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Support Pack | Grade 12

CAPS

Accounting

Manufacturing and cost accounting

This revision pack for **Accounting Grade 12** provides support for learners revising the most important concepts and principles covered in the CAPS curriculum. These include concepts relating to companies, the acquisition of Fixed assets, inventories, VAT, Manufacturing and cost accounts, and budgeting. Summaries of the GAAP principles, theory of Accounting, and the format of Debtors and Creditors control accounts are provided. Furthermore, a detailed table to summarise the interpretation of Financial Statements is provided.

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Revision 9
Manufacturing and cost accounting

1. Introduction

Manufacturing businesses use labour and other production facilities to transform raw materials into finished products.

Costs in the manufacturing process can be divided into **material costs**, **labour costs** and **factory overhead costs**.

Other costs not directly related to the manufacturing process are also incurred called **operating costs.** These costs are divided into **administration costs** and **sales and distribution costs**.

2. Types of manufacturing costs

Material costs

Direct material costs: Materials consumed directly when manufacturing the product
Example: The leather used to make sandals
Indirect material costs: Cost in the manufacturing process that cannot be directly linked to the finished product
Example: The glue used to attach the sole to the sandal
Indirect material costs are included in factory overhead costs.

Labour costs

Direct labour costs: Labour applied directly in using raw materials to create the finished product
Example: The worker who makes the sandals
Indirect labour costs: The salaries and wages of workers who are not directly involved in making the product
Example: The foreman at the factory
Indirect labour costs are included in factory overhead costs.

Factory overhead costs

Costs incurred in the manufacturing of the product, but that are not directly linked to the product.
Example: Factory electricity, depreciation of equipment, etc. as well as indirect material costs and indirect labour costs.
Factory overhead costs include all the production costs except direct material costs and direct labour costs.

3. Calculating manufacturing costs

Manufacturing costs are divided into two main groups: **prime costs** (direct costs) and **factory overhead costs** (indirect costs).

Prime costs are the total direct costs involved in the manufacturing process.
Prime costs = direct material cost + direct labour cost

Factory overhead costs are all the costs that are indirectly involved in the manufacturing process, including:

- Indirect labour costs
- Indirect material costs
- Factory rent
- Factory water and electricity
- Depreciation on factory equipment

Total manufacturing costs (or production costs) are all the costs incurred in the production process.

Total manufacturing costs = prime costs + factory overhead costs

The **unit cost** of a product is the cost per item/unit.

$$\text{Unit cost} = \frac{\text{total manufacturing cost}}{\text{number of units produced}}$$

Operating costs are linked to the administration department and sales and distribution department, and not to the factory, including:

- Receptionist
- Telephones
- Stationery
- Electricity and water in the offices
- Copier machine

4. Classifying manufacturing costs according to cost behaviour

Manufacturing costs can also be classified according to their cost behaviour. The term cost behaviour refers to the performance of a certain manufacturing cost in relation to changes in production levels, i.e. the number of units or volume produced.

Fixed costs are manufacturing costs that do not change according to fluctuating (changing) production levels. Even if production ceases, these costs will still be incurred.

Fixed costs usually relate to relatively long-term facilities that enable the business to operate, such as the costs of owning buildings. Factory rent is a fixed cost, because the amount paid in rent stays the same regardless of how many units the factory produces.

Variable costs change with changes in the volume of production. If production ceases, these costs will no longer be incurred. If production increases, these costs will increase accordingly.

Variable costs are therefore directly proportionate to the level of production, for example direct material cost and direct labour cost. The leather used to manufacture sandals is a variable cost. If no sandals are manufactured, no leather would be purchased.

Using fixed and variable costs to calculate manufacturing costs

Total manufacturing costs = fixed cost + variable cost

$$\text{Unit cost} = \frac{\text{total manufacturing cost}}{\text{number of units produced}}$$

Production level ↑ variable cost ↑ fixed cost ↑

So, the unit cost of a product decreases as the number of units produced increases.
In most cases, direct material costs, direct labour costs and sales and distribution costs will always be variable costs. Factory overhead costs and administration costs will mostly be fixed costs.

5. Breakeven analysis

Breakeven analysis is used to determine how many units of a product must be manufactured and sold so that the income, generated by sales, will cover all expenses of the business.

At this stage the business is not making a profit or a loss, so we say the business is breaking even. This is known as the breakeven point.

Steps to calculate the breakeven point:

Step 1
Determine the total fixed costs and variable costs per unit.

Step 2
Calculate the contribution per unit. This is the difference between the selling price per unit and the variable cost per unit.

Step 3
To get the breakeven point, divide the total fixed costs by the contribution per unit.

6. Productivity

Productivity is mainly the relationship between input (hours worked) and output (number of units produced).

If an employee usually works 40 hours a week, the business's productivity can be measured as follows:

Week 1: 160 units produced: $\frac{160}{40} = 4 : 1$ therefore 4 units produced per hour

Week 2: 180 units produced: $\frac{180}{40} = 4{,}5 : 1$ therefore 4,5 units produced per hour

The employee's productivity has therefore increased from 4 units per hour to 4,5 units per hour.

Businesses that want to increase productivity, must strive to improve the productivity of their employees using the following methods:

- Set targets that employees must achieve, for example, no fewer than 40 units must be manufactured in a week.
- Reward employees who improve their productivity or reach their targets.
- Provide favourable working conditions.
- Provide well thought-out production lines.
- Adopt an ethical code that encourages integrity, professionalism and a work ethic among employees.

7. Ledger accounts in manufacturing businesses

Balance Sheet accounts	
Raw Materials Stock	
Balance at the beginning of the year	Raw materials issued to the factory floor
Purchases of raw materials	Balance at the end of the year
Work-in-process Stock	
Balance of incomplete goods at the beginning of the year	Completed goods transferred to Finished Goods Stock account
Direct material cost	Balance of incomplete goods at the end of the year
Direct labour cost	
Factory overhead costs	
Finished Goods Stock	
Balance of finished goods at the beginning of the year	Finished goods sold transferred to the *Cost of Sales* account
Work-in-process Stock account	Balance of finished goods at the end of the year
Consumables on Hand	
Balance of indirect materials remaining at the beginning of the year	Transfer to *Indirect Materials* account
Indirect material remaining at the end of the year	

Nominal accounts	
Sales	
Trading account	Bank / Debtors control
Cost of Sales	
Finished Goods account	Trading account
Raw Materials Issued	
Raw materials stock	Direct materials cost
Indirect Materials Costs	
Consumables on hand at the beginning of the year	Factory overhead costs
Bank: Indirect materials purchased during the year	Consumables on hand at the end of the year
Wages and Salaries on Hand	
Balance of wages and salaries paid for the year	Direct labour cost
	Factory overhead costs
	Administration cost
	Sales and distribution cost
Rent Expense	
Rent paid for the year	Factory overhead costs
	Administration cost
Water and Electricity	
Water and electricity paid for the year	Factory overhead costs
	Administration cost
Stationery	
Stationery purchased during the year	Administration cost
Bad Debts	
Balance	Sales and distribution cost

Depreciation	
On factory equipment	Factory overhead costs
On office equipment	Administration cost
On delivery vehicle	Sales and distribution cost

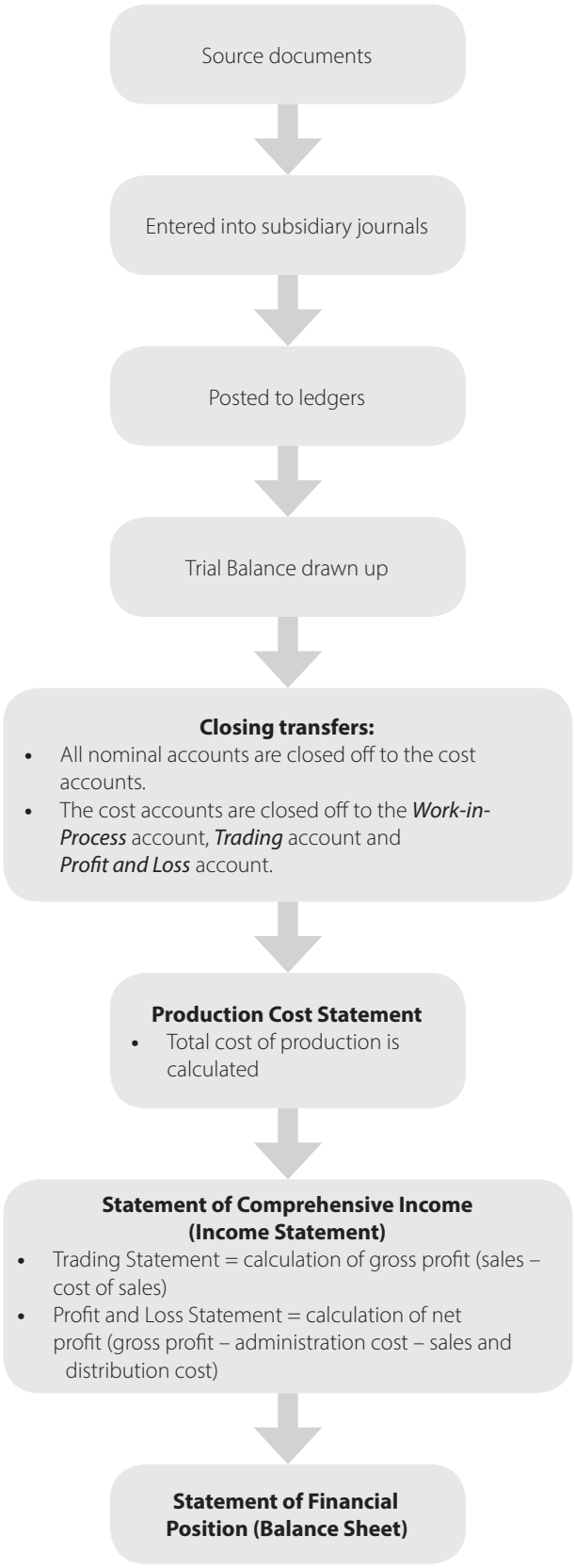
Cost accounts	
Direct Material Costs	
Raw materials issued	Work-in-process stock
Direct Labour Costs	
Wages of workers directly involved in the production process	Work-in-process stock
Factory Overhead Costs	
Indirect materials	Work-in-process stock
Indirect wages and salaries	
Rent expense	
Water and electricity	
Depreciation	
Administration Costs	
Wages and salaries	Profit and loss account
Rent expense	
Water and electricity	
Stationery	
Depreciation	
Sales and Distribution Costs	
Wages and salaries	Profit and loss account
Bad debts	
Depreciation	
Advertising	

Final accounts	
Trading account	
Cost of sales	Sales
Gross profit transferred to Profit and Loss account	
Profit and Loss	
Administration cost	Trading account
Sales and distribution cost	
Appropriation account	

8. Financial statements of a manufacturing business

Manufacturing businesses add a Production Cost Statement to their financial statements. The total cost of production is calculated and shown in the Production Cost Statement.

The accounting cycle of a manufacturing business



9. Analysing the financial statements

You can calculate the unit cost of the manufactured products when analysing the Production Cost Statement. Management can also determine whether the business is operating within the budget, or compare figures of different financial periods with one another.

You must be able to calculate the following indicators:

1. Direct raw materials cost per unit = $\frac{\text{direct material costs}}{\text{total units manufactured}}$
2. Direct labour cost per unit = $\frac{\text{direct labour costs}}{\text{total units manufactured}}$
3. Total direct cost per unit = $\frac{\text{total direct costs}}{\text{total units manufactured}}$
4. Factory overhead costs per unit = $\frac{\text{factory overhead costs}}{\text{total units manufactured}}$
5. Cost of finished goods per unit = $\frac{\text{production cost of finished goods}}{\text{total units manufactured}}$
6. Sales and distribution cost per unit = $\frac{\text{sales and distribution costs}}{\text{total units sold}}$
7. Administration cost per unit = $\frac{\text{administration costs}}{\text{total units sold}}$
8. Variable cost per unit = direct material cost per unit + direct labour cost per unit + sales and distribution cost per unit
9. Fixed cost per unit = factory overhead costs per unit + administration cost per unit
10. Selling price per unit = $\frac{\text{sales}}{\text{total units sold}}$
11. Contribution per unit = selling price per unit – variable cost per unit
12. Breakeven point = $\frac{\text{total fixed costs}}{\text{contribution per unit}}$