ISCTE Business School
Instituto Universitário de Lisboa

Accounting Department

Management Accounting I

MANAGEMENT

EXERCISE - BOOK 1

EXERCISES 1 to 10

School Year 2014/2015

EXERCISE 1

Regarding the accounting of June of **PRODP** company, the following data are known:

- **Stocks variation**

a) Raw material M:

Description	**Quantities**	**Value (€)**
Opening stocks	525 tons	4 200
Purchases	3 750 tons	31 500
Consumptions	4 000 tons	?

b) Finished product P:

Description	**Quantities**	**Value (€)**
Opening stocks	600 units	17 400
Production	2 000 units	60.000
Sales	2 500 units	100 000

IT IS REQUIRED:

Using successively the criteria **FIFO, LIFO** and **Weighted Average Cost (WAC), ascertain** the value of:

a) Consumption and closing stock of the material M;

b) Sales Cost of P;

c) Closing stock of the finished product P.

EXERCISE 2

Regarding **FACE** company, the following accounting data of November/N are known:

- Opening stocks:
    - Material M1: 2 000 tons at 30 €/ton
    - Work in progress products: 2 800 €
    - Finished products: 800 units at 140 €/unit
- Purchases of M1: 10 000 tons at 36 €/ton
- Manufacturing costs of the month:
    - Consumptions of electricity: 6 800 €
    - Consumptions of other materials: 1 600 €
    - Labour: 72 000 € (already including the theoretical social expenses)
    - Depreciations: 4 600 €
- Sales: 4 200 units at 200 €/unit
- Closing stocks:
    - Material M1: 1 600 tons
    - Work in progresso products: 4 200 €
    - Finished products: 600 units

Using the criterion LIFO, ascertain:

1. Consumption of the raw material M1;
2. Manufacturing overheads of the month;
3. Conversion cost of the production;
4. Manufacturing cost of the finished production;
5. Value of the closing stocks of finished products;
6. Manufacturing cost of the products sold;
7. Gross profit.

EXERCISE 3

HAPPY company produces and markets the product X, from the conversion of the raw material M.

Regarding the accounting of January/N, the following data are known:

- Costs and expenses per functions (in €):

Description	**Manufacturing Function**	**Selling Function**	**Administrative Function**	**Total**
Materials	29 425**	2 125	650	32. 200
Supplies and Services	9 820	2 590	2 310	14 720
Salaries *	10 000	4 400	3 600	18 000
Depreciations of the exercise	5 405	2 745	2 780	10 930
Total	54 650	11 860	9 340	75 850

***** The expenses with personnel of the manufacturing function only concern Direct Labour (DL). The theoretical social expenses amount to 60% of the salaries. Although the actual expenses had amounted in the month to 30% of the salaries, the theoretical rate is also used in the Financial Accounting.
** Including 1 425 € of other materials.

- Monthly variance of the stock of finished products:

Description	Finished Product
Opening stock	1 500 Units at 8,5 €/Unit
Production	7 250 Units
Sales	8 000 Units at 12€/ unit
Closing stock	?

- The financial expenses were 4 520 €
- The valuation criterion used was **FIFO.**

Based on the avaible data, **it is required** to prepare the P&L Statement per natures and per functions.

EXERCISE 4

The variance of **FIXE** company which produces and sells only one product was the following in June/N:

- Sales: 10 000 units at 12€/unit
- Costs per natures and per functions (€):

Description	**Prod. F.**	**Selling F.**	**Admin. F.**	**Financ. F.**	**Total**
Supplies and Services	2 200	400	650	-	3 250
Expenses with personnel *	23 040	17 920	17 920	-	58 880
Other operational expenses	1 030	270	600	-	1 900
Depreciations of the exercise	3 600	2 200	1 100	-	6 900
Financial expenses	-	-	-	1 300	1 300
Total	29 870	20 790	20 270	1 300	72 230

* Already including theoretical social expenses calculated at the rate of 60%. The theoretical rate is also used in the Financial Accounting.

- Warehouses variances

Description	**RM**	**FP (unit)**	**PiP (€)**
Opening stock	6 000 tons at 4€/ton	4 500 units at 7.2€/un	3 600
Purchases	4 000 tons at 4.75 €/ton	-	-
Consumptions	8 000 tons	-	-
Production	-	8 000 units	-
Sales	-	10 000 units at 12€/unit	-
Closing stock	2 000 tons	2 500 unts	4 870

- Consumption of other materials in the production: 400 €
- The company uses the valuation criterion LIFO.

It is required:

1. Ascertain the global and unit cost of the finished production;
2. Prepare the Profit and Loss Statment per natures and per functions.

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EXERCISE 5

LIVING company produces and markets the product V from the conversion of the raw material M.

Regarding January of the year N, the following data are known:

- Costs and expenses per functions (in €):

Description	Manuf. Function	Selling (Distrib.) Function	Admin. Function	Total
Cons. Secondary Materials	3 550	4 250	1 300	9 100
Services and Supplies	21 640	5 180	4 620	31 440
Salaries	20 000	9 000	7 000	36 000
Exercise Depreciation	12 810	5 490	5 500	23 860
Total	58 000	23 920	18 480	100 400

- Theoretical expenses on salaries are calculated at the rate of 60%
  This rate is used bot in the Profit & Loss Statement per Natures and in the P&L Statement per Functions.
- The salaries of the manufacturing function only concern Direct Labour.
- The monthly financial expenses amount to 10 000 €.

Monthly variation of raw materials stocks:

Description	MU	Quantity	Unit Cost
Opening Stock	ton	1 000 tons	25 €
Purchases	ton	2 000 tons	20 €
Consumptions	ton	?	-
Closing Stock	ton	450 tons	-

Monthly variation of the finished products stocks:

Description	Finished Product	PiP
Opening Stock	1 500 Units at 17 €/Unit	14 000
Production	7 500 Units	-
Sales	8 000 Units at 25 €/ Unit	-
Closing Stock	?	5 000

The company adopts FIFO as valuation criterion of the outpts.

Based on the available data, it is required to prepare the P&L Statement per Natures and the P&L Statement per Functions.

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EXERCISE 6

WSF company's business is the bottling of wine that it buys on the market from several suppliers. It is wine marketed in bottles of 1 litre of only one type.

Regarding the year N, the following data are known:

1. Profit and Loss Statement per functions prepared by the several costing systems:

Values in euros

Description	**A**	**B**	**C**
Sales	3 000 000	3 000 000	3 000 000
Sales Cost (MCPS + NPMC)	1 651 400	1 650 000	1 657 000
Gross Profit	1 348 600	1 350 000	1 343 000
Non-manufacturing expenses			
Variable	300 000	300 000	300 000
Fixed	440 000	440 000	440 000
Profit Before Taxes	608 600	610 000	603 000

2. Additional Data

- Sales: 15 000 000 l
- Actual production: 15 200 000 l
- Normal production: 19 000 000 l
- Opening stocks of finished products: there were not any
- Manufacturing costs:
    - Variable: 1 140 000 €
    - Fixed: 532 000 €

It is required:

1. Identify the costing system used in each Profit and Loss Statement;
2. Justify the difference of profits of each costing system regarding the absorption costing system.

EXERCISE 7

SABOR company produces and markets exclusively a type of food product which is market in boxes of 100 units. Regarding March of the year N, the following data are known:

Selling price	300 € / box
Sales	1 500 boxes
Standard (installed) Capacity	3 000 boxes
NPMC	12 000 € (using the RCSystem)
Variable manufacturing costs	120 € / box
Selling expenses Fixed Variable	 15 000€ 30€/box
Administrative expenses (fixed)	10 500 €
Financial expenses (fixed)	4 500 €

It is also known that the opening stocks were null and that at the end of March the closing stocks registered 300 boxes of finished product.

IT IS REQUIRED:

1. Prepare the Profit and Loss Statement per functions using the rational costing system and the variable costing system.
2. Justify, taking into account the notion of fixed costs, the difference of profits obtained in the previous paragraph.
3. Ascertain the value of MCPS and of NPMC using the absorption costing system.

EXERCISE 8

WIND company produces and markets only one product. Regarding October of the year N, the following data are known:

Products sold	
▪ Selling price	12 euros
▪ Quantity sold	21 000 units
Products manufactured	
▪ Production	22 500 units
▪ Standard (installed) capacity	30 000 units
▪ Opening stocks	0 units
Manufacturing costs	
▪ Fixed	90 000 euros
▪ Variable	5 euros/unit
Non-manufacturing expenses	
▪ Fixed selling (distribution) expenses	20 000 euros
▪ Variable selling (distribution) expenses	1.0 euros/unit
▪ Administrative expenses (fixed)	10 000 euros

It is required:

1. The equation CVP of the Profit;
2. The sales break-even point (or threshold of profitability);
3. Using the equation CVP of the Profit, calculate the number of units that should be sold to reach a profit before taxes of 3 000 €;
4. Ascertain the Margin of Safety of the present sales level and explain its meaning;

EXERCISE 9

GOODLUCK company's business is the conversion of block granite so as to obtain smooth granite. Regarding March of the year N, the following data are known:

- Production of Smooth Granite: 12 000 m^2
- Selling price: 50 € / m2
- The opening stocks of smooth granite were null.
- The standard (installed) capacity allows to produce to a maximum of 16 000 m^2 of smooth granite.
- The Profit and Loss Statement per functions using **the rational costing system** was the following:

Description	**Value (€)**
Sales	500 000
MCPS	350 000
Subtotal	150 000
NPMC	60 000
Gross Profit	90 000
Selling (distribution) Expenses	
Variable	30 000
Fixed	16 000
Administrative Expenses	12 000
Operational Profit	32 000
Financial Expenses	15 500
Profit Before Taxes	16 500

It is required:

1. Prepare the Profit and Loss Statement of GOODLUCK company using the absorption costing system and the variable costing system;
2. Explain the difference of the profits among the three costing systems (variable costing, absorption costing and rational costing) using the notion of manufacturing fixed costs and the difference in the valuation of the stocks variation;
3. Ascertain the Break-Even-Point and the Margin of Safety;
4. Ascertain the Expected Profit for a situation, where an increase of sales in the order of 20% is expected;
5. Known that the company has a proposal to an isolated sale of 2 500 m2 at the price of 35€/m2 and that that sale presumes an increase of 20% in the manufacturing variable costs and of 25% in the variable selling (distribution) expenses, advise the company about the decision to make.

EXERCISE 10

PLASTIC company produces for the **national market** a plastic component (**Product PL**). At the present time the company only uses 80% of its standard (installed) capacity.

Regarding **March of the year N,** the following data are known:

- Selling Price: 60 €/unit
- Manufacturing Costs (total):
  - Raw Materials Consumption: 18 000 €
  - Conversion Costs
    - Variable: 12 000 €
    - Fixed: 15 000

The opening stocks of finished products are null and the closing ones are equivalent to 300 units (assume that there are no products in progress).

The profit & loss statement per functions, using the **Absorption Costing System** in March/N is the following one:

Description	Value (€)
Sales	72 000
MCPS+NPMC	36 600
Gross Profit	35 400
Selling (Distribution) Expenses	
Variable	6 000
Fixed	8 000
Administrative Expenses (fixed)	5 000
Financial Expenses (fixed)	7 000
Profit Before Taxes	9 400

Presenting the calculations, it is required:

1. Prepare the P&L Statements, using the absorption costing system and the variable costing system;
2. Explain, using the notion of manufacturing fixed costs, the difference of the statements obtained using the absorption costing system and the variable costing system;
3. Ascertain the breakeven point and the margin of safety of the company in the year N;
4. Ascertain the estimated profit, if the company sells 1 500 units and what selling price has the company to fix so that the breakeven point is 800 units;

5. The company thinks of exporting to Mozambique 250 units at the selling price of 50€/unit, will an increase of the variable unit selling (distribution) costs of 2€ /unit. Should the company go ahead with this business, maintaining its production for the national market?