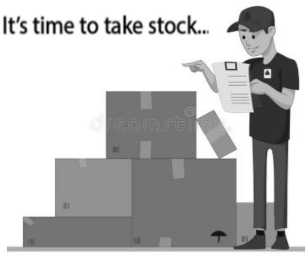
TOPIC: Inventory systems (Periodic) (Paper 2 topic)	

In Gr 10 and 11 you learnt about ...
• Recordkeeping of the stock on a continuous (perpetual) basis, e.g. preparing aTrading Stock account
• Calculating Cost of sales / Sales / Gross profit / Mark-up %
	This lesson will enable you to...
	• Identify the main features of the periodic inventory system
	• Know the advantages and disadvantages of periodic inventory system
	• Distinguish (identify differences) between **perpetual** (see T3, Week 3 lesson) and **periodic** stock systems
	• Analyse transactions using the periodic system
	• Calculate in the periodic system:
	  ○ cost of sales at the end of a financial period
	  ○ gross profit
	  ○ mark-up achieved
	  ○ number of missing stock items
	  ○ financial indicators related to stock

Use your Textbook to read more about Inventories	
ALTERNATIVE digital resources:	
Via Afrika Gr 11 Study Guide https://wcedeportal.co.za/eresource/116616 Term 3; Topic 3 (Pg 79 - 85)	**Lucem Publishers Gr 11 Teachers Guide** (textbook & answer book in one) https://wcedeportal.co.za/eresource/116641 Chapter 10 (pg 265 - 278)
Study & Master PPT lesson (Ch 12) Inventory https://wcedeportal.co.za/eresource/127246	**2020 Revised Teaching Plan requirements - INVENTORY**: - Define / Explain Perpetual & Periodic Stock systems - Know the advantages / disadvantages of each system - Focus on calculations of Cost of Sales, Gross Profit, mark-up%, Sales, etc. *(Although journals & ledgers are not required in 2020, the understanding of the basic recording of stock in a Trading stock account will promote deeper understanding of the calculations)*

Periodic Stock system



Introduction:

- You have learnt in the lesson for Term 3, Week 3 that the Cost of Sales in the perpetual inventory system is calculated in EVERY transaction where stock is sold or physically returned by customers.
- This might not be possible for businesses selling large volumes where the cost price of single items cannot be easily determined, e.g. fresh produce businesses; confectioners, hardware stores, etc.
- These businesses will have to use the periodic inventory system.

What is the Periodic inventory system?

- It is a stock management system that does not require continuous updating of trading stock values.
- The Trading stock account is not updated with the movement of stock, making it difficult to determine the value of stock at any given time.
- The cost price of stock sold (Cost of sales) is not determined at point of sale, but only when physical stock take (stock count) is completed

Advantages	Disadvantages
• It is cost effective as there is no outlay for expensive equipment, e.g. expensive bar code and scanning systems • Quick and easy to use with the minimum administration required • Ideal for smaller businesses where the cost price per item cannot be easily determined	• Stock theft/leakages are difficult to identify • Gross profit can only be determined at end of the month/week when a stock take is done as there is no cost of sales entries and regular updates of the Trading stock account • Value of stock is determined periodically with a physical stock take

COMPARISON OF THE TWO STOCK SYSTEMS

Perpetual inventory system

- Stock purchases recorded in Trading stock account (asset)
- Expenses incurred in purchasing of goods (e.g. carriage on purchases) are charged to the Trading stock account
- Returns and allowances on stock purchased recorded in Trading stock account
- Donations and stock taken by the owner are credited to the Trading stock account
- Balance of Trading stock shows value of stock on hand
- Cost of sales is calculated on a continuous basis, thefore cost of sales account will show the total cost price of goods sold

Periodic inventory system

- Stock purchases recorded in Purchases account (expense)
- Expenses incurred in purchasing of goods (e.g. carriage on purchases) are recorded in Carriage on purchases account (expense)
- Returns and allowances on stock purchased recorded in Purchases account
- Donations and stock taken by the owner are credited to the Purchases account
- Physical stock take (periodically) determines stock on hand
- There is no cost of sales account. A calculation is required to determine the cost of sales.

CALCULATIONS:

COST OF SALES

Opening stock + Purchases + Carriage on Purchases

+ Customs duty – Returns (creditors allowances) – Closing stock

EXAMPLE 1:
The information relates to Meg Stores.

REQUIRED:
Calculate the Cost of sales.

EXTRACT FROM PRE-ADJUSTMENT TRIAL BALANCE ON 30 JUNE 2020

Nominal Accounts Section	Debit	Credit
Opening stock (1 July 2019)	38 000	
Purchases	72 000	
Carriage on purchases	13 800	
Sales		165 480
Debtors Allowances	9 000	

NOTE: The value of stock at end of the financial year as per physical stock count was R26 000.

EXAMPLE 1 SOLUTION:

Opening stock		38 000
Plus:	Purchases	72 000
	Carriage on Purchases	13 800
Cost of stock available for selling		123 800
Minus:	Closing stock	(26 000)
COST OF SALES		**97 800**

NUMBER OF UNITS MISSING

Opening no of units + units purchased – units returned - units sold – closing units

EXAMPLE 2:

	UNITS	AMOUNTS (R)
Opening stock	890	142 400
Purchases	1 500	240 000
Returns	13	2 080
Carriage on purchases		10 500
Closing stock	190	30 400
Sales	2 157	539 250

EAMPLE 2 SOLUTION:

Opening units + Units purchased – Units returned – Units sold – Closing units 890 + 1 500 – 13 – 2 157 – 190	**30 units**

ACTIVITY 1

Nalini Stores uses the periodic inventory system. They apply 80% mark-up on their products.

REQUIRED:

Calculate the following for the period ending 28 February 2020:

1.1 Cost of sales
1.2 Gross profit
1.3 Actual mark-up % achieved

INFORMATION:

Totals extracted from the records on 28 February 2020, the end of the financial year.

	R
Opening stock	56 000
Purchases (cash and credit)	342 000
Carriage on purchases	12 700
Customs duty	5 500
Cash sales	280 000
Credit sales	425 000
Debtors allowances	21 000

Additional information:

The following have not yet been taken into account:

A. Goods returned to creditors, R900.
B. Carriage on purchases not recorded, R150.
C. A physical stock count after taking all of the above into account, revealed trading stock on hand, R48 000.

ACTIVITY 1: ANSWER SHEET

CALCULATE:

		Answers
1.1.	**Cost of Sales**	
1.2	**Gross Profit**	
1.3	**% Mark-up achieved**	

ACTIVITY 2

2.1 CONCEPTS

Choose the correct word(s) from those given in brackets. Write only the word(s) next to the question number (2.1.1 – 2.1.4) on the ANSWER SHEET.

2.1.1 Cost of sales is determined at the point of sale in the (perpetual/periodic inventory system).

2.1.2 In the periodic inventory system, carriage on purchases is recorded as an (asset/expense).

2.1.3 The (perpetual/periodic) system is more suited for low-value goods, purchased in bulk.

2.1.4 Merchandise purchased is recorded as an (asset/ expense) in the perpetual inventory system.

2.2 PERIODIC INVENTORY SYSTEM

The information provided relates to Yummy Stores for the year ended 30 June 2020.
The business is owned by Shiyaam Martin and managed by Jessie George.

REQUIRED:

2.2.1 Calculate the cost of sales on 30 June 2020.

2.2.2 Calculate the average stock turnover rate.

2.2.3 Shiyaam suspects that stock is being stolen despite security cameras being installed.

- Provide a calculation to verify her suspicion.
- What can Shiyaam do to improve the internal control of stock? State **TWO** points.

INFORMATION:

	Units	Amount (R)
Sales	3 200	768 000
Opening stock	160	19 200
Purchases	6 300	756 000
Carriage on purchases		75 600
Closing stock	2 800	336 000

ACTIVITY 2: ANSWER SHEET

CONCEPTS

2.1.1	
2.1.2	
2.1.3	
2.1.4	

2.2.1	**Calculate the Cost of sales on 30 June 2020**
2.2.2	**Calculate the average stock turnover rate**

2.2.3	**Shiyaam suspects that stock is being stolen despite security cameras being installed.**
	Provide a calculation to verify her suspicion.
	What can Shiyaam do to improve the internal control of stock? State TWO points

Lesson solution:
https://wcedeportal.co.za/eresource/129786