

DEPARTMENT OF EDUCATION- NATIONAL CAPITAL
REGION SCHOOLS DIVISION OF PASAY CITY

MODULE IN TLE 9 (COMPUTER SYSTEM SERVICING)
Second Grading / Week 5

Name of Student: _____

Name of Teacher: _____

Grade and Section: _____

WEEK 5: PREPARING AND INTERPRETING
TECHNICAL DRAWING



EXPECTATIONS

This module contains unit of competency on “PREPARING AND INTERPRETING TECHNICAL DRAWING (PITD)” This covers the knowledge, skills, attitudes, and values needed in preparing and interpreting technical drawing.

At the end of this module, you are expected to:

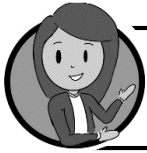
- identify the different types of technical drawing; and select technical drawing in accordance with the job requirement.



PRETEST

Directions: Match items on column A with column B. Write your answers on your answer sheet.

COLUMN A	COLUMN B
1. It is a picture that represents the components of a process, device, or other object using abstract. It is often standardized symbols and lines.	A. Block Diagram
2. It is an act or discipline of creating models or plans to build something through designs.	B. Floor Plan
3. It is a graphical representation of decisions and their results mapped out in individual shapes.	C. Flowchart
4. It is a visual representation of how parts of an object relate to each other and work together.	D. Schematic Diagram
5. It is a scaled diagram of a room or building viewed from above.	E. Technical Drawing



LOOKING BACK

In the previous lesson, you have learned the different components to be measured, carry out measurements, and calculations, and maintaining measuring instruments. Before you proceed to our new topic, let us recall different components to be measured.

Directions: List down atleast (2) two different components and their unit of measurement.

1. _____
2. _____



BRIEF INTRODUCTION

ACTIVITY 1

Design a simple model or drawing of your own facemask or face shield that will be fashionable and safe at the same time.

Show your drawing to any person around your house. Are they able to understand your drawing when they examine it?

As a computer technician, one of the important competencies that you must have is the ability to prepare and interpret technical drawings.



REMEMBER

Technical Drawing is an act or discipline of creating models or plans to build something through designs. It includes blueprints, schematics, and diagrams that communicate how to construct a product, device, machine, highway, or home. They also include sketches and 2D- and 3D-models that represent the appearance of a completed project.

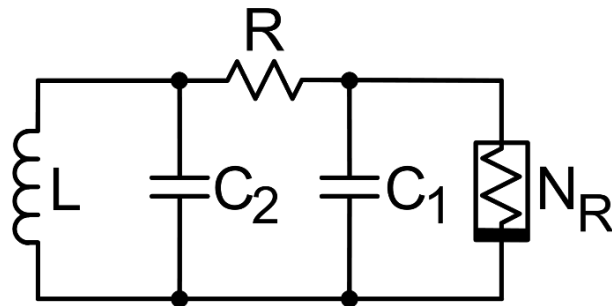
Technical drawings are used widely throughout many industries by professionals including architects, engineers, CAD Technicians, product designers, and mathematicians.

Types of Technical Drawing

A. Schematic Diagram

A schematic is defined as a picture that shows something in a simple way, using symbols. A schematic diagram is a picture that represents the components of a process, device, or other object using abstract, often standardized symbols and lines.

Schematic diagrams are widely used in electrical drawing. The main purpose of a schematic diagram is to emphasize circuit elements and how their functions relate to each other.

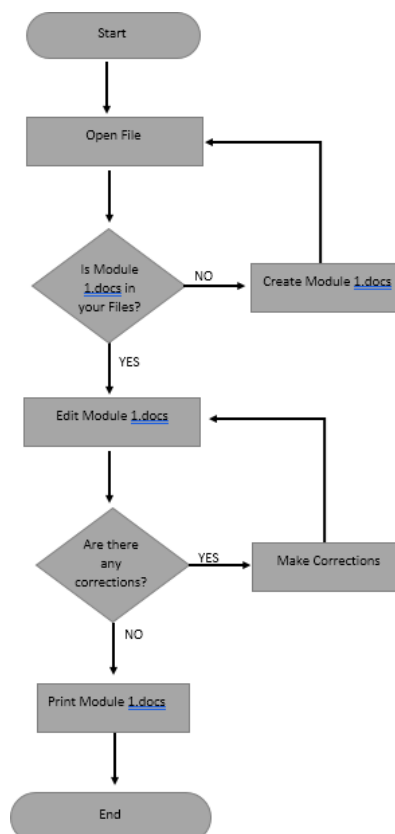


B. Charts

In general, a chart is a graphical representation of data. Charts allow users to see what the results of data to better understand and predict current and future data

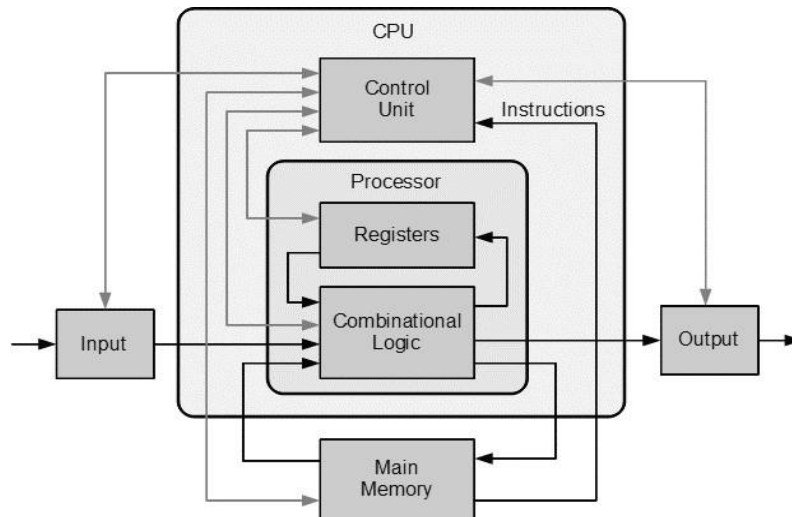
A flowchart is a graphical representation of decisions and their results mapped out in individual shapes

Flowcharts can provide a step-by-step diagram for mapping out complex situations such as programming code or troubleshooting problems with a computer.



C. Block diagrams

A block diagram is a visual representation of how parts of an object relate to each other and work together. It is named as such because blocks represent each piece of the design with lines between them to show their respective relationships.



D. Lay-out Plans

A floor plan is a scaled diagram of a room or building viewed from above. The floor plan may depict an entire building, one floor of a building, or a single room. It may also include measurements, furniture, appliances, or anything else necessary to the purpose of the plan.





CHECKING YOUR UNDERSTANDING

Directions: Write **TRUE** if the statement is correct. if not, **replace the underlined word/s with the correct word/s** to make the statement correct.

_____ 1. A flowchart is a graphical representation of decisions and their results mapped out in individual shapes.

_____ 2. A block diagram is a picture that represents the components of a process, device, or other object using abstract often standardized symbols and lines.

_____ 3. A schematic diagram is a visual representation of how parts of an object relate to each other and work together.

_____ 4. A floor plan is a scaled diagram of a room or building viewed from above.

_____ 5. Technical drawing is an act or discipline of creating models or plans to build something through designs.



POSTTEST

Directions: Read each question carefully. Choose the letter of the best answer and write it on your answer sheet.

1. Which is the act or discipline of creating models or plans to build something through designs?

- A. Technical Ability
- B. Technical Assessment
- C. Technical Drawing
- D. Technical Management

2. Joanna wanted to present a layout of her dream house. Which type of technical drawing should she use?

- A. Block Diagram
- B. Flowchart
- C. Schematic Diagram
- D. Floor Plan

3. Maria is a computer engineer. She was tasked to create a step-by-step diagram of the process in the input and output of the computer data. Which technical drawing should she use?

- C. Block Diagram
- D. Flowchart
- C. Schematic Diagram
- D. Floor Plan

4. Kathrine is an electrical engineer and was tasked to present a picture that represents the components of a process, device, or other object using abstract often standardized symbols and lines. Which appropriate technical drawing should she use?

- C. Block Diagram
- D. Flowchart
- C. Schematic Diagram
- D. Floor Plan

5. Which technical drawing is the visual representation of how parts of an object relate to each other and work together?

- A. Block Diagram
- B. Chart
- C. Schematic Diagram
- D. Floor Plan

WEEK 6: PREPARING AND INTERPRETING TECHNICAL DRAWING



EXPECTATIONS

This module contains unit of competency on “PREPARING AND INTERPRETING TECHNICAL DRAWING (PITD)”. This covers the knowledge, skills, attitudes, and values needed in preparing and interpreting technical drawing.

At the end of this module, you are expected to:

- recognize the elements of flowchart; and
- identify and interpret symbols used in the drawing.



PRETEST

Directions: Read each question carefully. Choose the letter of the best answer and write it on your answer sheet.

1. Which element appears at the start and at the end of a flowchart?
A. Connectors
B. Decision
C. Process
D. Terminator
2. Which element is represented by a diamond?
A. Arrow Lines
B. Decision
C. Delay
D. Sub Process
3. Which element is represented by a rectangle and refers to an action in a business process?
A. Arrow Lines
B. Connectors
C. Process
D. Sub Process
4. Which element is represented by a small circle or a connector box and is labelled using letters?
A. Connectors
B. Decision
C. Sub Process
D. Terminator
5. Which symbol represents the input and output?
A. Lines
B. Oval
C. Parallelogram
D. Triangle



LOOKING BACK

In the previous lesson, you have learned the different types of technical drawing. Before you proceed to our new topic, let us recall different types of technical drawing.

Directions: List down at least (3) three different types of technical drawing.

1. _____
2. _____
3. _____



BRIEF INTRODUCTION

ACTIVITY 1

In this module, you will learn more about the elements of flowchart and right symbols to be used in creating a flowchart.



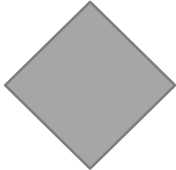
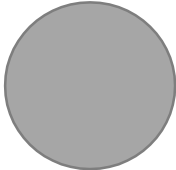
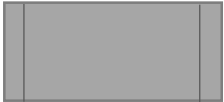
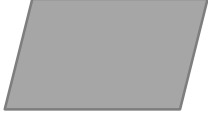
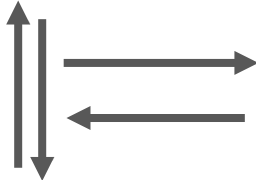

REMEMBER

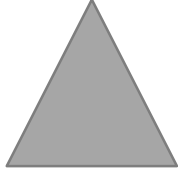
Flowcharts can provide a step-by-step diagram for mapping out complex situations such as programming code or troubleshooting problems with a computer.

Basic Flowchart Symbols

The symbols that are commonly used in flowcharts have specific meanings and are connected by arrows indicating the flow from one step to another.

Elements	Symbol Name and Purpose	Symbols
Terminator	1. Start/Stop - ovals indicate both the starting point and the ending point of the process steps.	
Process	2. Process - a box represents an individual step or activity in the process.	

Decision	3. Decision - a diamond shows a decision point, such as yes/no or go/no-go. Each path emerging from the diamond must be labeled with one of the possible answers.	
Connector	4. Connector - a circle indicates that a particular step is connected to another page or part of the flowchart. A letter placed in the circle clarifies the continuation.	
Sub-process	5. Sub-process - is represented by a rectangle with double lines on each side. A sub-process is a major process that could be broken up into simpler processes developed into another flowchart.	
	6. Input/Output – a parallelogram represents input/output. It represents material or information entering or leaving the process such as customer order (input) or a product (output).	
Arrow Lines	7. Arrow Lines - arrow lines drawn in one direction, preferably from top to bottom, keep a flowchart clear. Avoid arrow lines that loop because this could indicate redundancy in the business process.	
	8. Delay - indicates a delay in the process. For example "Wait 1 day"	

	9. Triangle - a triangle shows where an in-process measurement occurs.	
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When drawing a flowchart, every stage should be listed out in a logical order.

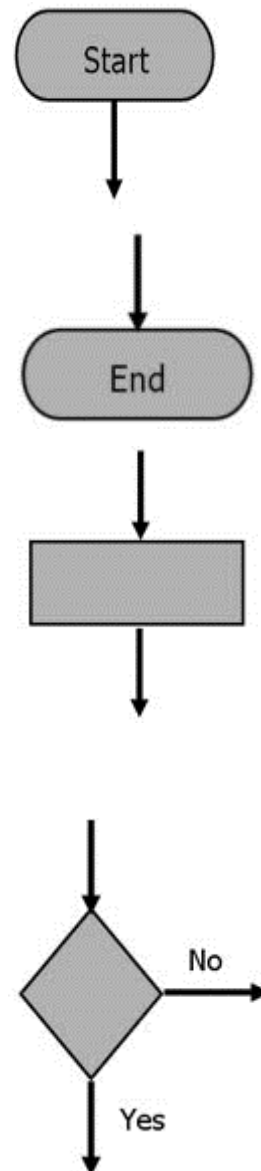
The flowchart should be clear, neat, and easy to follow. There should not be any room for misunderstanding or ambiguity.

Only one flow line is used with a terminal symbol. When starting your flowchart, the flow line leaves the terminal symbol

When completing your flow chart, the flow line enters the terminal symbol

Only one flow line should come out from a process symbol

Only one flow line should enter a decision symbol but two or three flow lines may leave it depending on the options that can be chosen.





CHECKING YOUR UNDERSTANDING

I. Directions: Identify the different elements of flowchart.

_____ 1. It is a process that can answer a decision of "yes" or "no" requires a decision box.

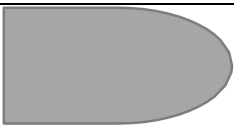


_____ 2. It is drawn in one direction, preferably from top to bottom, keep a flowchart clear.

_____ 3. It is represented by a small circle or a connector box and is labeled using letters.

_____ 4. It is represented by a rectangle.

_____ 5. It appears at the start and at the end of a flowchart.

II. Directions: Complete the table below.

	A. Symbol	B. Meaning
1.		Input
2.		
3.		Decision
4.		
5.		



POSTTEST

Directions: Read each question carefully. Choose the letter of the best answer and write it on your answer sheet.

1. Abigail was starting to create a flowchart. Which symbol should she use at the beginning of her flowchart?



A.



B.



C.

D.



2. Cedrick wanted to indicate that a step is connected to another page or part of the Flowchart?



A.



B.

C.



D.



3. Elly process that can answer a decision of "yes" or "no". Which symbol should she use?



A.



B.

C.



D.



4. Which element of flowchart is represented by a small circle or a connector box and is labeled using letters?

A. Arrow Lines

C. Decision

B. Connector

D. Process

5. Which element of flowchart is represented by a rectangle and refers to an action?

A. Connector

C. Sub Process

B. Process

D. Terminator

WEEK 7: PREPARING AND INTERPRETING TECHNICAL DRAWING



EXPECTATIONS

This module contains unit of competency on “PREPARING AND INTERPRETING TECHNICAL DRAWING (PITD)”. This covers the knowledge, skills, attitudes, and values needed in preparing and interpreting technical drawing.

At the end of this module, you are expected to:

- determine the steps in creating flowchart;
- create a simple flowchart; and
- follow the rules and steps in creating flowchart.



PRETEST

Directions: Arrange the following key steps in developing a flowchart. Use the letters A to F to arrange them.



- _____ 1. Define the process to be flowcharted.
- _____ 2. Put the steps in chronological sequence.
- _____ 3. Establish process boundaries.
- _____ 4. Assemble the right people.
- _____ 5. Assign the flowchart symbol.
- _____ 6. List the steps, activities, and decisions.
- _____ 7. Review and Title the Flowchart.



LOOKING BACK

In the previous lesson, you have learned the different elements and symbols used in creating a flowchart. Before you embark in creating your own flowchart, let us recall the elements and symbols used in creating flowcharts.

Directions: Complete the table below.

Element	Symbol	Purpose
Terminator	1.	2.
3.		4.
5.		It refers to an action in a business process.



BRIEF INTRODUCTION

ACTIVITY 1

Using the basic symbols in flowcharting, create a simple step by step process or flow of activities that you do before you go out in this time of pandemic.

Share your drawing to anyone in your house. Did they understand or identify the activity that you draw?

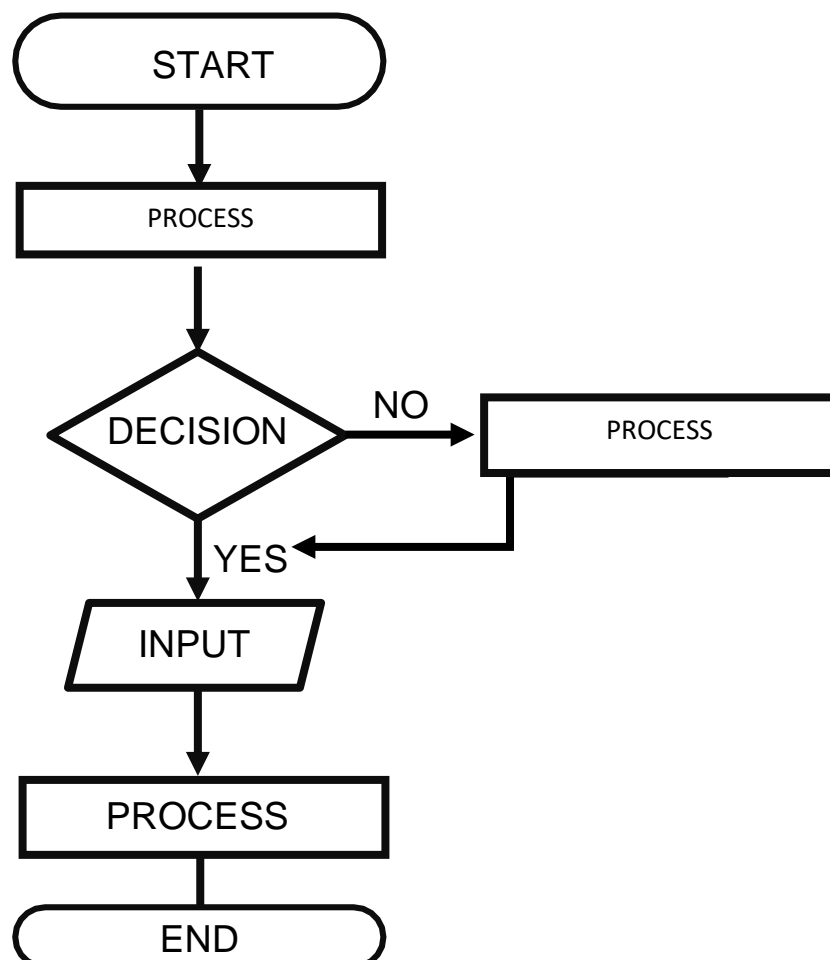
In this module, you will learn more about creating and interpreting a flowchart.



REMEMBER

A Flowchart will help you understand your process and uncover ways to improve and analyze what is happening. It shows the breakdown of a task into all the needed steps.

Each step is represented by a symbol and connecting lines that shows the step-by-step progress. The diagram below shows the basic structure of a flowchart.



Types of Flowchart

1. **Linear Flowchart.** A linear flowchart is a diagram that displays the sequence of work steps that make up a process. This tool can help identify rework and redundant or unnecessary steps within a process.
2. **Deployment Flowchart.** A deployment flowchart shows the actual process flow and identifies the people or groups involved at each step. Horizontal lines define customer-supplier relationships. This type of chart shows where the people or groups fit into the process sequence and how they relate to one another throughout the process.

There are lots of methods for constructing flowcharts that have been described and you can safely use any one of them. Just remember that you start out by doing these things:

- identify the right people to develop the chart.
- determine what you expect to get from the flowchart.
- identify who will use it and how will use it.
- define the level of details you need.
- establish the boundaries of the process to be improved.

It is important that you start by depicting the process exactly how it works, not the way you think it should work. You need to chart the process as it is. Later you can chart it as it is supposed to work or as you would like it to work.

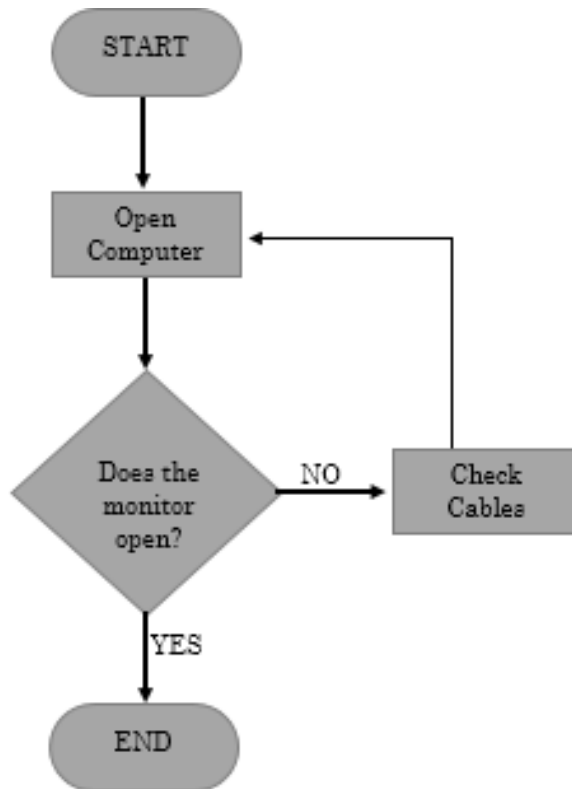
Here are the following key steps in developing a linear flowchart

1. **Define the process to be flowcharted.** The purpose for flowcharting it.
2. **Assemble the right people to develop the flowchart.** Those operators, technicians, or office workers who are involved in the process.
3. **Establish process boundaries.** The starting and ending points.
 - identify the major activities or sub processes that are included in the process.
 - determine what is not included in the scope of the process to remove any doubt or confusion about the boundaries. This may also help establish the scope of related processes.
4. **List the steps, activities, and decisions to be charted.** If your team is not sure about a step, mark it to be investigated later.
5. **Put the steps in chronological sequence.** Sometimes it is easier to start with the last step and work back to the first step.
6. **Assign flowchart symbols** such as boxes, diamonds, and triangles.
7. **Review and title** the flowchart.



CHECKING YOUR UNDERSTANDING

Directions: Using the basic symbols used in the flowchart, make your own simple chart to show the process of “Basic Troubleshooting for Computer Audio Problem”. (Below is the example of Basic Troubleshooting for No Video Output)



POSTTEST

Directions: Read each question carefully. Choose the letter of the best answer and write it on your answer sheet.

1. Lucky was planning to create a flowchart. Which key steps in developing a flowchart should he do first?
 - A. Draw the flowchart.
 - B. Assign flowchart symbols.
 - C. Review and title the flowchart.
 - D. Define the process to be flowcharted.
2. Tiffany is taking notes of the actual steps that is happening in the flowchart that she will create. Which key steps in creating a developing a flowchart does she do?
 - A. Establish process boundaries.
 - B. Put the steps in chronological order.

- C. Assemble the right people to develop the flowchart.
 - D. List the steps, activities, and decisions to be charted.
3. Chelsea is done assigning the flowchart symbols. Which key steps in developing a flowchart should she do next?
- A. Establish process boundaries.
 - B. Review and Title the flowchart.
 - C. Define the process to be flowcharted.
 - D. List the steps, activities, and decisions to be charted.
4. Manny listed the steps, activities, and decisions to be charted. Which should he do next?
- A. Review and Title the flowchart.
 - B. Put the steps in chronological order.
 - C. Assemble the right people to develop the flowchart.
 - D. List the steps, activities, and decisions to be charted.
5. Joshua arrange the steps exactly as how they have occurred. Which steps in developing a successful flowchart did he do?
- A. Establish process boundaries.
 - B. Put the steps in chronological order.
 - C. Assemble the right people to develop the flowchart.
 - D. List the steps, activities, and decisions to be charted.

DEPARTMENT OF EDUCATION- NATIONAL
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MODULE IN TLE 9 (COMPUTER SYSTEM SERVICING)
Second Grading / Week 5

ANSWER SHEET IN TLE 9 COMPUTER SYSTEMS SERVICING

Name: _____ School: _____

Teacher: _____ Grade & Section: _____ Date: _____

PRETEST

1. _____ 2. _____ 3. _____ 4. _____ 5. _____

LOOKING BACK

1. _____
2. _____

BRIEF INTRODUCTION

ACTIVITY: Design a simple model or drawing of your own facemask or face shield that will be fashionable and safe at the same time

CHECKING YOUR UNDERSTANDING

1.
2.
3.
4.
5.

POSTTEST

1. _____ 2. _____ 3. _____ 4. _____ 5. _____

DEPARTMENT OF EDUCATION- NATIONAL CAPITAL
REGION SCHOOLS DIVISION OF PASAY CITY

MODULE IN TLE 9 (COMPUTER SYSTEM SERVICING)
Second Grading / Week 6

ANSWER SHEET IN TLE 9 COMPUTER SYSTEMS SERVICING

Name: _____ School: _____
Teacher: _____ Grade & Section: _____ Date: _____

PRETEST

1. _____ 2. _____ 3. _____ 4. _____ 5. _____

LOOKING BACK


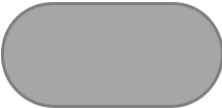

1.
2.
3.

CHECKING YOUR UNDERSTANDING

A.

1. _____
2. _____
3. _____
4. _____
5. _____

B. Complete the table below.

	A. Symbol	B. Meaning
1.		Input
2.		
3.		Decision
4.		
5.		

POSTTEST

1. _____ 2. _____ 3. _____ 4. _____ 5. _____

DEPARTMENT OF EDUCATION- NATIONAL CAPITAL
REGION SCHOOLS DIVISION OF PASAY CITY

MODULE IN TLE 9 (COMPUTER SYSTEM SERVICING)
Second Grading / Week 7

ANSWER SHEET IN TLE 9 COMPUTER SYSTEMS SERVICING

Name: _____ School: _____
Teacher: _____ Grade & Section: _____ Date: _____



PRETEST

Directions: Arrange the following key steps in developing a flowchart. Use the letters A to F to arrange them.

- _____ 1. Define the process to be flowcharted.
- _____ 2. Put the steps in chronological sequence.
- _____ 3. Establish process boundaries
- _____ 4. Assemble the right people
- _____ 5. Assign the flowchart symbol
- _____ 6. List the steps, activities, and decisions
- _____ 7. Review and Title the Flowchart.

LOOKING BACK

Directions: Complete the table below.

Element	Symbol	Purpose
Terminator	1.	2.
3.		
5.		It refers to an action in a business process.

BRIEF INTRODUCTION

Activity:

Using the basic symbols in flowcharting, create a simple step by step process or flow of activities that you do before you go out in this time of pandemic.

CHECKING YOUR UNDERSTANDING

Directions: Using the basic symbols used for flowchart, make your own simple chart to show the process of Basic Troubleshooting for Computer Audio problem. Sample chart is provided in the module as your guide in doing the activity.

POSTTEST

1. _____
2. _____
3. _____
4. _____
5. _____