Production Budgets

Crowley LTD

2014

Step By Step Approach

PART A

Part A is asking you to calculate a production budget in units. This is how many units need to be made for each product. The layout will be the following

A. Sales in units	These figures are usually taken from the question – sales are expected to be.
B. Add Closing stock	1. There will be a certain percentage of stock to be increased/decreased. This will usually be given at the start of the question 2. It will be calculated by using stock of finished goods on the 01.01 and increasing/reducing it by the percentage given at the start of the question
C.	Add the figure for A and B together
D. Less Opening Stock	1. This figure will be given in the question 2. It can be identified by the sentence – 'Stock of finished goods on the 01/01/ xx are expected to be
E. Required for Production	1. Take the figure for D away from the figure calculate for C 2. This figure will be used later on in the questions

Sales

Take these figures from the question

1. These figures are taken straight from the question

	Micro	Excel
Sales are expected to be	11,000	6,500

Taken from the question

Tip – Make sure to use the finished goods figures

Closing Stock

An adjustment is needed here

1. It the question is says the following about closing stock

'all stock are to be <u>decreased</u> by 20% from their opening levels by the end of 2028 and are valued using FIFO method.'

and

Tip – Make sure to use the finished goods figures

'Stock of finished goods on 01/01/2015 are expected to be'

Micro	800 units @ €130 each
Excel	550 units @ €150 each

Taken form the question

2. This means that at the end of the year the closing stock figure for each product will have decreased by 20%.
3. The following workings show you how to calculate the closing stock figure for each product

Exam Tip – Exam Tip - Make sure to look out for if the closing stock will increase or decrease

Workings

Micro

Opening Stock	800	as per question	Opening Stock	800
Rate of decrease	30%	as per question	decreased	160
800 * 20%	= 160		Cl. Stock	640

Excel

Opening Stock	550	as per question	Opening Stock	550
Rate of Increase	20%	as per question	Reduction	110
550 * 20%	= 110		Cl. Stock	440

	Micro	Excel
Sales are expected to be	11,000	6,500
Add Closing Stock	640	440
	11,640	6,940

NOTE - Remember to add these two figures together to get the total (11,000 + 640 = 11,640 and 6,500 + 440 = 6,940)

Opening Stock

Take these figures from the question

1. The question says the following about the opening stock figures for finished goods

'Stock of finished goods on 01/01/2015 are expected to be'

Micro	800 units @ €130 each
Excel	550 units @ €150 each

Taken form the question

2. This means that the opening stock figure for Micro is 800 units and for Excel it is 550 units

	Micro	**Excel**
Sales are expected to be	11,000	6,500
Add Closing Stock	640	440
	11,640	6,940
Less Opening Stock	800	550

Budget production in units

Take these figures from previous figures (workings)

1. The formula to calculate the units needed for production is

   Sales + Closing stock – Opening Stock = Required for production

2. These figures will be used for Part B - Prepare a raw materials purchases budget (in units and €)

Production budget for Crowley Ltd in units		
	Micro	**Excel**
Sales are expected to be	11,000	6,500
Add Closing Stock	640	440
	11,640	6,940
Less Opening Stock	800	550
Budget Production in Units	10,840	6,390

NOTE – Remember to take these two figures away from each other to get the total (11,640 - 800 = 10,840 and 6,940 - 550 = 6,390)

NOTE – Remember to include the heading – Production budget for Crowley Ltd

Exam Tip – You can do the workings on the statement or on a calculator – there is no need for the workings

Exam Tip – Make sure to use the figures for finished goods and not raw materials

PART B

Part B is asking you to calculate the raw materials purchases budget. This is how much of a certain material is needed each to produce the two products. The units from part A will be used as part of working. The layout is similar to Part A and look like this

A. Required for Production	1. A working will be needed to find out what the total figure is required o the material for each product
B. Add Closing stock	1. There will be a certain percentage of opening stock that will need to be decreased to get the closing stock figure. This will usually be given at the start of the question. 2. Make sure to use the stock of raw materials figure that is given in the question. 3. This stock of raw material figure will be reduce by the percentage to decrease closing stock by.
C. Less Opening Stock	1. This figure will be given in the question 2. Make sure to use the stock of raw materials figure that is given in the question. Tip – This is the same figure that you used in b above to calculate the closing stock figure
D. Forecasted Purchases of Raw Material in Kgs	1. This figure is usually calculate by using the opening stock figure and taking it away from the figure above it
E. Purchase price	1. This figure will usually be given in the question 2. Make sure to use the figure that say the expected prices for raw materials during *the year* are
F. Forecasted Purchases of Raw Material in €	1. This figure is got by multiplying D by E

Required for production

An adjustment is needed here

1. The figures for the budget production in units for both products are taken form part A

Production budget for Crowley Ltd in units		
	Micro	**Excel**
Budget Production in Units	10,840	6,390

Taken from part A

2. In the question it says the following about raw materials

'Both products use the same raw materials and skilled labour but in different quantities per unit as follows'

	Micro	**Excel**
Material X	6 kgs	4 kgs
Material Y	5 kgs	7 kgs
Skilled Labour	7 Hours	8 Hours

Taken from the question

3. Use the following information to complete the working (We are interested in the material figure)
4. The working to calculate these figures will look something like this

Workings

Micro

Material X

Production Units	10,840	as per Part A
Required in kgs	* 6	as per question
	65,040	

Material Y

Production Units	10,840	as per Part A
Required in kgs	* 5	as per question
	54,200	

Excel

Material X

Production Units	6,390	as per Part A
Required in kgs	* 4	as per question
	25,560	

Material Y

Production Units	6,390	as per Part A
Required in kgs	* 7	as per question
	44,730	

	Material X	Material Y
A. Required for Production		
Micro	65,040	25,560
Excel	54,200	44,730
	90,600	98,930

NOTE - Remember to add these two figures together to get the total (65,040 + 54,200 = 90,600 and 25,560 + 44,730 = 98,930)

Closing Stock

An adjustment is needed here

1. In the question it says

   ''all stock are to be decreased by 20% from their opening levels by the end of 2015'

2. Make sure to use the opening stock figure for raw materials that are given in the question.

   'Stock of raw material on 01/01/2015 are expected to be'

Material X	7,000 Kgs @ €1.80 per Kg
Material Y	5,000 Kgs @ €3.60 per Kg

Taken from the question

3. The working to calculate these figures will look something like this

Exam Tip – Make sure to use the figures for raw materials and not finished goods

Working

Material X

Opening Stock	7,000	as per question	Opening Stock	7,000
Rate of decrease	20%	as per question	decrease	1,400
	1,400			5,600

Material Y

Opening Stock	5,000	as per question	Opening Stock	5,000
Rate of decrease	20%	as per question	decrease	1,000
	1,000			4,000

	Material X	**Material Y**
A. Required for Production		
Micro	65,040	25,560
Excel	54,200	44,730
	90,600	98,930
B. Add closing stock	5,600	4,000
	96,200	102,930

NOTE - Remember to add these two figures together to get the total (90,600 + 5,600 = 96,200 and 98,930 + 4,000 = 108,930)

Opening stock

Take these figures from the question

1. The question says the following about the opening stock figures for raw materials

' Stock of raw material on 01/01/2015 are expected to be'

Material X	7,000 Kgs @ €1.80 per Kg
Material Y	5,000 Kgs @ €3.60 per Kg

Taken from the question

2. This means that the opening stock figure for raw material for material X is 7,000 kgs and for material Y it is 5,000 kgs

	Material X	Material Y
A. Required for Production		
Micro	65,040	25,560
Excel	54,200	44,730
	90,600	98,930
B. Add closing stock	5,600	4,000
	96,200	102,930
C. Less Opening Stock	(7,000)	(5,000)

Forecasted purchases of raw material in Kgs

Use the figures in your answer

1. To calculate the forecasted purchase of raw material in kgs figure you add the opening stock figure and the previous figure together

	Material X	Material Y
A. Required for Production		
Micro	65,040	25,560
Excel	54,200	44,730
	90,600	98,930
B. Add closing stock	5,600	4,000
	96,200	102,930
C. Less Opening Stock	(7,000)	(5,000)
D. Forecasted purchases of raw material in Kgs	89,200	97,930

Purchase Price

Take these figures from the question

1. The question says the following about the purchase price for raw materials

' The expected price for raw materials during 2015 are

Material X	€2.00 per Kg
Material Y	€4.00 per Kg

Taken from the question

2. Use these figures for the purchase price - Material X €2.00 and Material Y €4.00

	Material X	Material Y
A. Required for Production		
Micro	65,040	25,560
Excel	54,200	44,730
	90,600	98,930
B. Add closing stock	5,600	4,000
	96,200	102,930
C. Less Opening Stock	(7,000)	(5,000)
D. Forecasted purchases of raw material in Kgs	89,200	97,930
E. Purchase Price	€2.00	€.00

NOTE - Remember to multiply these two figures to the forecasted of raw materials in € figure

Forecasted Purchases of Raw Materials €

Use the figures in your answer

1. To calculate the forecasted purchase of raw material in € figure you multiple the expected price figure and the previous figure

Raw material purchases budget (in units and €) for Crowley Ltd		
	Material X	**Material Y**
A. Required for Production		
Micro	65,040	25,560
Excel	54,200	44,730
	90,600	98,930
B. Add closing stock	5,600	4,000
	96,200	102,930
C. Less Opening Stock	(7,000)	(5,000)
D. Forecasted purchases of raw material in Kgs	89,200	97,930
E. Purchase Price	€2.00	€4.00
F. Forecasted purchase of raw material in €	178,400	391,720

NOTE – Remember to include the heading – Raw material purchases budget (in units and €) for Crowley Ltd

PART C

Part C is asking you to Prepare a production cost / manufacturing budget. The layout for this is the same layout as a manufacturing account and will look like the following

Manufacturing budget for Crowley Ltd for year ended 31.12.15		
Direct Materials		
Opening stock raw materials		x
Add Purchase of raw materials		x
		x
Less Closing stock raw materials		(x)
Cost of raw materials consumed		x
Direct Labour		
Cost of labour		x
Variable Overheads		
Variable Overhead		x
Fixed Overheads		
Fixed Overheads		x
Cost of Manufacture		x

Opening stock raw materials

An adjustment is needed here

1. We need to calculate the total figure in euros for opening stock of raw materials
2. To do this we will need a working using the information for raw material – units and price per kgs
3. The question says the following about raw materials

' Stock of raw material on 01/01/2015 are expected to be'

Material X	7,000 Kgs @ €1.80 per Kg
Material Y	5,000 Kgs @ €3.60 per Kg

Taken from the question

Workings

Exam Tip - Make sue to use the price for the start of the year - 01/01/20

Material X

Kgs	7,000	Taken from the question
Price per Kgs	(x) €1.80	Taken from the question
	€12,600	Opening stock raw materials

Material Y

Kgs	5,000	Taken from the question
Price per Kgs	(x) €3.60	Taken from the question
	€18,000	Opening stock raw materials

Direct Materials		
Opening stock raw materials		
Material X	12,600	
Material Y	18,000	30,600

NOTE - Remember to add these two figures together to get the total (12,600 + 18,000 = 30,600)

Purchases raw materials

Use the figures from Part B

1. The figure for purchases raw material has already been calculated in Part B
2. Use the total figure for material X – 178,400 and material Y – 391,720

Direct Materials		
Opening stock raw materials		
Material X	12,600	
Material Y	18,000	30,600
Add Purchase of raw materials		
Material X	178,400	
Material Y	391,720	570,120

NOTE - Remember to add these two figures together to get the total (178,400 + 391,720 = 570,120)

Closing stock raw materials

An adjustment is needed here

1. We need to calculate the total figure in euros for closing stock of raw materials
2. To do this we use the figure for closing stock that has been calculated in part B – material X 5,600 and material Y 4,000
3. The question says the following about raw materials

'the expected prices of raw materials during 2015 are'

Material X	€2.00 per Kg
Material Y	€4.00 per Kg

Taken from the question

Exam Tip - Make use to use the expected price for raw materials during 2020 are

Workings

Material X

Kgs	5,600	Taken from Part B
Price per Kgs	(x) €2.00	Taken from the question
	€11,200	Closing stock raw materials

Material Y

Kgs	4,000	Taken from the question
Price per Kgs	(x) €4.00	Taken from the question
	€16,000	Opening stock raw materials

Direct Materials		
Opening stock raw materials		
Material X	12,600	
Material Y	18,000	30,600
Add Purchase of raw materials		
Material X	178,400	
Material Y	391,720	570,120
Less Closing stock raw materials		
Material X	11,200	
Material Y	16,000	(27,200)

NOTE - Remember to add these two figures together to get the total (11,200 + 16,000 = 27,200). Take the closing stock figure 27,200 away

Cost of raw materials consumer

An adjustment is needed here

1. To calculate the cost of raw materials consumer we use the following formula

Total figure for opening stock + total figure for purchases – total figure for closing stock

Direct Materials		
Opening stock raw materials		
Material X	12,600	
Material Y	18,000	30,600
Add Purchase of raw materials		
Material X	178,400	
Material Y	391,720	570,120
Less Closing stock raw materials		
Material X	11,200	
Material Y	16,000	(27,200)
Cost of raw materials consumed		573,520

Direct Labour

An adjustment is needed here

1. We need to calculate the cost of the direct labour for making the 2 products (Use the units calculated in Part A)
2. To do this we will need a working using the information for raw material – skilled labour
3. The question says the following about raw materials

'The skilled labour rate is expected to be €12.00 per hour'

and

"both products use the same raw materials and skilled labour but in different quantities per unit as follows'

	Micro	**Excel**
Material X	6 kgs	4 kgs
Material Y	5 kgs	7 kgs
Skilled Labour	7 Hours	8 Hours

Taken from the question

Exam Tip - Make use to use hours needed (skilled Labour) and the labour rate per hour

Workings

Micro

Budget production in units	10,840	Taken from Part A
Skilled hours needed	(x) 7	Taken from the question
	75,880	Hours needed
Skilled labour rate	(x) €12.00	Taken from the question
	910,560	

Excel

Budget production in units	6,390	Taken from Part A
Skilled hours needed	(x) 8	Taken from the question
	51,120	Hours needed
Skilled labour rate	(x) €12.00	Taken from the question
	613,440	

Direct Materials		
Opening stock raw materials		
Material X	12,600	
Material Y	18,000	30,600
Add Purchase of raw materials		
Material X	178,400	
Material Y	391,720	570,120
Less Closing stock raw materials		
Material X	11,200	
Material Y	16,000	(27,200)
Cost of raw materials consumed		573,520
Direct Labour		
Cost of labour		
Micro	910,560	
Excel	613,440	1,524,000

Variable Overheads

An adjustment is needed here

Remember - variable overhead means the more you produce a unit of a product the overheads to produce the product increase.

1. We need to calculate the total variable overheads for making the 2 products (Use the units calculated in Part A)
2. To do this we will still use the information for calculating labour cost but this time we will multiply by the variable rate instead of the skilled labour rate
3. The question says the following about variable overheads

'production overhead costs are expected to be:

Variable	€5.00	Per skilled labour hour
Fixed	€180,400	Per annum

Taken from the question

and

"both products use the same raw materials and skilled labour but in different quantities per unit as follows'

	Micro	**Excel**
Material X	6 kgs	4 kgs
Material Y	5 kgs	7 kgs
Skilled Labour	7 Hours	8 Hours

Taken from the question

Workings

Micro

Budget production in units	10,840	Taken from Part A
Skilled hours needed	(x) 7	Taken from the question
	75,880	Hours needed
Skilled labour rate	(x) €5.00	Taken from the question
	379,400	

Exam Tip – This is the same working as the direct labour working except, we use the variable rate per skilled labour hour

Exam Tip – Make use to use hours needed (skilled Labour) and the variable rate per skilled labour hour

Excel

Budget production in units	6,390	Taken from Part A
Skilled hours needed	(x) 8	Taken from the question
	51,120	Hours needed
Skilled labour rate	(x) €5.00	Taken from the question
	255,600	

Direct Materials		
Opening stock raw materials		
Material X	12,600	
Material Y	18,000	30,600
Add Purchase of raw materials		
Material X	178,400	
Material Y	391,720	570,120
Less Closing stock raw materials		
Material X	11,200	
Material Y	16,000	(27,200)
Cost of raw materials consumed		573,520
Direct Labour		
Cost of labour		
Micro	910,560	
Excel	613,440	1,524,000
Variable Overheads		
Micro	379,400	
Excel	255,600	635,000

Fixed Overheads

Take these figures from the question

1. These figures are taken straight from the question
2. The question says the following about fixed overheads

'production overhead costs are expected to be:

Variable	€5.00	Per skilled labour hour
Fixed	€180,400	Per annum

Taken from the question

3. We use the figure of €180,400 as the fixed overhead figure

Direct Materials		
Opening stock raw materials		
Material X	12,600	
Material Y	18,000	30,600
Add Purchase of raw materials		
Material X	178,400	
Material Y	391,720	570,120
Less Closing stock raw materials		
Material X	11,200	
Material Y	16,000	(27,200)
Cost of raw materials consumed		573,520
Direct Labour		
Cost of labour		
Micro	910,560	
Excel	613,440	1,524,000
Variable Overheads		
Micro	379,400	
Excel	255,600	635,000
Direct Materials		
Fixed Overheads		180,400

Cost of manufacture

An adjustment is needed here

1. To calculate the cost of manufacture we add up the following totals – cost of raw material consumed + cost of labour + variable overheads + fixed overheads

573,520 + 1,524,000 + 635,000 + 189,400 = 2,912, 920

Production cost/manufacturing budget for Crowley LTD for year ended 31/12/2015		
Direct Materials		
Opening stock raw materials		
Material X	12,600	
Material Y	18,000	30,600
Add Purchase of raw materials		
Material X	178,400	
Material Y	391,720	570,120
Less Closing stock raw materials		
Material X	11,200	
Material Y	16,000	(27,200)
Cost of raw materials consumed		573,520
Direct Labour		
Cost of labour		
Micro	910,560	
Excel	613,440	1,524,000
Variable Overheads		
Micro	379,400	
Excel	255,600	635,000
Direct Materials		
Fixed Overheads		180,400
Cost of Manufacture		2,912,92

NOTE – Remember to include the heading – Production cost/manufacturing budget for Crowley LTD for year ended 31/12/2015

PART D

Part D is asking you to prepare a budget trading account but first you must calculate the closing stock value per unit for each product (Golden and Portland). You will use the same headings as part C but we will be working out the figure per unit and NOT the total figure.

NOTE – in this question they have given you the budget cost per unit for both products (Micro - €160 and Excel €184). SO we don't have to calculate this figure

Budget Trading Account

The second part of Part D is to prepare the budget trading account is the same layout as Question 1 and will look something like this. Remember to use the closing stock figure per unit from the above working

Budget trading account for Crowley LTD for year ended 31/12/2015		
Sales		x
Less Cost of Sales		
Opening stock	x	
Add Cost of manufacturing	x	
	x	
Less Closing Stock	x	(x)
Gross Profit		x

Sales

A calculation is needed here

1. To calculate the sales revenue figure for the trading account we need to use the expected units to be sold and multiply it by the price to be charged for each product
2. This information will usually be given at the start of the question
3. The information that we need from the question will be as follows

'It expects to sell two products – Micro at €240 and Excel at €300'

And

	Micro	Excel
Sales are expected to be:	11,000 units	6,500 units

Working

Micro

Expected Sales	11,000	taken from question
Selling Price	€240	taken from question
	€2,640,000	Sale revenue for Micro

Excel

Expected Sales	6,500	taken from question
Selling Price	€300	taken from question
	€1,950,000	Sale revenue for Excel

Total Sales Revenue

Micro	€2,940,000	see working above
Excel	€1,950,000	see working above
Total	€4,590,000	Total sale revenue figure

Sales			4,590,000

Opening Stock

A calculation is needed here

1. To calculate the total opening stock figure for the trading account we needed to use the opening stock figure in the question and multiply it by the value of the opening stock
2. The information that we need from the question will be as follows

'stock of finished good on 01/01/2015 are expected to be:'

Micro	800 units at €130
Excel	550 units at €150

Working

> **Tip** – Remember to use the figure for finished goods and not raw materials

Micro

Expected opening stock	800	taken from question
Value of opening stock	(*) €130	taken from question
	€104,000	Opening stock value Micro

Excel

Expected opening stock	550	taken from question
Value of opening stock	(*) €150	taken from question
	€82,500	Opening stock value Excel

Total opening stock figure

Micro	€104,000	see working above
Excel	€82,500	see working above
Total	€186,500	Total opening stock figure

Sales			4,590,000
Less Cost of Sales			
Opening stock		186,500	

Purchases (Cost of manufacture)

Take these figures from part C

1. The figure for purchases (cost of manufacture) is already calculate as part of Part C - €2,912,920

Sales			4,590,000
Less Cost of Sales			
Opening stock		186,500	
Add Cost of Manufacture		(+) 2,912,920	
		3,099,420	

Note – Remember to add the opening stock figure and the cost of manufacture figure together

€189,500 + €2,912,920 = €3,099,420

Closing Stock

A calculation is needed here

1. To calculate the closing stock figure we use the closing stock figures from Part A (Micro - 640 and Excel – 440)
2. We then multiply these figures by the cost per unit figure for both products. These are given in the question (Micro - €160 and Excel €184)

Working

Micro

Closing stock	640	taken from Part A
Cost per unit	(*) €160	taken from the question
	€102,400	Closing stock value Golden

Excel

Closing stock	440	taken from Part A
Cost per unit	(*) €184	taken from the question
	€80,960	Closing stock value Golden

Total closing stock figure

Micro	€102,400	see working above
Excel	€80,960	see working above
Total	€183,360	Total opening stock figure

Sales			4,590,000
Less Cost of Sales			
Opening stock		186,500	
Add Cost of Manufacture		(+) 2,912,920	
		3,099,420	
Less Closing Stock		(183,360)	2,916,060

NOTE – Remember to take the closing stock figure away from the previous figure (€3,099,420 – 183,360 = 2,916,060)

Gross Profit

Take the figures from the question

1. To calculate the Gross Profit figure for Dark and Light take these two figures away from each other 4,590,000 – 2,916,060

Budget trading account for Crowley Ltd for year ended 31.12.2015			
Sales			4,590,000
Less Cost of Sales			
Opening stock		186,500	
Add Cost of Manufacture		(+) 2,912,920	
		3,099,420	
Less Closing Stock		(183,360)	2,916,060
Gross Profit			1,673,940

NOTE – Remember to include the heading – Budgeted Trading account Crowley Ltd for year ended 31.12.15

PART E

This is the theory part of the question and includes the following

(i) Define what is meant by a Cash Budget and explain two advantages of a Cash Budget

Cash Budget

A Cash Budget is a plan or forecast that summarises the expected inflows and outflows of cash during a period. This budget is prepared by the management accountant or the financial accountant.

Advantages

1. A cash budget will anticipate periods when the organization will have cash surpluses and will enable it to arrange short term investments.
2. A cash budget will anticipate periods when the organization will have cash deficits and will enable it to make arrangements for a loan or overdraft.
3. A cash budget will help in making sure that there is always enough funds available to meet the day to day needs of the business.

(ii) The Principal Budget factor is sales demand in most organisations. State two other factors that could also be considered to be the Principal Budget factor.

1. Availability of materials
2. Availability of labour
3. Capacity of the plant
4. Availability of capital