POLITEKNIK MALAYSIA

KEMENTERIAN PENGAJIAN TINGGI

KOLEJ KOMUNITI MALAYSIA

INVENTORY VALUATION IN MERCHANDISING MATHEMATICS

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PREFACE

Understanding basic Merchandising Mathematics is essential in order to carry in successfulIy the daily operations of a retail business . A good mathematical review is beneficial for sharpening skill and improving handling of calculations with speed and accuracy. Thus inventory valuation topic is clearly a fundamental aspect of Retail Management to outline the concepts and techniques at the heart of effective inventory decision making.

As this is the first time trial of publishing e-book on the particular topic, we can't make claims that this module will be exhaustive by any means. However, we have carefully pieced together what we consider to be the key frameworks and approaches to assist the reader in the better understanding of inventory evaluation and inventory management decision making

Without the great support from Management of Commerce Department of Politeknik Nilai (PNS) , this module would not exist. Having an idea and turning it into module is as hard as it sounds. The experience is both internally challenging and rewarding . AlhamdulilIah for every blessings Allah has given us; hidden and apparent and for everything Allah protected us from, whether we know or not. JazakaIlahulkhair

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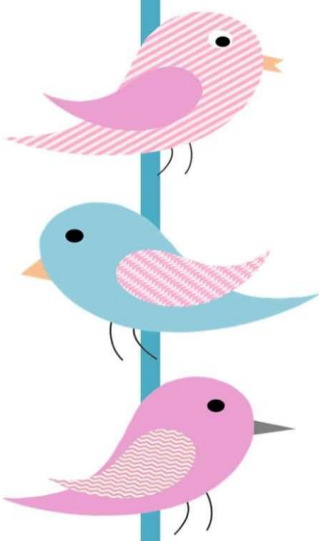
INVENTORY VALUATION IN MERCHANDISING MATHEMATICS

WRITE YOUR OPINION ABOUT MATHEMATICS IN GENERAL



CHAPTER 5

INVENTORY VALUATION IN MERCHANDISING MATHEMATICS

5.1 DESCRIBE THE CONCEPT OF INVENTORY AND ITS TYPES

Concept of Inventory

- Inventory is the components used in production or sales in business.
- Inventory is bought with the purpose to resale.
- Sufficient inventory will ensure profit made and vice versa.

Types of Inventories

There are four types of inventories:

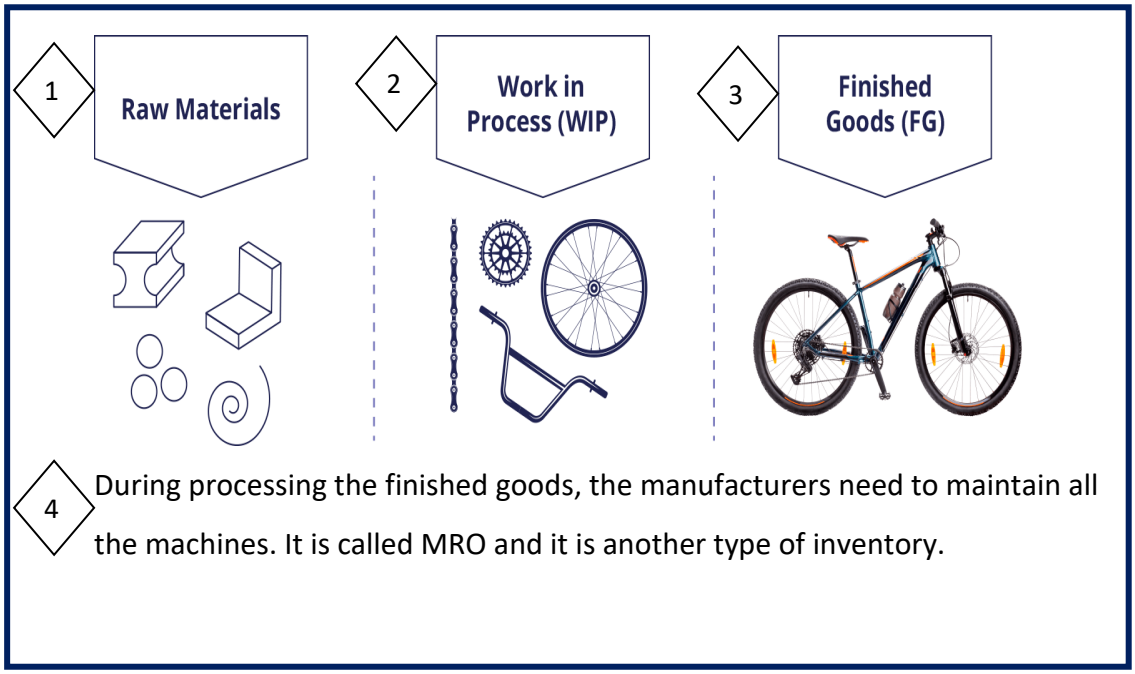


Figure 1: Types of Inventories

The Importance of Inventory

I) Inventory Equals Money

- Money is important for any business to survive.
- Companies that provide services such as audit firm, operates without stock concerns to make money.
- Most business rely on offering items or goods to gain profit
- Stocking inventories are essential to make sales, companies can plan and budget financial expenditures effectively.

ii) Customer Satisfaction and Loyalty

- Adequate stock keeping is very important to meet the customer needs.
- The customer might turn to other providers if the company could not supply the stock as requested and consequently, amount of sales and profit is affected too.

iii) Measuring Company Efficiency

- An efficient business needs to ensure that the stock owns is always sufficient.
- The efficiency of a business can be identified based on cash outflows and cash inflow.
- The fast and quick inventory conversion into cash indicates the efficiency of a transaction in the business.
- High profit could not be earned due to the insufficient stock or inventory to be sold.

5.1.1 State the Various Types of Inventories

Four types of Inventories

Figure 2: Four Types of Inventories

i) Raw Materials

- Basic materials purchased by a manufacturing company from its suppliers.
- Needs to be processed into finished item by applying a set of manufacturing process.

Example:

Flour	Bread
	
	
Metal Scarp Value	Aluminium Ingot

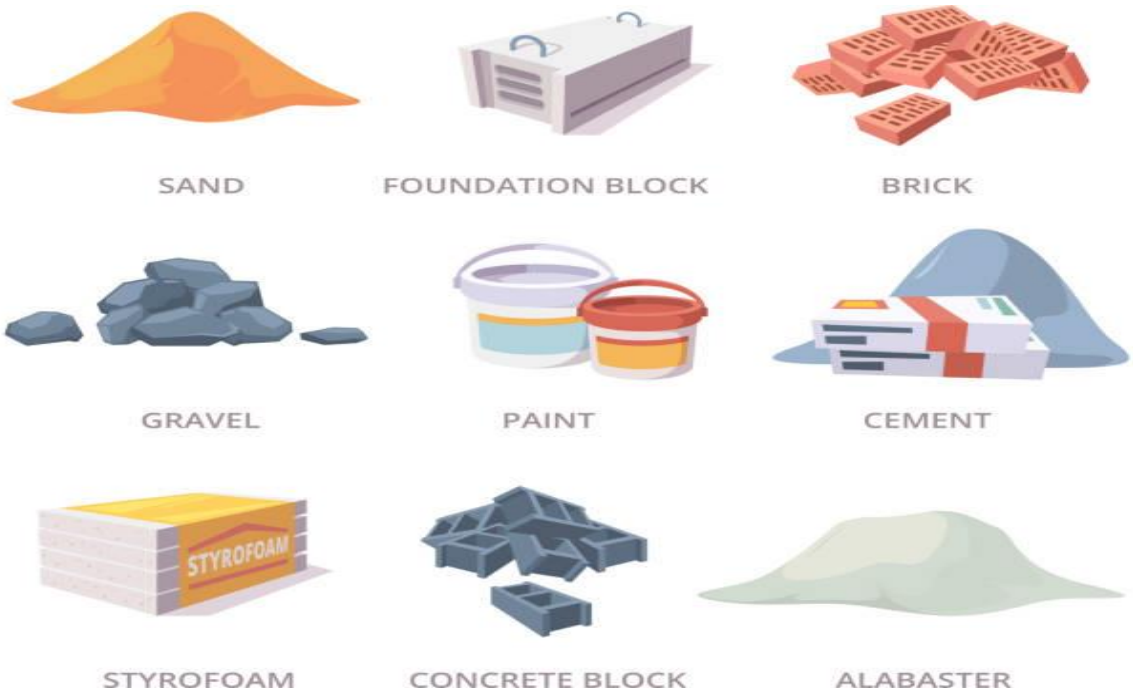


Figure 3: Example of Raw Materials

ii) Work in Progress (WIP)

- Known as semi-finished goods.
- Comes from raw materials, which goes through a process of changing it into finished goods.
- If the inventory is damaged when the goods being processed, it can be sold but it should not be considered as sales revenue by the business.

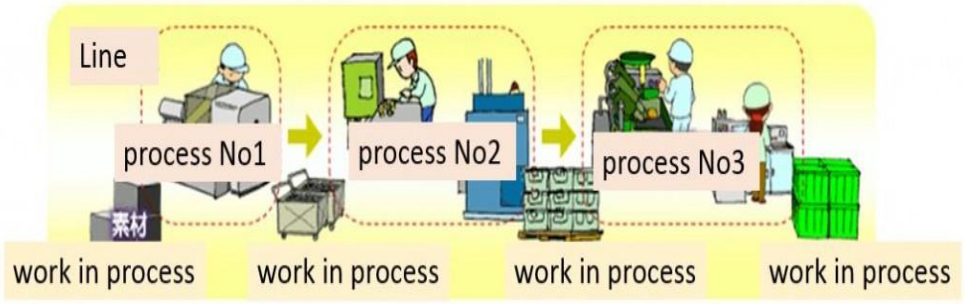


Figure 4: Example of WIP Inventory

iii) Finished Goods

- Finished goods have through all the production process.
- They are ready to be distributed to distributers, wholesalers, or consumers like ready-made cars, computers or televisions.
- The price of finished cost includes everything from the use of bar codes to the delivery of the product to the customers.

Figure 5 : Example of Finished Goods

iv) Maintenance, Repair and Operating goods

- Maintenance, Repair and Operating Supplies
- Support production processes and infrastructure
- Not part of the finished products

/

Figure 6: Example of MRO

5.2 CLARIFY THE INVENTORY VALUATION IN RETAIL

5.2.1 Define the Inventory Valuation

- Inventory or stock valuation is to find out the acquisition value or cost price of the ending stock and must be reported in the financial report at the end of accounting period
- Based on the costs incurred to acquire the inventory, ~~do~~ it convert it into a condition that makes it ready for sale and have it transported into the proper place for sale.
- Any administrative or selling costs are not allowed to add to the cost of inventory.
- Inventory valuation = Freight + Direct Material + Handling + Factory Overhead + Direct Labour + Import Duties

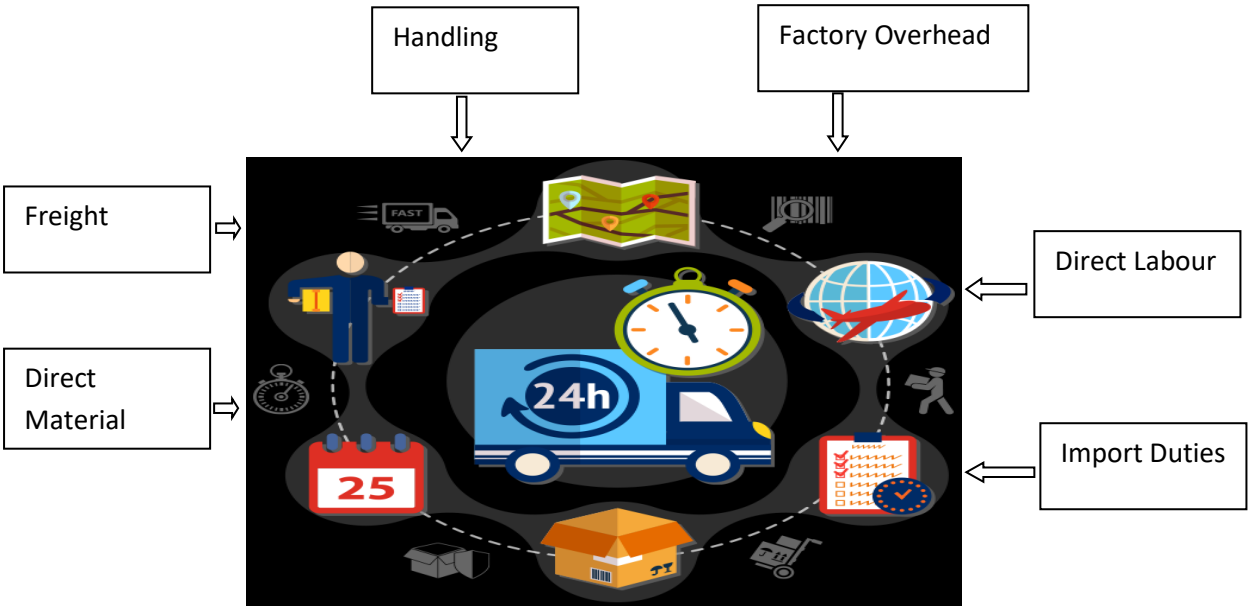


Figure 7: Cost Included In An Inventory Valuation

5.2.2 The Inventory Evaluation System and Method

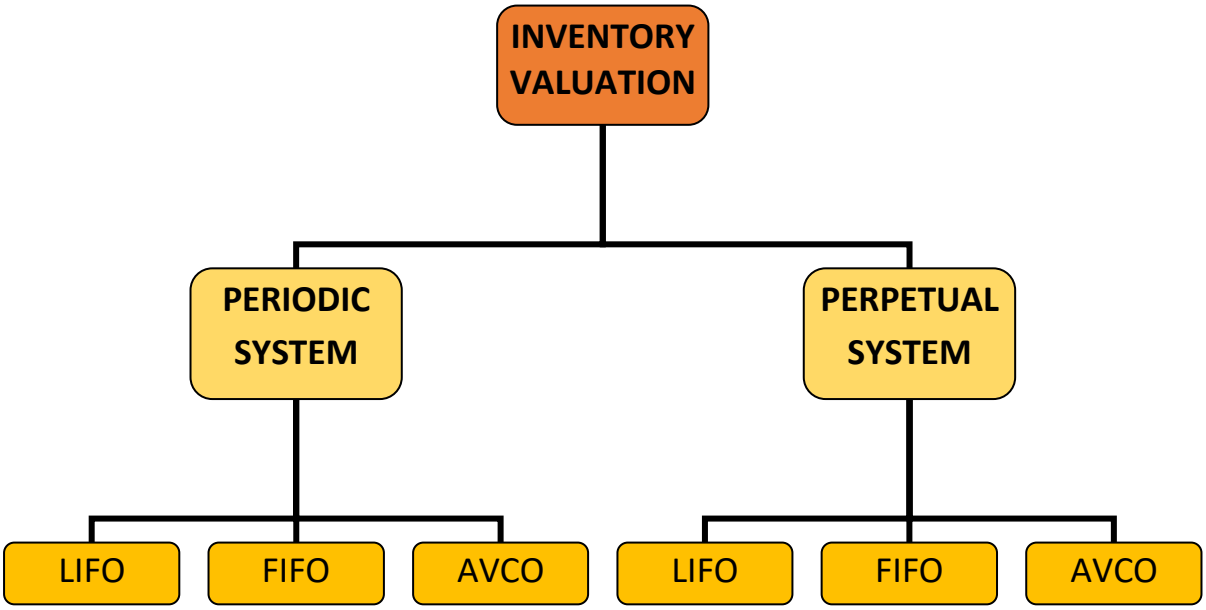


Figure 8: System and Method of Inventory Evaluation

Periodic Inventory System

- Inventory system that values inventory periodically over a fixed duration, generally on a monthly, in quarter or on annual basis**.**
- Accounting records will be compared with the physical inventory balance to investigate whether there are any inconsistencies.
- Using this system, Cost of Goods Sold (COGS) can be calculated.

  COGS = (Opening Stock + Purchase)- Closing Inventories

COST OF GOODS SOLD		
Opening Stock	XX	
(+) Purchased	XX	
Cost of Goods for Sale (COGFS)		**XX**
(-) Closing Stock		(x)
COGS		**XX**

- This system is suitable for business that sells slow moving items and low Stock Keeping Unit (SKU)
- Slow moving item refers to the merchandise that is not a basic commodity to the buyer or customer.
- It involves merchandise that has a low turnover rate and is stored in the store for a long period of time.
- Slow-moving items include the goods that are stored for more than three months and take time to be sold. In contrast to the slow-moving items, the fast-moving items have a high product turnover rate and are sold very quickly.

5.2.3 Describe The FIFO, LIFO, AVCO And Retail Inventory

Method of Valuation

(i) First In First Out (FIFO)

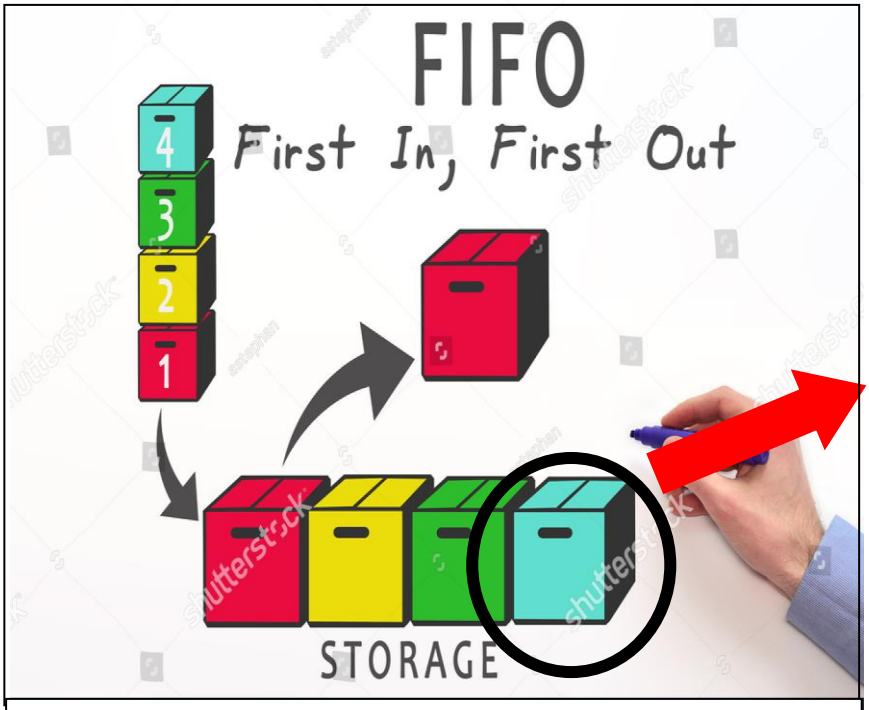


Figure 9: FIFO Method

Remaining ~~inventory~~ inventories refer to items that purchases last

2020	Purchase			Sales		
Month	**Unit**	**RM**	**Total (RM)**	**Unit**	**RM**	**Total (RM)**
April	30	3	90	20	6	120
May	40	4	160	35	8	280
June	50	5	250	28	10	280

FIRST IN

FIRST OUT -Unit sold refers to goods that were purchased in April

ii) Last In First Out LIFO

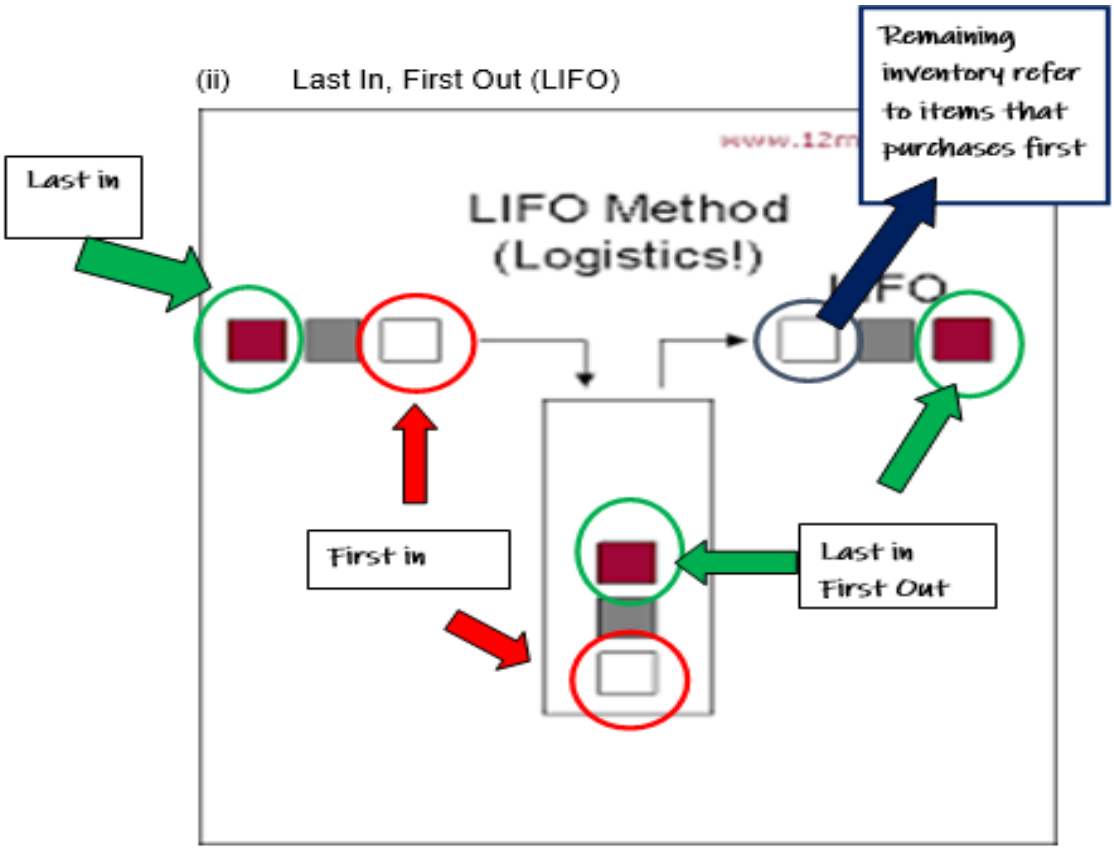


Figure 10 : LIFO Method

	First In
	Last In First Out
	Closing Stock

2020	Purchase			Sales		
Month	Unit	RM	Total (RM)	Unit	RM	Total (RM)
April	30	3	90	20	6	120
May	40	4	160	35	8	280
June	50	5	250	28	10	280
Total	120		500	83		680

LAST IN

FIRST OUT

Figure 11: LIFO Method

(iii) Average Cost of Inventory (**AVCO)**

2020	Purchase			Sales		
Month	**Unit**	**RM**	**Total (RM)**	**Unit**	**RM**	**Total (RM)**
April	30	3	90	20	6	120
May	40	4	160	35	8	280
June	50	5	250	28	10	280
Total	120		500	83		680

Figure 12: AVCO Method

$$\text{AVCO} = \frac{\text{Total Cost of Goods In Inventory (RM)}}{\text{Unit of inventory}}$$

= RM500/1204

= RM4.17

5.2.4 Identify the Steps of FIFO, LIFO, AVCO and Retail Inventory Method of Valuation

Periodic Inventory System

- Inventory valuation is updated at the end of an accounting period rather than after every sale and purchase.
- Stock or inventory calculations are made based on the end of accounting period and are made based on physical calculations.

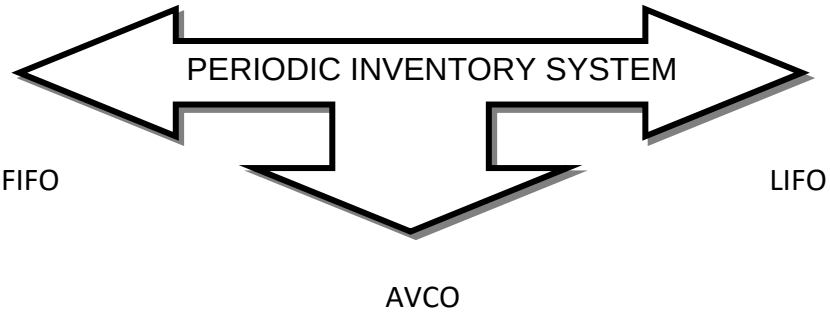


Figure 12: Three types of method under periodic inventory system

Three Method for Periodic Inventory System

i) **First In First Out Method (FIFO)**

- Calculate the inventory for the end of accounting period, and the quantity of inventory on hand (ending inventory) is found by a physical count
- COGS = Beginning inventory + Purchases – Ending inventory

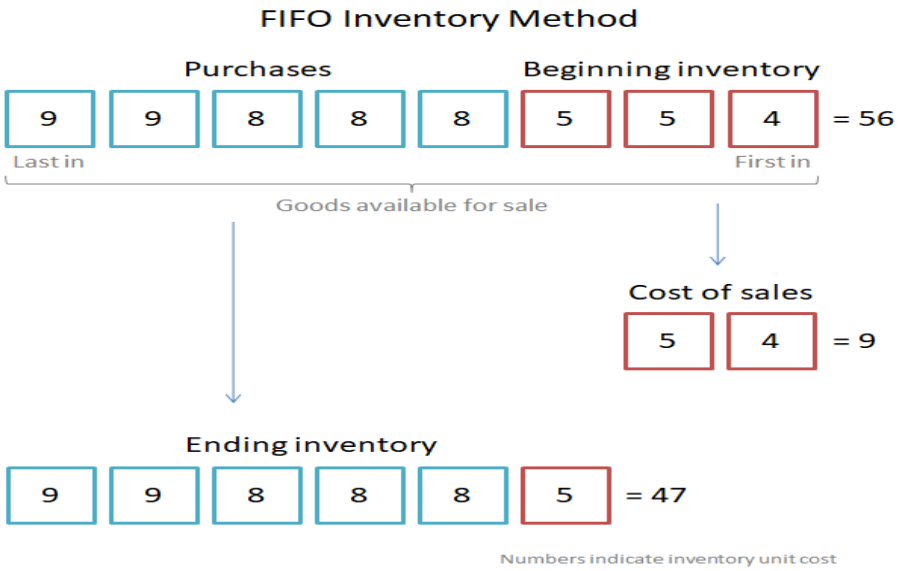


Figure 13: Periodic Inventory System by Using FIFO Method

Example:

The information below, refer to the transaction for the year 2020

Month	Transaction	Unit & RM per unit
March 01	Beginning balance	400 @ RM18
March 12	Purchases	600 @ RM20
October 17	Purchases	800 @ RM22
December 15	Purchases	200 @ RM24

According to physical count on 31 December 2020, 600 units are still on hand

Required:

By using FIFO method, compute:

a). Value of closing inventory as at 31 December 2020

b). Cost of goods sold during the year 2020

Answer

a) Value of closing inventory as of 31 December 2020

Closing inventories 600 units

200 units X RM24 = RM4800

400 units X RM22 = RM8800

TOTAL CLOSING INVENTORIES = RM13600

b) Cost of Goods Sold during the year 2020.

Cost of Goods Sold (COGS)

Cost of goods sold can be computed by using either periodic inventory formula method or on earliest cost method.

Cost of Goods Sold		
Cost of Units in Beginning Inventory		
(400 units x RM18)		RM7200
+ Purchased		
600 units @ RM20 per unit	RM12000	
800 units @ RM22 per unit	RM17600	
Cost of goods for sale (COGFS)		RM41600
(Cost of Units in Ending Inventory)		(RM13600)
**refer to answer 1 (a)		
= **Cost of Goods Sold**		**RM28000**

PRACTICAL PROBLEM 5.1

QUESTION 1

Table below shows the business transaction for Aramis Trading during the year 2020.

Month	Transaction	Unit @ RM per unit
1 January .	Beginning inventory	1000 @ RM16
15 February	Purchased	1800 @ RM18
15 April	Purchased	1000 @ RM20
10 July	Purchased	2000 @ RM22
20 October	Purchased	1500 @ RM24

1300 units were found in physical count as of 31 December 2020. The company uses the Periodic Inventory System.

As **FIFO** method is used, compute

a) Value of inventory on 31 December 2020.

b) Cost of Goods Sold during 2020

QUESTION 2

The Green Herbal Trading uses Periodic Inventory System and FIFO method. The following data is available for the month of December 2020:

Date	Transaction	Unit & RM
December 1	Beginning inventory	50 @ RM2.00
12	Purchased	90 @ RM2.10
19	Purchased	230 @ RM2.20
25	Purchased	110 @ RM2.30
29	Purchased	40 @ RM2.35

On 31 December 2020, a physical count of inventory was made. 120 units of material were found in the storeroom.

You are required to:

Compute the following item, using First In First Out (FIFO) method:

a) Value of Ending Inventory as at 31 December 2020.

b) Cost of Goods Sold during the year 2020.

QUESTION 3

Mawarni Trading discloses the following information for the month of August 2020.

August	Transaction	Unit @ RM each
01	Opening stocks	600 @ RM5
10	Sold	400 @ RM12
11	Purchased	1,600 @ RM6
15	Sold	1,000 @ RM12.50
20	Purchased	1,000 @ RM6.50
27	Sold	600 @ RM13.50

Required:

Assuming the Mawarni Trading Company uses FIFO method in Periodic Inventory System, compute:

a) Ending Inventory

b) Cost of Goods Sold (COGS)

c) Gross Profit

SELF ASSESSMENT **Read the statement below and check √ the box that best reflects your work today**			
STATEMENT	DISAGREE	AGREE	STRONGLY AGREE
I found this work or exercise are very interesting.			
I made a strong effort to answer all the questions.			
I am proud of the result that I got after doing the given exercise.			
I understood all the instructions / information from the questions.			
I followed all the steps given to answer all the questions accordingly.			
I learned something new.			
I am ready for the next assignment.			
I can identify the key point of the question.			

ii) Last In First Out (LIFO) Method in A Periodic Inventory System

- The costs are charged against revenues in reverse chronological order
- The last costs incurred is the first costs expensed.
- It assumes that the merchandise sold to customers or materials issued to the factory comes from the most recent purchases.
- The ending inventory under LIFO would therefore consists of the earliest costs incurred to purchase merchandise or materials inventory.

Example:

Ceria Company uses Periodic Inventory System. The company applies Last In, First Out (LIFO) method to compute the cost of ending inventory.

The information below refers to the transaction for the Ceria Company during the year of 2020.

Date	Transaction	Unit @ Price Per Unit
March 01	Beginning balance	400 @ RM18
March 12	Purchased	600 @ RM20
October. 17	Purchased	800 @ RM22
December 15	Purchased	200 @ RM24

On 31 December 2020, 600 units of merchandise goods are in hand according to physical count.

Required:

Compute the following using Last In, First Out (LIFO) method:

a) Cost of closing inventory as of 31 December 2020

b) Cost of goods sold during the year 2020

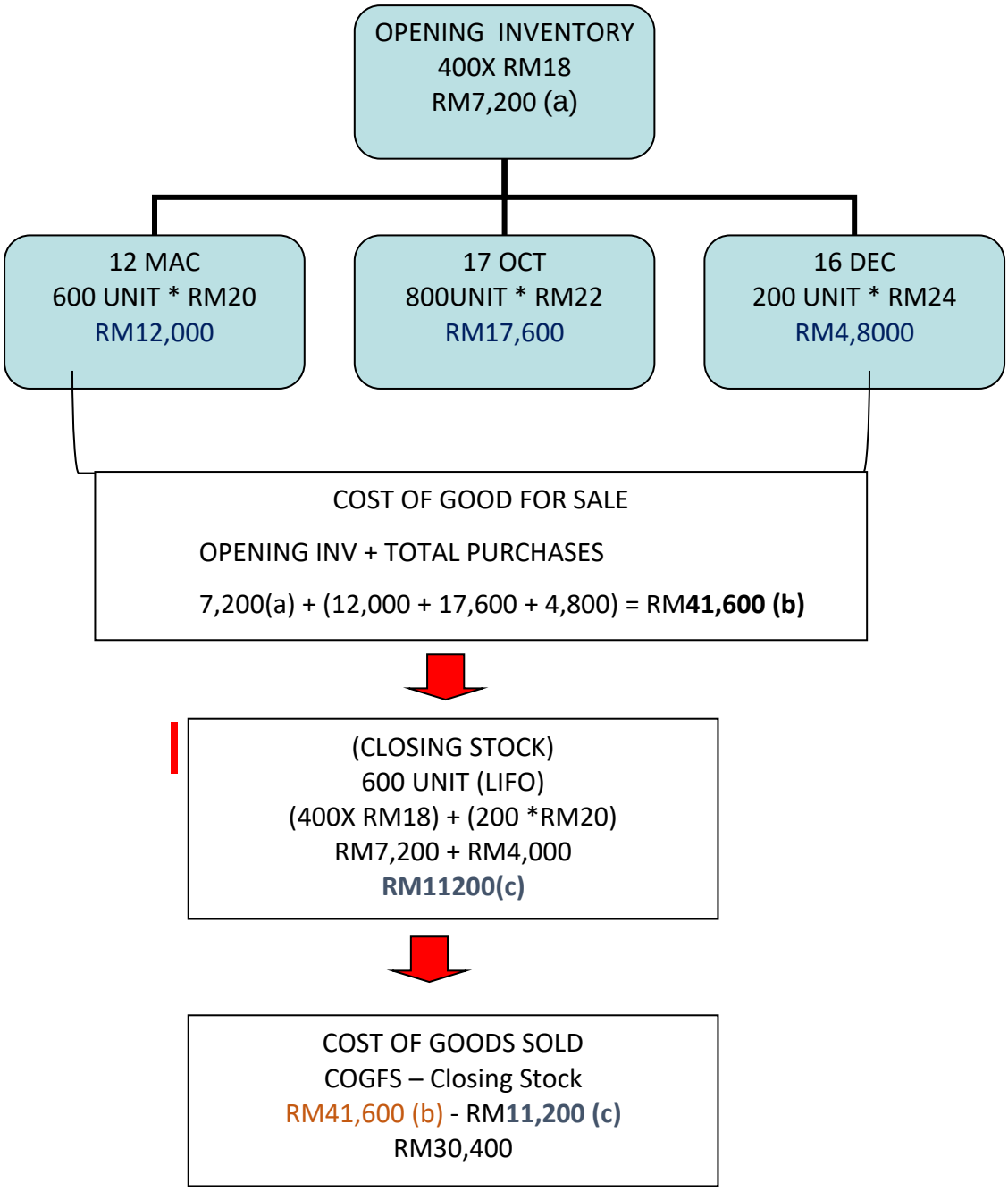


Figure 14: The calculation of closing stock and COGS using LIFO

The flow chart above (Figure 14) refers to the example that related to the Ceria Company transaction

Answer

a) Cost of Closing Inventory as of 31 December 2020

Closing Inventory 600 units

400 units X RM18 = RM7200

200 units X RM20 = RM4000

TOTAL CLOSING INVENTORIES = RM11200

b) Cost of Goods Sold during the year 2020.

Cost of Goods Sold		
Opening Inventory (400 unit x RM18)		RM7200
Purchased:		
600 units @ RM20 per unit.	RM12000	
800 units @ RM22 per unit.	RM17600	
200 units @ RM24 per unit.	RM4800	RM34400
Cost of goods for sale		RM41600
Cost of units in ending inventory		(RM11200)
Cost of Goods Sold		**RM30400**

PRACTICAL PROBLEM 5.2

QUESTION 1

The following table is about Aramis Trading transaction, during the year 2020.

Month	Transaction	Unit & RM per unit
January 01	Beginning inventory	1000 @ RM16.
February 15	Purchase	1800 @ RM18
April 15	Purchase	1000 @ RM20
July 10	Purchase	2000 @ RM22
October 20	Purchased	1500 @ RM24

According to a physical count at the end of accounting period, 1300 units merchandise goods were traced. The company use a Periodic Inventory System as a tool calculate the closing inventory.

Required: Assuming the Last In, First Out **(LIFO**) cost flow is used, compute:

a) Cost of inventory on December 31, 2020.
b) The cost of goods sold for the year of 2020

QUESTION 2

Mawarni Trading uses Periodic Inventory System. The physical inventory of materials is priced using LIFO method. The following data is available for the month of December 2020:

Month	Transaction	Unit & RM per unit
December 01	Beginning inventory	50 @ RM2.00.
12	Purchased	90 @ RM2.10.
19	Purchased	230 @ RM2.20.
25	Purchased	110 @ RM2.30.
29	Purchased	40 @ RM2.35.

On 31 December 2020, physical count of inventories were made and 120 units of material were traced in the warehouse.

You are required to compute:

a. Closing inventory on 31 December 2020.

b. Cost of Goods Sold

QUESTION 3

The Green Herbal Trading company discloses the following information for the month of August 2020.

Month	**Transactions**	**Units & RM Per Unit**
August 01	Beginning inventory	600 @ RM5
10	Sold	400 @ RM12
11	Purchased	1600 @ RM6
15	Sold	1000 @ RM12.50
20	Purchased	1000 @ RM6.50
27	Sold	600 @ RM13.50

Required:

Assume the Green Herbal Trading company uses LIFO method in Periodic Inventory System, compute

i) Ending Inventory

ii) Cost of Goods Sold (COGS)

iii) Gross Profit

SELF ASSESMENT **Read the statement below and mark (√) in the box that best reflects your work today**			
STATEMENT	DISAGREE	AGREE	STRONGLY AGREE
I found this exercise is very interesting.			
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(iii) Weighted Average Cost (AVCO) For Periodic

This method is used when you have many inventories going in and out and you can determine the cost of an individual item. Hence, you can count the cost of specific batches of items over the periodic time.

Example:

Flour

Date	Purchase (Unit & RM)	Total Cost (RM)
March 1	250 packs of flour @ RM1.80 each	RM450
April 14	300 packs of flour @RM2.00 each	RM600
May 2	275 packs of flour @ RM2.20 each	RM605
	Total Purchased = 825 packs	Total Cost= RM1655

Weighted average

= RM1655 / 825 pack

= RM2.00 per pack

AVCO - Periodic Inventory System in a Merchandising Company

Ceria Company uses periodic inventory system. The company makes a physical count at the end of each accounting period to find the number of units in ending inventory. The company then applies AVC0 method to compute the cost of ending inventory.

The information about the inventory balance at the beginning and purchases made during the year 2020 are given below:

Date	**Transaction (unit & RM)**	**Total**
Mar. 01	Beginning balance	400 units @ RM18 per unit
Mar. 12	Purchased	600 units @ RM20 per unit
Oct. 17	Purchased	800 units @ RM22 per unit
Dec. 15	Purchased	200 units @ RM24 per unit

On 31st December 2020, 600 units are on hand according to the physical count.

Required:

Compute the following using AVCO method:

a. Cost of closing inventory as at 31 December 2020

b. Cost of goods sold during the year 2020

Answer

a) Cost of closing inventory as at 31 December 2020

Date	Transaction (unit & RM)	Total
Mar. 01	Beginning balance 400 units @ RM18 per unit	RM7200
Mar 12	Purchases 600 units @ RM20 per unit	RM12000
Oct 17	Purchases 800 units @ RM22 per unit.	RM17600
Dec. 15	Purchases 200 units @ RM24 per unit.	RM4800
	Total Purchased = 2000 units	RM41600

AVCO = RM 41600 / 2000 units

= RM 20.80

Closing inventories 600 units

600 units X RM 20.8 = RM 12480

b) Cost of goods sold during the year 2020.

Opening Stock, 400 units x RM20.80	RM7200	
Purchase		
600 units @ RM20.8= RM12480		
800 units @ RM20.8= RM16640		
200 units @ RM20.8= RM4160	RM33280	
Cost of goods for sale	RM40480	
(–) Closing inventory	(RM12480)	
Cost of Goods Sold		**RM28000**

PRACTICAL PROBLEM 5.3

QUESTION 1

Aramis Trading provided the following data about purchases and sales of a commodity made during the year 2020.

Month	Transaction	Unit & RM
Jan 01	Beginning inventory	1000 units @ RM16 per unit.
Feb 15	Purchased	1800 units @ RM18 per unit
Apr 15	Purchased	1000 units @ RM20 per unit.
Jul 10	Purchased	2000 units @ RM22 per unit
Oct 20	Purchased	1500 units @ RM24 per unit

1300 units were traced in the warehouse on 31 December 2020. The company uses the Periodic Inventory system to account for sales and purchases of inventory.

Required: Assuming a AVCO cost flow assumption is used, compute:

a. Cost of inventory on 31 December 2020

b. Cost of Goods Sold during the year of 2020

QUESTION 2

The Green Herbal Company uses Periodic Inventory System. The physical inventory of materials is priced using AVCO method. The following data is available for the month of December 2020:

Date	**Transaction**	**Unit & RM**
December 01	Beginning inventory	50 units @ RM2.00
12	Purchased	90 units @ RM2.10.
19	Purchased	230 units @ RM2.20.
25	Purchased	110 units @ RM2.30.
29	Purchased	40 units @ RM2.35

On December 31, 2020 physical count of inventories traced 120 units of material in the store.

Required:

a. Compute the total cost of inventory on December 31, 2020.
b. Cost of goods sold during December 2020

QUESTION 3

Mawarni Trading Company discloses the following information for the month of August 2020.

Date	Transaction	Unit & RM
Aug 01	Beginning inventory	600 units @ RM5 each
Aug 10	Sold	400 units @ RM12 each.
Aug 11	Purchased	1600 units @ RM6 each
Aug 15	Sold	1000 units @ RM12.50 each
Aug 20	Purchased	1000 units @ RM6.50 each
Aug 27	Sold	600 units @ RM13.50 each

Required:

Assume that Mawarni Trading company uses Periodic Inventory System, compute:

a) Closing Inventory

b) Cost of Goods Sold (COGS)

c) Gross Profit Under AVC0

SELF ASSESMENT **Read the statement below and mark (√) in the box that best reflects your work today**			
STATEMENT	DISAGREE	AGREE	STRONGLY AGREE
I found this exercise is very interesting.			
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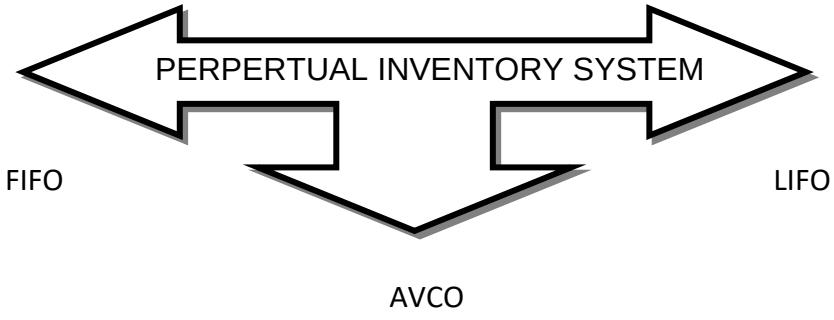
5.2.5 Identify the Steps of FIFO, LIFO, AVCO, and Retail Inventory Method of Valuation

Perpetual System

- Update the inventory records regularly.
- Prevent critical running out of stock.
- Easy to review, record and access inventory changes.
- Accurate outcomes if it is properly managed and updated.



(i) First In, First Out (FIFO) Method In Perpetual Inventory

- This widely used method assumes that the goods are sold (by merchandising companies) or materials are issued to production department (by manufacturing companies) in the chronological order in which they are purchased.
- Ending balance of the inventory represents the most recent costs incurred to purchase merchandise or materials.

First In First Out Method

Date	Purchase			Sales(COGS)			Balance		
	Unit	RM	Total RM	Unit	RM	Total	Unit	RM	Total RM
1 Jan							4000	12	48,000
5 March	6000	16	96000		FIFO		4000	12	48,000
							6000	16	96,000
17 Apr				4000	12	48000	3000	16	48000
				3000	16	48000			
7 Sep	8000	17	136000				3000	16	48000
							8000	17	136000
11 Nov				3000	16	48000	5000	17	85000
				3000	17	51000			
31 Dec							5000	17	85000

COGS
=48k +48k +48k+51k
= 195k

Closing balance

Figure 15: FIFO Inventory Card

Persona Trading uses Perpetual Inventory System under First In, First Out (FIFO) Method to compute cost of goods sold and for the valuation of ending inventory. The company made the following purchases and sales during the month of January 2020.

Date	Transaction	Unit & RM
Jan. 01	Opening Inventory	24 units @ RM1,000 per unit
Jan. 04	Sold	16 units
Jan. 07	Purchased	12 units @ RM1,020 per unit
Jan. 10	Purchased	10 units @ RM1,050 per unit
Jan. 14	Sold	16 units
Jan. 23	Sold	12 units
Jan. 24	Purchased	12 units @ RM1,060 per unit
Jan. 27	Purchased	4 units @ RM1,080 per unit.
Jan. 29	Sales	6 units

During that month, sales made @ RM1600 per unit.

Required:

1. Prepare a FIFO Perpetual Inventory Card.
2. Compute:
    i) Cost of Closing Stock of the month of January 2020
    ii) Cost of Goods Sold
    iii) Gross Profit

Solution:

1. FIFO Perpetual Inventory Card

The perpetual inventory card of ABC Electronics company is prepared below using FIFO method:

Date	Purchase			Sales			Balance		
	Unit	RM	Total	Unit	RM	Total	Unit	RM	Total (RM)
1							24	1000	24000
4				16	1000	16000	8	1000	8000
7	12	1020	12240				8 12	1000 1020	8000 12240
10	10	1050	10500				8 12 10	1000 1020 1050	8000 12240 10500
14				8 8	1000 1020	8000 8160	4 10	1020 1050	4080 10500
23				4 8	1020 1050	4080 8400	2	1050	2100
24	12	1060	12720				2 12	1050 1060	2100 12720
27	4	1080	4320				2 12 4	1050 1060 1080	2100 12720 4320
29				2 4	1050 1060	2100 4240	8 4	1060 1080	8480 4320
			39780*			50,980**			12,800***

*Cost Of Purchase **Cost Of Goods Sold ***Closing Stock

Gross Profit = Total Sales – COGS

= 50 units X RM1600 – RM50980

= RM80000 - RM50980

= RM29020

PRACTICAL PROBLEM 5.4

QUESTION 1

Aramis uses Perpetual Inventory System to record purchases and sales as well as FIF0 method to value its inventories. The company provides the following information:

Date	Transaction	Unit & RM per unit
August 01	Beginning inventory	20 @ RM40
07	Sold	1
12	Purchased	16 @ RM42
17	Sold	8
23	Sold	4
27	Purchased	8 @ RM44
30	Sold	10 units

Required:

i. Prepare a FIF0 perpetual inventory card

ii. Calculate the cost of ending inventory using FIFO method

iii. Compute Cost of Goods Sold

QUESTION 2

Under FIFO Perpetual Inventory System, you are required to calculate:

l) Value of inventory on hand on Mar 31

II) Cost of Goods Sold during March

III) Gross Profit

March	Transaction	Unit & RM per unit
1	Beginning Inventory	68 units @ RM15.00 per unit
5	Purchases	140 units @ RM15.50 per unit
9	Sales	94 units @ RM19.00 per unit
11	Purchases	40 units @ RM16.00 per unit
16	Purchases	78 units @ RM16.50 per unit
20	Sales	116 units @ RM19.50 per unit
29	Sales	62 units @ RM21.00 per unit

QUESTION 3

Under FIFO Perpetual Inventory System, calculate:

i) Value of Inventory in hand on Apr 30

ii) Cost of Goods Sold during April

There are 50 units in the ending inventory.

Date	Transaction	Units	Cost per Unit
1 Apr	Beginning Inventory	10	RM120
5	Purchased	40	RM125
7	Sold	20	
10	Purchased	50	RM130
15	Sold	20	
20	Sold	30	
23	Purchased	40	RM132
27	Sold	20	

SELF ASSESMENT **Read the statement below and mark (√) in the box that best reflects your work today**			
STATEMENT	DISAGREE	AGREE	STRONGLY AGREE
I found this exercise is very interesting.			
I made a strong effort to answer all the questions.			
I am proud of the result that I got after doing the exercise given.			
I understood all the instructions / information found in the question.			
I followed all the steps given to answer all the questions.			
I learned something new.			
I am ready for the next assignment.			
I can identify the key points of the			

question.			

(ii) Last In, First Out (LIFO) method in a Perpetual Inventory System

- The last costs incurred to purchase is the first costs charged against revenues.
- It assumes that the cost of merchandise sold (in a merchandising company) or the cost of materials issued to production department (in a manufacturing company) is the cost of the most recent purchases.

The following example explains the use of LIFO method to compute Cost of Goods Sold and the Cost of Ending Inventory in a Perpetual Inventory System.

Last-In, first Out

Perpetual Inventory system

SYARIKAT 3DARA SDN BHD

	Units	Cost per unit	Total Cost
Beginning inventory	2,000	10.00	RM20,000.00
Purcase 3/9	1,000	10.75	RM10,750.00
Purcase 21/9	1,000	10.95	RM10,950.00
Units available for sale	4,000		41,700.00

Units sold in September	
Sale 7/9	500
sale 29/9	1,500
Units sold in September	2,000
Units in ending inventory	2,000

These are the oldest units in inventory and are most likely to remain in inventory when using LIFO

Figure 12: LIFO Method using Perpetual Inventory System

Example – LIFO Perpetual Inventory System

Kam Kam Trading uses perpetual inventory system to record purchases and sales, as well as LIFO method to evaluate its inventories.

Date	Transaction	Unit & RM per unit
August 01	Beginning inventory	20 units @ RM40 per unit
07	Sold	14 units
12	Purchased	16 units @ RM42 per unit
17	Sold	8 units
23	Sold	4 units
27	Purchased	8 units @ RM44 per unit
30	Sold	10 units

Required:

1. Prepare a LIFO Perpetual Inventory Card.
2. Compute:
    i) Cost of Ending Inventory
    ii) Cost of Goods Sold

Solution:

(1) LIFO Perpetual Inventory Card

Date	Purchase			Sells			Balance		
Aug	Unit	Price	Total	Unit	Price	Total	Unit	Price	Total
1							20	40	800
7				14	40	560	6	40	240
12	16	42	672				6	40	240
							16	42	672
17				8	42	336	6	40	240
							8	42	336
23				4	42	168	6	40	240
							4	42	168
27	8	44	352				6	40	240
							4	42	168
							8	44	352
30				8	44	352	6	40	240
				2	42	84	2	42	84
	Cost of Purchase RM1024			Cost of Goods Sold RM1500			Closing Stock RM324		

PRACTICAL PROBLEM 5.5

QUESTION 1

Aramis Trading uses Perpetual Inventory System to record purchases and sales, and LIF0 method to evaluate its inventories.

Date	Transaction	Unit & RM per unit
Aug 01	Beginning inventory	25 units @ RM40 per unit
Aug 07	Sales	19 units
Aug 12	Purchases	25 units @ RM42 per unit
Aug 17	Sales	10 units
Aug 23	Sales	7 units
Aug 27	Purchases	13 units @ RM44 per unit
Aug 30	Sales	15 units

Required:

a. Prepare LIFO perpetual inventory card

b. Calculate the Cost of Ending Inventory

c. Compute Cost of Goods Sold using LIFO method

QUESTION 2

Using LIFO Perpetual Inventory System, calculate:

I) Value of inventory in hand on Mar 31

II) Cost of Goods Sold

III) Gross Profit during March

Date	**Purchased** **Unit @ RM per unit**	**Sold** **Unit & RM per unit**	**Balance** **Unit & RM per unit**
Mar 1			68 @ RM15.00
5	140 @ RM15.50		
9		94 @ RM19.00	
11	40 @ RM16.00		
16	78 @ RM16.50		
20		116 @ RM19.50	
29		62 @ RM21.00	

QUESTION 3

Calculate:

i) Value of inventory in hand on April 30 if the ending inventory are 50 units

ii) Cost of Goods Sold during March under LIFO Perpetual Inventory System.

Date	Transaction	Unit & RM per Unit
1 Apr	Beginning Inventory	10 units @ RM120 unit
5 Apr	Purchased	40 units @ RM125 unit
7 Apr	Sold	20 units
10 Apr	Purchased	50 units @ RM130 unit
15 Apr	Sold	20 units
20 Apr	Sold	30 unit
23 Apr	Purchased	40 unit @ RM132 per unit
27 Apr	Sold	20 units

SELF ASSESMENT **Read the statement below and mark (√) in the box that best reflects your work today**			
STATEMENT	DISAGREE	AGREE	STRONGLY AGREE
I found this exercise is very interesting.			
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I understood all the instructions / information found in the question.			
I followed all the steps given to answer all the questions.			
I learned something new.			
I am ready for the next assignment.			
I can identify the key points of the question.			

iii) Average Cost Inventory Method

Average Cost Method (AVCO) calculates the cost of ending inventory and Cost of Goods Sold for a period, in the basis of weighted average cost per unit of inventory.

Example:

Busino Company used Perpetual Inventory System to record purchases and sales and AVCO method to evaluate its inventories.

Date	**Purchase** **Unit @ RM per unit**	**Sales** **Unit**	**Balance** **Unit @ RM per unit**
Aug 1			20 @ RM40
7		14	
12	16 @ RM42		
17		8	
23		4	
27	8 @ RM44		
30.		10	

Required:

I) Prepare a AVCO Perpetual Inventory Card

II) Compute Cost of Goods Sold and the Cost of Ending Inventory using AVCO method

Solution:

(1) AVC0 Perpetual Inventory Card:

Date	Purchase			Sells			Balance		
August	Unit	Price	Total	Unit	Price	Total	Unit	Price	Total
1							20	40	800
7				14	40	560	6	40	240
12	16	42	672				6	40	240
							16	42	672
							22	**41.45**	**912**
17				8	41.45	331.6	14	41.45	240
23				4	41.45	165.8	10	41.45	414.5
27	8	44	352				10	41.45	414.5
							8	44	352
							18	**42.58**	**766.5**
30				10	42.58	425.8	8	42.58	340.67
			RM1024			RM1483.20			RM340.67
	Cost of Purchase			Cost of Goods Sold			Closing Stock		

PRACTICAL PROBLEM 5.6

QUESTION 1

Mawarni Enterprise uses Perpetual Inventory System that refers to AVCO method to evaluate its inventories.

Date	Purchase Unit & RM per unit	Sales Unit	Balance Unit & RM per unit
Aug 1			25 @ RM40
7		19	
12	25 @ RM42		
17		10	
23		7	
27	13 @ RM44		
30		15	

Required:

1. Prepare a AVCO Perpetual Inventory Card
2. Compute
   i) Cost of Ending Inventory
   ii) Cost of Goods Sold

QUESTION 2

Under AVCO Perpetual Inventory System, calculate:

I) Value of Inventory in hand on Mar 31

II) Cost of Goods Sold

III) Gross Profit during March

Date	**Purchase** **Unit @ RM per unit**	**Sales** **Unit @ RM per unit**	**Balance** **Unit @ RM per unit**
Mar 1			68 units @ RM15.00 per unit
5	40 @ RM15.50		
9		94 @ RM19.00	
11	40 @ RM16.00		
16	78 @ RM16.50		
20		116 @ RM19.50	
29		62 @ RM21.00	

QUESTION 3

You are required to calculate:

i) The value of inventory on hand on April 30, if the ending inventory are 50 units

ii) Cost of Goods Sold during April under AVCO Perpetual Inventory System

.

Date	**Purchases** **Unit & RM per unit**	**Sales** **Unit & RM per unit**	**Balance** **Unit & RM per unit**
1 Apr			10 @ RM120
5 Apr	40 @ RM125		
7 Apr		20 units	
10 Apr	50 @ RM130 per unit		
15 Apr		20 units	
20 Apr		30 units	
23 Apr	40 units @ RM132 per unit		
27 Apr		20 units	

SELF ASSESMENT **Read the statement below and mark (√) in the box that best reflects your work today**			
STATEMENT	DISAGREE	AGREE	STRONGLY AGREE
I found this exercise is very interesting.			
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I learned something new.			
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