

Accounting Department

Management Accounting II

EXERCISE BOOK 1
(SOLVING)

Management 2nd Year

ANNUAL BUDGET

EXERCISES 1, 2, 3 and 4

School Year 2015/2016

EXERCISE 1 – SOLVING ALVO COMPANY

Production Programme of the product AL1

	1st Sem	2nd Sem	Year
Opening Stock	15 000	13 250	15 000
Production	e)38 000	f)111 750	149 750
Consumptions	a)39 750	b)93 750	133 500
Closing Stock	c)13 250	d)31 250	31 250

Supporting Calculations:

- a) $13\,250 \times 3$
- b) $31\,250 \times 3$
- c) $39\,750/6 \times 2$
- d) $93\,750/6 \times 2$
- e) $13\,250 + 39\,750 - 15\,000$
- f) $31\,250 + 93\,750 - 13\,250$

Purchases Programme of the material X

	1st Sem	2nd Sem	Year
Opening Stock	20 000	37 437.5	20 000
Purchases	d)36 437.5	d)36 437.5	72 875
Consumptions	a)19 000	b)55 585	74 875
Closing Stocks	37 437.5	18 000	c)18 000

Supporting Calculations:

- a) $38\,000 \times 0.5$
- b) $111\,750 \times 0.5$
- c) $20\,000 - 2\,000$
- d) $72\,875/2$

Unit MCFP forecasted
Unit MCFP of AL1 = $0.5 (30 + 2) + 0.3 \times 30 = 25$ €/ton
Unit MCFP of AL = $3 \times 25 + 1 \times 50 = 125$ €/Unit

Values for the Cash Budget

Sales receipts 2nd semester	Value: = 8 750 000 €
$(15\,000 \times 350)/6 \times 2 + (30\,000 \times 350)/6 \times 4 = 1\,750\,000 + 7\,000\,000 = 8\,750\,000 \text{ €}$	
Purchases payment in the 1st semester	Value: 910 937.50 €
$36\,437.50 \times 30/6 \times 5 = 910\,937.50 \text{ €}$	

Financial Budget

	1st Sem	2nd Sem	Year
Cash Inflows			
Opening Cash	50 000	60 000	50 000
(+) Cash Budget	100 000	640 000	740 000
Short Term Loan	500 000 c)		500 000
Total Cash Inflows	650 000	700 000	1 290 000
Cash Outflows			
Closing Cash	60 000	60 000	60 000
(-) Cash Budget	-	-	-
Payment ML Term Loan	500 000	500 000	1 000 000
Interests ML Term Loan	90 000a)	80 000 b)	170 000
Payment Short Term Loan		35 000 e)	35 000
Interests Short Term Loan		25 000 d)	25 000
Total Cash Outflows	650 000	700 000	1 290 000

Supporting Calculations:

- a) $4\,500\,000 \times 0.04 / 2 = 90\,000 \text{ €}$
- b) $4\,000\,000 \times 0.04 / 2 = 80\,000 \text{ €}$
- c) $650\,000 - 100\,000 - 50\,000$
- d) $500\,000 \times 0.1 / 2$
- e) $700\,000 - 60\,000 - 500\,000 - 80\,000 - 25\,000$

Values to forecast in the Forecasted Balance Sheet

Materials Stocks	Value: 576 000 €
Supporting Calculations: $(20\,000 - 2\,000) \times 32 = 576\,000 \text{ €}$	
Loan and Interests payable	Loans – Value: 3 965 000 € Interests payable – Value: 34 917 €
Supporting Calculations: Loans = ML Term Loan + Short Term Loan = $3\,500\,000 + (500\,000 - 35\,000) = 3\,965\,000 \text{ €}$ Interests payable = ML Term Loan + Short Term Loan = $(3\,500\,000 \times 0.04/12) + 465\,000 \times 0.1/2 = 11\,667 + 23\,250 = 34\,917 \text{ €}$	

EXERCISE 2 – SOLVING – KKK COMPANY

PRODUCTION PROGRAMME – Product K

	1st Sem	2nd Sem	Total
Opening Stock	850	1 500	850
Sales	5 000	6 000	11 000
Production	5 650	5 750	11 400
Closing Stock	a) 1 500	b) 1 250	1 250

a) $6\,000/6 \times 1.5 = 1\,500$

b) $5\,000/6 \times 1.5 = 1\,250$

PRODUCTION PROGRAMME – Intermediate product K1

	1st Sem	2nd Sem	Total
Opening Stock	600	575	600
Consumption a)	6 780	6 900	13 680
Production	6 755	6 890	13 645
Closing Stock	b) 575	c) 565	565

a) Production of K * 1.2

b) $6\,900/6 \times 0.5$

c) $6\,780/6 \times 0.5$

PRODUCTION PROGRAMME – By-product k'

	1st Sem	2nd Sem	Total
Opening Stock	100	230	100
Sales	1 000	1 000	2 000
Production a)	1 130	1 150	2 280
Closing Stock	230	380	380

a) Production of K * 0.2

PURCHASES PROGRAMME – Material M

	1st Semester	2nd Semester	Total
Opening Stock	3 000	4 364	3 000
Consumption a)	13 510	13 780	27 290
Purchases	d) 14 874	d) 14 874	c) 29 748
Closing Stock	4 364	b) 5 458	5 458

a) Production of K1 * 2

b) $27\,290 \times 0.2$

c) $27\,290 + 5\,458 - 3\,000$

d) $29\,748/2$

Cash Budget

Description	Value (€)	Supporting Calculations
Receipts from clients 2nd Sem	1 086 900 €	$5\,000 \times 180/6 \times 1.5 +$ $1\,000 \times 51.9/6 +$ $6\,000 \times 180/6 \times 4.5 +$ $1\,000 \times 51.9/6 \times 5$
Payments to suppliers of materials in the 1st Sem	681 725 €	$14\,874 \times 50/6 \times 5.5$

Values for Balance Sheet

Description	Value (€)	Supporting Calculations
Public Sector Debts		Social Security = $20\,500 \times 0.2375 = 4\,868.75$
Finished Products Stocks	$1\,250 \times 150 = 187\,500 \text{ €}$	Unit MCFP K1 = $2 \times 50 + 2 \times 7.5 + 2 \times 1.2 = 117.4$ Unit MCFP K = $1.2 \times 117.4 + 3 \times 6.5 - 0.2 \times 51.9 = 150$
Intermediate Product Stock	66 331 €	565×117.4
By-product Stock	19 722	380×51.9

Forecasted Profit & Loss Statement

	K	K'	Total
Sales	1 980 000 a)	103 800 b)	2 083 800
MCPS	1 650 000 c)	103 800 d)	1 753 800
Gross Profit	330 000	0	330 000
Non-manuf. Costs			
Variable	99 000 e)	0	99 000
Fixed			120 000 f)
Operational Profit			111 000

a) $11\,000 \times 180$

b) $2\,000 \times 51.9$

c) $11\,000 \times 150$

d) $2\,000 \times 51.9$

e) $1\,980\,000 \times 0.05$

f) $4\,000 \times 12 \times 1.6 + 43\,200$

Medium and Long Term Loan

	1/7/2013	1/1/2014	1/7/2014	1/1/2015	1/7/2015	1/1/2016	1/7/2016
Initial (opening) Debt	500 000	500 000	450 000	400 000	350 000	300 000	250 000
Refund		50 000	50 000	50 000	50 000	50 000	50 000
Closing Debt	500 000	450 000	400 000	350 000	300 000	250 000	200 000

- Financial Budget

	1st Semester	2nd Semester	Total
Capital Refund	50 000	50 000	100 000
Interests Payable	12 000	10 000	22 000

- Forecasted P & L Statement

$$10\,000 + (200\,000 \times 0.08)/2 = 18\,000 \text{ €}$$

- Balance Sheet: $(200\,000 \times 0.08)/2 = 8\,000 \text{ €}$

EXERCISE 3 – SOLVING

TSM COMPANY

Production Programme			
Product Z	1st Semester	2nd Semester	Year
Opening Stock	2 000	6 625	2 000
Sales	20 000	30 000	50 000
Production	c) 24 625	c) 24 625	b) 49 250
Closing Stock	6 625	1 250	a) 1 250
Product Y			
Opening Stock	500	1 000	500
Sales	9 000	6 000	15 000
Consumptions	d) 29 550	d) 29 550	59 100
Production	g) 39 050	h) 36 050	75 100
Closing Stock	e) 1 000	f) 1 500	1 500

Supporting Calculations:

- | | |
|--|---|
| a) $50000 / 12 \times 0.3 = 1250$ | e) $6\,000/6$ |
| b) $50\,000 + 1\,250 - 2\,000 = 49\,250$ | f) $9\,000/6$ |
| c) $49\,250/2 = 24\,625$ | g) $9\,000 + 29\,550 + 1\,000 - 500 = 39\,050$ |
| d) $24\,625 \times 1.2$ | h) $6\,000 + 29\,250 + 1\,500 - 1\,000 = 36\,050$ |

Forecast of Sales Receipts

1st Semester
2 480 000 a)

2nd Semester
4 560 000 b)

Supporting Calculations:

a) $(9\,000 \times 80 + 20\,000 \times 150) / 6 \times 4$

b) $(9\,000 \times 80 + 20\,000 \times 150) / 6 \times 2 + (6\,000 \times 80 + 30\,000 \times 150) / 6 \times 4$

Budget of the Conversion Costs (€)

	1st Semester	2nd Semester	Year
Section I	a) 1 952 500	b) 1 802 500	3 755 000
Section II	c) 517 125	d) 517 125	1 034 250
Total	2 469 625	2 319 625	4 789 250
Manuf. Deprec.	569 625	569 625	1 139 250
Payable Conv. C.	1 900 000	1 750 000	3 650 000

Supporting Calculations:

a) $5 \times 39\,050 \times 10$

b) $5 \times 36\,050 \times 10$

c) $3 \times 24\,625 \times 7$

d) $3 \times 24\,625 \times 7$

Payments value in the 2nd Semester:

$1\,900\,000 / 6 \times 0.5 + 1\,750\,000 / 6 \times 5.5 = 1\,762\,500 \text{ €}$

Financial Budget

	1st Semester	2nd Semester	Year
Cash Inflows			
Opening Cash	5 000	15 000	5 000
Cash Budget Superavit		1 250 000	1 250 000
S Term Loan	a) 510 000		510 000
Total Cash Inflows	515 000	1 265 000	1 765 000
Cash Outflows			
Closing Cash	15 000	15 000	15 000
Cash Budget Deficit	500 000		500 000
Investments		265 000	265 000
Payment ML Term Loan		c) 200 000	200 000
Payment Interests ML Term Loan		d) 50 000	50 000
Payment Interests S Term Loan		b) 20 400	20 400
Payment S Term Loan		510 000	510 000
Short Term Investments		204 600	204 600
Total Cash Outflows	515 000	1 265 000	1 765 000

Supporting Calculations:

- a) $515\ 000 - 5\ 000 = 510\ 000$
- b) $510\ 000 \times 0.08 / 2 = 20\ 400$
- c) $1\ 000\ 000 / 5 = 200\ 000$
- d) $1\ 000\ 000 \times 0.05 = 50\ 000$

Forecasted Profit & Loss Statement

	Prod Y	Prod Z	Total
Sales	a) 1 200 000	b) 7 500 000	8 700 000
MCPS	c) 948 000	d) 4 842 000	5 790 000
Gross Profit	252 000	2 658 000	2 910 000
Variable Selling (distrib.) Costs		e) 375 000	375 000
DC+ AC			2 000 000
Operational Profit			535 000
Financial Income			f) 3 069
Financial Expenses			g) 68 733.33
Profit before Taxes			469 335.7

Supporting Calculations:

a) $(9\,000 + 6\,000) \times 80 = 1\,200\,000$

b) $(20\,000 + 30\,000) \times 150 = 7\,500\,000$

c) $15\,000 \times (12 \times 1.1 + 10 \times 5) = 15\,000 \times 63.2 = 948\,000$

d) $50\,000 \times (63.2 \times 1.2 + 7 \times 3) = 50\,000 \times 96.84 = 4\,842\,000$

e) $7\,500\,000 \times 0.05 = 375\,000$

f) $204\,600 \times 0.03 / 2 = 3\,069$

g) $20\,400 + 50\,000 / 12 \times 10 + 800\,000 \times 0.05 / 12 \times 2 =$
 $= 20\,400 + 41\,666.666 + 6\,666.666 = 68\,733.33$

EXERCISE 4 - SOLVING -

Production Programme			
	1st Sem	2nd Sem	Total
Opening Stock	6 500	4 000	6 500
Production	27 500	25 500	53 000
Sales	30 000	24 000	54 000
Closing Stock	a) 4 000	b) 5 500	5 500

- a) $24\,000/4$
- b) $30\,000 \times 1.1/6$

Purchases Programme			
	1st Sem	2nd Sem	Total
Opening Stock	12 000	9 000	12 000
Purchases	30 000	30 000	60 000
Consumptions	a) 33 000	b) 30 600	63 600
Closing Stock	9 000	8 400	c) 8 400

- a) $27\,500 \times 1.2$
- b) $25\,500 \times 1.2$
- c) $12\,000 \times 0.7$

Cash Budget

	15	25	Total	Balance Sheet
Receipt				
Previous Year	900 000	0	900 000	0
Year				
Customers	3 000 000	3 900 000	7 800 000	1 000 000
Others	-	43 250	43 250	0
Total 1	3 900 000	3 943 250	7 843 250	0
Payments				
Previous Year	1 537 125	77 375	1 614 500	
Year				
Purchases	450 000	900 000	1 350 000	450 000
Conversion Costs	800 000	1 200 000	1 280 000	100 000
Variable Selling (Distrib.) Costs	180 000	144 000	324 000	
Other non-manufacturing Costs	240 000	240 000	480 000	
Salaries	600 000	800 000	1 400 000	
Other Costs with employees	65 625	65 625	131 250	
Employer's Social Expenses	118 750	166 250	285 000	47 500
Others	8 500	-	8 500	
Total 2	4 000 000	3 593 250	7 593 250	
Balance	-100 000	350 000	250 000	

Receipt from clientes:

- 1st semester: $(30\,000 \times 150 / 6) \times 4 = 3\,000\,000 \text{ €}$
2nd semester: $(30\,000 \times 150 / 6) \times 2 + (24\,000 \times 150 / 6) \times 4 = 1\,500\,000 + 2\,400\,000 = 3\,900\,000 \text{ €}$
- For Balance Sheet: $(20\,000 \times 1\,500 / 6) \times 2 = 1\,000\,000 \text{ €}$

Payments to Suppliers:

- 1st semester: $(30\,000 \times 30 \times 3) / 6 \times 3 = 450\,000 \text{ €}$
- 2nd semester: $450\,000 \times 2 = 900\,000 \text{ €}$
- For Balance Sheet: $(30\,000 \times 30 \times 3) / 6 \times 3 = 450\,000 \text{ €}$

Employer's Expenses Payment

- 1st semester: $0.2375 \times 100\,000 \times 5 \text{ months} = 118\,750 \text{ €}$
- 2nd semester: $0.2375 \times 100\,000 \times 7 \text{ months} = 166\,250 \text{ €}$
- For Balance Sheet: $0.2375 \times 100\,000 \times 2 \text{ months} = 47\,500 \text{ €}$

FINANCIAL BUDGET

	1st Sem	2nd Sem	Year
Cash Inflows			
Opening Cash	25 000	35 000	25 000
(+) Cash Budget		350 000	350 000
Short Term Loan	172 500		172 500
Sale Short-Term Investments			
Interests Short-Term Investments			
Total Cash inflows	197 500	385 000	547 500
Cash Outflows			
Closing Cash	35 000	35 000	35 000
(-) Cash Budget	100 000		100 000
Payment ML Term Loan	50 000	50 000	100 000
Payment Interests ML Term Loan	12 500	11 250	23 750
Payment Short Term Loan			
Payment Interests Short Term Loan			
Payment Interests Cash Credit Line		8 625	8 625
Refund Credit line		172 500	172 500

Short-Term Investments		107 625	107 625
Total Short-Term Investments	197 500	385 000	547 500

Refund of the M/L Term Loan: 500.000€: 10 half-yearly payments = 50 000 € per semester.

Interests of the M/L Term Loan:

1st semester: $(500\,000 \times 0.05) / 12 \times 6 = 12\,500\,€$

2nd semester: $(450\,000 \times 0.05) / 12 \times 6 = 11\,250\,€$

Interests of the Short Term: $(197\,500 \times 0.10) / 12 \times 6 = 8\,625€$

4. Unit MCFP

$$\begin{array}{lcl} \text{MCFP} & & \\ \text{unit} & 30 \times 1.2 + 30 \times 1.5 + 50 \times .5 = & 106 \end{array}$$

5. Forecasted Profit & Loss Statement

	Q
Sales	8 100 000
MCPS	5 724 000
Gross Profit	2 376 000
Variable Selling (distrib.) Costs	324 000
Other Non-Manufacturing Costs	709 125
Operational Profit	1 342 875
Financial Expenses	36 958.33
Interests Short-Term Investments	1 076.25
Profit before Taxes	1 306 993

$$\text{Sales} = 54\,000 \times 150 \text{ €}$$

$$\text{MCPS} = 106 \times 54\,000 = 5\,724\,000 \text{ €}$$

$$\text{Variable Selling (Distrib.) Costs} = 324\,000 \text{ €}$$

$$\begin{aligned} \text{Other Non-Manufacturing Costs} &= 150\,000 + \text{Non-Manufacturing expenses with} \\ &\text{employees } 0 \quad 150\,000 + 559\,125 = 709\,125 \text{ €} \end{aligned}$$

Expenses with employees	
Salaries per year	1400000
Employer's Expenses	332500
Other Expenses with Employees	131250
Total per year	1863750

Manufacturing	1304625
Non-Manufacturing	559125

Financial Expenses: $8\,625 + 22\,500 = 31\,125\text{ €}$

- Interests of short term loan: 8 625 €
- Interests M/L Term Loan: $12\,500/6 \times 3 + 11\,250 + (400\,000 \times 0.05/12) \times 3 = 6\,250 + 11\,250 + 5\,000 = 22\,500\text{ €}$

Interests of Short –Term Investments: $(107\,625 \times 0.02)/12 \times 6 = 1\,076.25\text{ €}$

6. Forecasted Balance Sheet:

- Materials stocks: $8\,400 \times 305 = 252\,000 \text{ €}$
- Finished products stocks: $5\,500 \times 106 = 583\,000 \text{ €}$

Interests receivable: $(107\,625 \times 0.02)/12 \times 6 = 1\,076.25 \text{ €}$

- Interests payable $(400\,000 \times 0.05/(12 \times 3) = 5\,000 \text{ €}$