When collecting information about customers, try to find out what your customers are buying, why they are buying, and how often they are buying. Include any potential customers who have made enquiries about your goods or services.

There are many ways to collect information on your customers, including:

- order forms
- enquiries
- complaints
- warranty cards
- · customer rewards programs
- · customer satisfaction surveys
- feedback cards
- customer competitions
- · your website.

Identify factors required to communicate effectively and precisely within same organization

Factors that enhance effective communication

- Active listening.
- · Simplicity.
- Straight forwardness.
- Feedback.
- Speaking clearly/articulation.
- Knowledge of the receiver / audience.
- · Speed and sequence of speech.
- Relationship between the sender and the receiver

> Enlist elements required to deal with vendors and the other organizations

Your third party supplier contract should contain an adequate and measurable service level agreement (SLA). Your vendor contract should include minimum service level requirements along with any remedies for failure to meet such standards, Functionality and availability the vendor is committed to providing

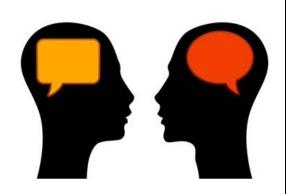
Practical Activity # 1/1

	Develop communication skills			
Module: 6	Learning Unit: 1	Make te	elephone calls	
	Practical Description:	Make tel	ephone calls as per standard practice	
Time:			4 hours	
Equipment	N/A			
Tools	N/A			
PPE	N/A			
Materials	Flip Chart, Pen, Pencil, Paper, Telephone set			
Key Point	Keep maintain i	norms of t	elephone calls.	
Learning Outcome:	 Determine communication styles Investigate issue /problem through relevant questions Demonstrate courteous behavior while listen to the people Perform phone conversation applying time management concisely 			
Precautions: N/A				
Instructions	Instructions		Illustrations	
Determine communication styles:		es:		
Every person has a				
unique communication style, learner		learner		
should know how to interact and		act and		
exchange information with others.				

Learner should know how to ask the right question; Learner should be able to determine question to ask & not to ask.



3. Learner should be polite when listening someone.



4. Learner able to manage his time when talking on phone.



Learning Unit 2-:

LU-2: Describe methods to overcome the sentiment

Overview: sentiment can be defined as an attitude, thought or judgment prompted by feelings or a specific view or opinion.

> Describe methods to overcome the sentiment.

Tracking customer sentiment helps give insight into how customers feel about your brand. The more you listen to how your customers feel about recommending your company, giving you a rating, engaging with you on social channels, and giving you direct feedback, the more customer love everyone is sure to feel. Win-win.

Opt language which labor could understand elegantly.

- Have you heard the idiomatic expression, "like a deer in headlights?"
- To feel like a deer in headlights means to be so frightened or surprised that you can't think, move, or speak. Have you ever felt like a deer in headlights when speaking English?
- Sometimes this feeling is especially common when we don't understand another person. Maybe they used a new word. Maybe it was their accent or how fast the spoke. Maybe it's a new situation and you're feeling nervous
- So it is better to opt language which labor could understand elegantly (National/regional language is recommended)

Practical Activity # 1/1

	Develop communication skills		
Module: 6	Learning Unit: 2	Instruct	labors
	Practical Description:	Instruct I	abor as per standard.
Time:			4 hours
Equipment	N/A		
Tools	N/A		
PPE	N/A		
Materials	Flip Chart, Pen, Pencil, Paper		
Key Point	N/A		
Learning Outcome:	 Display body language while communicating to a customer to show attention Communicate within department as per SOPs. Opt language for commanding 		
Precautions:	N/A		
Instructions			Illustrations
Learner able to use body language while communicating to a customer to show attention.		-	物学个

2. Learner should able to understanding of communication according to SOPs of the organization.



3. Learner able to opt out language for commanding.



Learning Unit 3-:

LU-3: Communicate with supervisor

Overview:

Corporate communication is a crucial element in the success of business operations. A big challenge, when it comes to internal communication within an organization, is communicating with top-level management.

While business communication tools (via technology) save time, energy, and money, it may still be necessary to learn how to communicate effectively with your supervisor.

Adapt strategy to produce the quality of outcomes required

Strategies for effective verbal communication

- o Focus on the issue, not the person. ...
- Be genuine rather than manipulative. ...
- Empathize rather than remain detached. ...
- Be flexible towards others. ...
- o Value yourself and your own experiences. ...
- Use affirming responses.

> Describe importance of accurate communication

Accuracy in communication is one of the most critical communication skills. It sounds so obvious and simple! Yet this essential aspect of communication is often overlooked. The impact can be massive. For better or worse. This applies to both verbal and written communications.

Accuracy in communication puts you on the same page. Your message is clearly and accurately delivered. It is clearly and accurately received. The possibility of misunderstandings, misinterpretations and even poor decisions, is radically reduced.

An initial misunderstanding can quickly and easily escalate into a critical incident. Many people have paid a high price for not checking the accuracy of facts, instructions and interpretations. Even one initial inaccuracy can cause irreparable damage. Careers and reputations have been damaged. Key relationships and friendships have been eroded. Lives have been sacrificed. All because of some inaccuracy in communication which could have been avoided.

In 1983 an Air Canada flight reportedly ran out of fuel midflight because the crew confused pounds and kilograms while fueling the aircraft. Tragedy was only averted because the plane was able to make an emergency landing. You have probably heard

stories of parents being given the wrong baby in hospital. Or cases where tragic mistakes have been made in surgery or medical diagnoses.

Practical Activity # 1/1

	Develop communication skills		
Module: 6	Learning Unit: 3	Commu	nicate with supervisor
	Practical Description:	Commu	nicate with supervisor as per standard.
Time:			5 hours
Equipment	N/A		
Tools	N/A		
PPE	N/A		
Materials	Flip Chart, Pen, Pencil, Paper		
Key Point	N/A		
	Develop a strategy for using communication skills		
	Convey ideas to the supervisor precisely		
Learning Outcome:	Report safety hazards to supervisor urgently		
	4. Maintain good working relation with supervisor		
Precautions:	N/A		
Instructions	Instructions		Illustrations
Learner able to develop strategy for using communication skills		gy for	Communication Strategies

2. Learner should able to communicate with supervisor precisely.



Learner able to report safety hazards to supervisor urgently



4. Learner able to maintain good working relationship with supervisor



Learning Unit 4-:

LU-4: Maintain relations with people

Overview:

Defining a Good *Relationship* If you trust the *people* you work with, you can be open and honest in your thoughts and actions, and you don't have to waste time and energy "watching your back." Mutual Respect – When you respect the *people* who you work with, you value their input and ideas, and they value yours

Write work reports

Rules for Drafting a Work Report

- Use a cover or title page. ...
- o Provide an executive summary detailing the key information. ...
- o Include a table of contents listing what's in your report. ...
- Write an introduction to provide an overview of the report. ...
- Explain the results or conclusions you're presenting

> Fill indent form

Material indent form is simple listing of the material requirements which is store department property but filled by user department as and when required. For the material indent form sample format given as below:

- I. Product / material name
- II. Required Quantity
- III. U.O.M Unit of measurement
- IV. Expected date of receiving.
- V. Remarks if any technical or any other details are needs.
- VI. Required for / purpose of indented the material.

Maintain work history

Your **work history**, also known as your **work** record or employment **history**, is a detailed report of all the jobs you have held, including the company name, job title, and dates **of employment**.

When You Need to Provide Your Career History

When you apply for jobs, companies typically require that applicants provide their work history, either on their resume or on a job application, or both. The job application may ask for information on your most recent jobs, typically two to five positions. Or, the employer may ask for a number of years of experience, typically five to ten years of experience.

Employers generally want information on the company you worked for, your job title, and the dates you were employed there. However, sometimes the employer will ask for a more detailed employment history and more information on the jobs you have held as part of the hiring process. For example, they might ask for the name and contact information for your previous supervisors

Give advantages of maintaining good occupational relations with printing industry people

Organizations that invest in good employee relations, however, can witness numerous benefits.

- Growth and Development.
- Reduction in Turnover.
- Employees Have Extensive Knowledge of Company Practices.
- Enhanced Motivation.
- Increase in Revenue.
- o Conflict Reduction.
- Employee Loyalty.

Practical Activity # 1/1

	Develop communication skills		
Module: 6	Learning Unit: 4	Maintair	n relations with people
	Practical Description:	Maintain	relations with people
Time:			2 hours
Equipment	N/A		
Tools	N/A		
PPE	N/A		
Materials	Flip Chart, Pen, Pencil, Paper, Note book		
Key Point	N/A		
	Communication with other departments.		
	Communicate effectively with colleagues, peers, the		
l	Community, other related personnel to exchange information.		
Learning Outcome:	Interact with other professionals through effective teamwork.		
	4. Enlist names and address of printing press related people		
	and organization.		
Precautions:	N/A		
Instructions	Instructions		Illustrations
Learner able to communicate with other departments.		e with	

 Learner able to communicate with colleagues, peers, the Community, other related personnel to exchange information.



Learner able to interact with other professionals through effective teamwork.



4. Learner should able to enlist names and address of printing press related people and organization.



Summary of the Module

Effective communication skills are fundamental to success in many aspects of life. Many jobs require strong communication skills. People with good communication skills also usually enjoy better interpersonal relationships with friends and family.

Effective communication is therefore a key interpersonal skill and learning how to improve your communication has many benefits. However, many people find it difficult to know where to start. This page sets out the most common 'problem areas' and suggests where you might focus your attention.

Here are the 9 Tips for Improving Your Communication Skills:

- a) Make **communication** a priority.
- b) Simplify and stay on message.
- c) Engage your listeners or readers.
- d) Take time to respond.
- e) Make sure you are understood.
- f) **Develop** your listening **skills**, too.
- g) Body language is important.
- h) Maintain eye contact.

Frequently Asked Questions (FAQs)

	Question	Answer
1.	Proper nouns always begin withletters	Ans: Capital Letter
2.	Why is effective communication important	The ability to communicate is an essential life skill and one that can be continually developed
3.	What communication styles are there?	Each person's communication style is a unique combination of their own innate skills and those learnt both formally and through experience
4.	What is active listening?	Active listening is a straightforward technique that you can use to improve your communication skills. It involves listening for meaning, in a neutral and non-judgmental way.
5.	What questioning skills are used in active listening?	Questions can help you to focus attention, elicit new ideas, encourage exploration, and foster commitment. There are seven different types of question you can use: open, probing, closed, reflective, leading, hypothetical, and paraphrasing.

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

(<i>F</i> (E (C	Communication is a nonstop A) paper B) process C) program D) plan
(<i>F</i> (E (C	Communication is a part of skills. A) soft B) Hard C) Rough D) Short
(<i>F</i> (E (C	The is the person who transmits the message. A) receiver B) Driver C) Sender O) cleaner
m (<i>A</i> (E (C	is the person who notices and decodes and attaches some eaning to a message. A) receiver B) Driver C) Sender O) cleaner
(<i>F</i> (E (C	Message is any signal that triggers the response of a A) receiver B) Driver C) Sender D) cleaner
(<i>F</i> (E	The response to a sender's message is called A) Food bank B) Feedback C) Food D) Back

Q T	7 receiver (A) social (B) Physical (C) Cultural (D) Chronological	context refers to the relationship between the sender and the
Q 8	3	
Q s	P re (A) Nonsense (B) Noise (C) Nowhere (D) Nobody	fers to all these factors that disrupt the communication.
Q ·	10. Environmenta (A) Physiological (B) Psychological (C) physical (D) Sociological	I barriers are the same as noise.

Answer Key

MCQ No.	Correct Answer
1	В
2	Α
3	С
4	A
5	A
6	В
7	Α
8	D
9	В
10	С

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