

MANAGEMENT ACCOUNTING

FORMATION 2 EXAMINATION - APRIL 2016

NOTES:

Section A - Questions 1 and 2 are compulsory. You have to answer Part A **or** Part B **only** of Question 2. Should you provide answers to both Part(s) A and B of Question 2, you must draw a clearly distinguishable line through the answer not to be marked. Otherwise, only the first answer to hand for this question will be marked.

Section B - You are required to answer any **three** out of Questions 3 to 6. Should you provide answers to all of Questions 3 to 6, you must draw a clearly distinguishable line through the answer not to be marked. Otherwise, only the first three answers to hand for these four questions will be marked.

TIME ALLOWED:

3 hours, plus 10 minutes to read the paper.

INSTRUCTIONS:

During the reading time you may write notes on the examination paper but you may not commence writing in your answer book. **Please read each Question carefully.**

Marks for each question are shown. The pass mark required is 50% in total over the whole paper.

Start your answer to each question on a new page.

You are reminded to pay particular attention to your communication skills and care must be taken regarding the format and literacy of your solutions. The marking system will take into account the content of your answers and the extent to which answers are supported with relevant legislation, case law or examples where appropriate.

List on the cover of each answer booklet, in the space provided, the number of each question attempted.

NB: PLEASE ENSURE TO ENCLOSE YOUR ANSWER SHEET TO QUESTION 3 IN THE ENVELOPE PROVIDED.

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Time allowed: 3 hours, plus 10 minutes to read the paper.

Section A: Answer Question 1 and either Part A or Part B of Question 2.

Section B: You are required to answer any three out of Questions 3 to 6.

SECTION A - QUESTIONS 1 AND 2 ARE COMPULSORY

- 1.** Keypuzzle Limited manufactures a novelty keyring which it sells to conference and event organisers. The keyring comprises a basic metal ring to attach keys and a wooden puzzle which was invented by the managing director and founder of the company, Paul Crean. Having successfully developed and patented the prototype of the keyring, the company commenced production in Ennis five years ago. The manufacturing facility has a maximum production capacity of 500,000 keyrings, which is well in excess of current sales. The production director has advised Paul that "it doesn't make sense not to use the available capacity to produce more keyrings as they will be sold over the coming years". Consequently, over the past four years the company has produced more key rings than it has sold and has built up a substantial inventory.

For its management accounts the company uses variable (marginal) costing and Paul has raised concerns with the management accountant regarding the declining profit levels. It was agreed that the management accountant would prepare the management accounts for the current year and prior year using absorption costing, highlighting the differences compared to variable costing. Unfortunately, the management accountant is ill and has not completed the absorption and variable cost comparison. Information that had been compiled relating to the comparison is shown below.

	31 March 2016	31 March 2015
Budgeted annual fixed production overhead	€105,625	€105,625
Sales (units)	350,000	319,500
Opening inventory (units)	19,500	18,000
Closing inventory (units)	22,000	19,500
Direct material (per unit)		
- Steel ring @ €0.08		
- Varnished beech @ €0.12		
Direct labour: 4 mins per unit @ €9 per hour		
Variable overhead: 10% of direct labour cost		

The keyring sells for €1.95. Direct material and direct labour costs have not increased over the two year period.

Fixed production overheads are absorbed based on units of production assuming that the company is operating at 65% of its maximum capacity. The company's actual annual fixed production overhead is equal to the budgeted amount.

REQUIREMENT:

- (a) Show the product cost for one keyring under variable (marginal) costing and absorption costing. (4 marks)
- (b) Prepare management accounts for the year ending 31 March 2016 and 2015 showing profit calculated using:
- (i) Variable (marginal) costing
 - (ii) Absorption costing (14 marks)
- (c) Reconcile the profit calculated at (b) (i) and (ii) above. (3 marks)
- (d) From the perspective of Keypuzzle Limited, outline TWO benefits and TWO limitations of using absorption costing. (4 marks)

[Total: 25 Marks]

ANSWER PART (A) OR PART (B)

2.

- (A)** You are a trainee CPA accountant with a medium sized firm and have been asked by your manager to prepare a briefing note to explain the difference between management accounting and financial accounting, and the benefits that good management accounting information may bring to a business. It is intended that the briefing note will be distributed to existing and potential SME clients to explain the importance to their business of good management accounting information.

REQUIREMENT:

In your briefing note:

- (a)** Outline the main differences between management accounting and financial accounting. (4 marks)
- (b)** Describe the factors that have contributed to the growth and importance of management accounting. (4 marks)
- (c)** Explain the role of the management accountant in terms of the type of information that he/she may provide to a business. (6 marks)

Format and Presentation (1 mark)

[Total: 15 Marks]

OR

- (B)** Denis Flynn has just established his company, DF Biscuits Limited, and hopes to commence production next month. While he has extensive experience in the food industry, specifically biscuits and confectionery, he has very little management accounting knowledge. To finance his manufacturing operation Denis has applied for a bank loan. However, the bank manager has reviewed the application and is seeking further information. He has asked to see the budget for DF Biscuits Limited for the year ahead. In addition, he has also requested a monthly cash budget for the first year of trading. Denis is unsure how to proceed and has asked for your help with this matter.

REQUIREMENT:

Draft a memorandum for Denis Flynn that:

- (a)** Differentiates between functional budgets and cash budgets. (4 marks)
- (b)** Explains the benefits of preparing budgets. (7 marks)
- (c)** Outlines potential problems that may arise when setting budgets. (3 marks)

Format and Presentation (1 mark)

[Total: 15 Marks]

SECTION B - ANSWER ANY THREE QUESTIONS.

- 3. The following multiple-choice question contains eight sections, each of which is followed by a choice of answers. Only one answer is correct in each case. Each question carries equal marks. On the answer sheet provided indicate for each question, which of the options you think is the correct answer. Marks will not be awarded where you select more than one answer for any question.**

1. Cost details relating to one unit of product Z are shown below.

	€
Direct materials	8.00
Direct labour	1.20
Direct expenses	0.75
Production overhead	2.18

The prime cost of one unit of product Z is:

- (a) €9.20
- (b) €12.18
- (c) €9.95
- (d) €11.38

The following information relates to Questions 2, 3 and 4:

On 1 April there were no units of B613 in inventory.

All inventory movements for material B613 for the month of April were as follows:

8 April	4,000 units received, total cost €20,000
15 April	3,900 units issued
19 April	1,200 units received, total cost €7,200
21 April	1,100 units issued
24 April	2,800 units received, total cost €21,000

2. On 30 April, inventory valuation using a LIFO basis is:

- (a) €22,100
- (b) €22,500
- (c) €15,000
- (d) €18,000

3. On 21 April, the value of the issue using a FIFO basis is:

- (a) €6,600
- (b) €8,250
- (c) €6,500
- (d) €5,500

4. On 30 April, inventory valuation using (weighted) average basis is:

- (a) €22,185
- (b) €22,046
- (c) €18,075
- (d) €18,500

5. During July, Black Limited produced 10,000 units of product B and sold 9,400 units of product B. In July:

- (a) Profits reported using absorption costing will be lower than profits reported using variable (marginal) costing.
- (b) Profits reported using absorption costing and using variable (marginal) costing will be the same.
- (c) Profits reported using absorption costing will be greater than profits reported using variable (marginal) costing.
- (d) Profits reported using variable (marginal) costing will be greater than profits reported using absorption costing.

6. Which of the following statements is NOT true:

- (a) Relevant costs change according to the decision.
- (b) Fixed costs can never be relevant costs.
- (c) Relevant costs are always future costs.
- (d) Relevant costs are incremental costs.

7. Red Limited operates a bonus scheme to increase production. Details are available for one employee:

Employee wage rate €9 per hour

Time allowed for job 40 minutes

Time taken for job 25 minutes

The company calculates the bonus payable to the employee as 45% of the time saved on the job.

The bonus for the employee is calculated as (to nearest two decimal places):

- (a) €2.25
- (b) €1.01
- (c) €3.75
- (d) €1.69

8. Yellow Limited had the following information relating to output levels and overhead costs:

	January	December
Units produced	36,000	42,000
Total overhead costs	€173,600	€198,660

The cost increased by 5% between January and December. The variable cost per unit, at January price levels (to nearest two decimal places) is:

- (a) €2.60
- (b) €2.68
- (c) €4.52
- (d) €3.55

[Total: 20 Marks]

4. Deasgreen Limited is a clothing manufacturer specialising in sustainable ladies fashion. The company has been in operation for ten years and during that time has built up a loyal and expanding customer base. Deasgreen Limited has three signature garments, a white blouse, a navy skirt and a grey dress, all produced from organically grown and dyed linen fabric. Successful marketing and sales of these garments has resulted in the company exceeding full capacity at its current manufacturing base in Limerick. Consequently the directors are considering expanding production capacity over the next few years and are examining a number of possibilities.

However, for the current year the company has a total of 15,000 machine hours and 20,000 direct labour hours available for production at its Limerick manufacturing base. Production and sales details relating to the signature garments are shown below:

	Blouse	Skirt	Dress
Direct materials: Linen @ €6 per metre	1.5 metres	1.25 metres	2.5 metres
Direct labour: @ €12 per hour	0.25 hour	0.25 hour	0.5 hour
Variable overhead: 150% of direct labour cost			
Machine hours required	0.3 hour	0.2 hour	0.25 hour
Sales demand for the year (units)	30,000	18,000	15,000
Selling price per unit	€54	€80	€105

Budgeted fixed production overhead is estimated to be €95,200 per month and the company has also budgeted for selling and administration expenses of €128,000 per quarter.

REQUIREMENT:

- (a) Based on the information provided, state whether Deasgreen Limited has sufficient production capacity to satisfy sales demand for the coming year. You should provide calculations to support your answer. (4 marks)
- (b) Compute the optimal production plan for Deasgreen Limited for the current year, clearly showing total profit expected. (13 marks)
- (c) Explain the meaning of the following terms:
- (i) Opportunity cost
 - (ii) Limiting factor
- (3 marks)

[Total: 20 Marks]

5. Door Dezigns Limited manufactures high quality oak doors from reclaimed wood. The company is based in Wicklow and was founded in 1999. Previously the company experienced strong growth and made significant profits but this changed during the recent recession when the company almost went out of business. In the past two years, Door Dezigns Limited has seen an increase in its business and based on the company's prior experience, the directors are keen to ensure that costs are tightly controlled. The company operates a standard absorption costing system. The following details relating to the most recent financial period are available:

Standard cost card for one oak door:

	€
Direct materials	
- Reclaimed oak: 1.75 square metres @ €22 per square metre	38.50
- Oak dowels: 16 @ €0.25 each	4.00
Direct labour : 0.75 hours @ €20 per hour	15.00
Variable production overhead: 0.75 hour @ €4.60 per direct labour hour	3.45
Fixed production overhead: @ €5.10 per door	5.10
Total	66.05

The company budgeted to produce 10,000 oak doors during the period.

Actual results from production of 9,500 oak doors:

	€
Direct materials	
- Reclaimed oak (17,100 square metres)	375,345
- Oak dowels (159,600 dowels)	41,496
Direct labour (6,650 hours)	139,650
Variable overhead	29,925
Fixed overhead	50,100

REQUIREMENT:

Using the information provided above:

- (a) Prepare a cost statement showing the original budget, flexed budget and actual results. (5 marks)
- (b) Calculate all variances in as much detail as the information permits. (12 marks)
- (c) Outline TWO possible reasons to explain the direct labour variances that you have calculated at (b) above. (3 marks)

[Total: 20 Marks]

6. Groovy Covers Limited manufactures tablet covers in a range of designs using a highly resilient fabric. Sales are made exclusively online and the company's website allows for customisation of covers based on buyer preferences. Up until 2013, the company operated a traditional absorption costing system however at that time Joan Darcy, a qualified CPA, was employed and she oversaw the successful implementation of an activity based costing (ABC) system. The directors of Groovy Covers Limited are very happy with the new system as they were aware that overheads had become a much more significant part of the product cost.

When an order is placed for a tablet cover the requisitions department reserves the material and labour necessary to produce it. The design costs and production scheduling costs both relate to the customer preferences; the more detailed the tablet cover the more machines involved and the more set ups required. The tablet covers are inspected during the production process to ensure that they meet quality standards. Once produced the tablet covers are finished and packaged. A margin of 45% on selling price is achieved on each cover sold.

Cost and activity information for the current year is shown below.

Requisition costs	€30,960
Design costs	€133,110
Production scheduling costs	€78,030
Quality control costs	€52,779
Sundry finishing costs	€5,550
Finishing department labour hours	7,500
Number of inspections	57,840
Number of machine set ups	76,500
Total orders placed	36,000

Details relating to two tablet cover orders are as follows:

	Order 1203	Order 4569
Direct materials	€4.10	€6.25
Direct labour	€2.50	€2.95
Number of inspections	2	4
Number of machine set ups	3	6
Finishing labour hours	12.5 mins	12.5 mins

REQUIREMENT:

- (a) Calculate the total cost of each of the two orders referred to above using activity based costing (ABC) to allocate overheads. (13 marks)
- (b) Using the company's policy, compute the selling price that would be charged for the orders referred to at (a) above. (3 marks)
- (c) Outline TWO advantages and TWO disadvantages of activity based costing compared to a traditional absorption costing system. (4 marks)

[Total: 20 Marks]

END OF PAPER

SUGGESTED SOLUTIONS

THE INSTITUTE OF CERTIFIED PUBLIC ACCOUNTANTS IN IRELAND

MANAGEMENT ACCOUNTING

FORMATION 2 EXAMINATION - APRIL 2016

SOLUTION 1

Workings

W1 *Fixed overhead production cost per unit*

	2016 & 2015
Total annual fixed production overhead (x)	€105,625
65% production capacity (units) (y)	325,000
Fixed production overhead per unit (x/y)	€0.325

W2 *Calculation of production*

	2016 units	2015 units
Closing inventory	22,000	19,500
Sales	350,000	319,500
Total	<u>372,000</u>	<u>339,000</u>
Opening inventory	19,500	18,000
Production	<u>352,500</u>	<u>321,000</u>

W3 *Calculation of Under/Over absorbed overhead*

	2016 €	2015 €
Budgeted fixed production overhead	105,625	105,625
Absorbed fixed production overhead	<u>114,563</u>	<u>104,325</u>
(Over)/under absorbed overhead	<u>-8,938</u>	<u>1,300</u>

(a) Product cost for one keypuzzle keyring

	2016 & 2015 €
Direct materials	
- Steel ring	0.08
- Varnished beech	0.12
Direct labour	0.60
Variable overhead 10% direct labour	<u>0.06</u>
<i>Product cost under variable costing</i>	0.86
Fixed production overhead (W1)	<u>0.325</u>
<i>Product cost under absorption costing</i>	<u>1.185</u>

(4 marks)

(b) Profit statements for Key puzzle Limited for 2016 and 2015

Using Variable costing (Product cost = €0.86 see (a))

	2016	2015
	€	€
Sales	682,500	623,025
Cost of Sales:		
Opening inventory	16,770	15,480
+ Production (see W2)	303,150	276,060
- Closing inventory	18,920	16,770
Production cost of sales	<u>301,000</u>	<u>274,770</u>
Contribution	381,500	348,255
Fixed costs		
Production overhead costs	105,625	105,625
Profit	<u>275,875</u>	<u>242,630</u>

Using Absorption costing (Product cost = €1.185 see (a))

	2016	2015
	€	€
Sales	682,500	623,025
Cost of Sales:		
Opening inventory	23,108	21,330
+ Production (see W2)	417,713	380,385
- Closing inventory	26,070	23,108
	<u>414,751</u>	<u>378,608</u>
Under/(over) absorbed overhead (see W3)	<u>-8,938</u>	<u>1,300</u>
Production Cost of Sales	<u>405,813</u>	<u>379,908</u>
Profit	<u>276,687</u>	<u>243,118</u>

(14 marks)

(c) Reconciliation of Absorption and Variable costing profit figures

	2016	2015
	€	€
Profit per absorption costing	276,687	243,118
Less fixed production overhead in inventory (19,500 - 22,000) * €0.325	-812	
(18,000 - 19,500) * €0.325		-488
Profit per variable costing	<u>275,875</u>	<u>242,630</u>

(3 marks)

(d) Outline TWO benefits and TWO limitations of using absorption costing

Benefits of using absorption costing

Any TWO of the following:

- Conforms with accrual concept of matching costs with revenues
- Stock valuation complies with financial reporting standard IAS2
- By analysing over/(under) absorption of overheads any inefficient utilisation of resources may be revealed
- By apportioning and allocating fixed production overheads to cost centres the company can make managers more aware of costs/services provided by each cost centre and this may facilitate cost reduction
- If the company uses absorption costing it will base its pricing policy on full product cost and this ensures all costs are covered (provided that budgeted activity is achieved to avoid under absorption)
- Fixed costs are becoming more significant in business operations. Absorption costing emphasises the importance of such costs by including them in the cost of production

Limitations of using absorption costing

Any TWO of the following:

- Absorption costing is more complex in its application and the company will have to recognise this in preparing its management accounts
- Absorption costing is not as useful as variable costing for short-term decision making purposes due to the inclusion of fixed costs
- As the absorption rate of fixed production overhead is based on anticipated production and the overheads are estimated there is a greater likelihood of under or over absorption
- By using absorption costing the company may have the difficulty of dividing fixed overhead expenses between production and service departments. Sometimes this may result in arbitrary and inaccurate allocations.

(4 marks)

[Total: 25 Marks]

SOLUTION 2

(A)

BRIEFING NOTE

- (a) There are a number of areas where management accounting differs from financial accounting:

Management Accounting

There is no legal requirement to prepare management accounts.

Management accounting has an internal focus. It is designed to assist company managers in planning, controlling and decision-making activities.

Management accounting information may focus on many areas as required by the company.

The layout and substance of management accounting information is decided by company management.

Management accounting information may include both monetary and non-monetary information.

Management accounting may be used for planning purposes and also for presenting information on past activities.

Management accounting information may be prepared daily, monthly, weekly etc. as required.

Financial Accounting

There is a legal requirement for companies to prepare financial statements.

Financial accounting has an external focus. It is designed to provide information to users who are external to an organisation.

Financial accounting focuses on the organisation as a whole.

Financial accounting information is presented in a format prescribed by law and by accounting standards.

Most financial accounting information is expressed in monetary terms.

Financial accounting information provides information on what has happened in the past.

A detailed set of financial statements for a business is produced annually and in some cases less detailed financial information may be produced semi-annually.

(4 marks)

- (b) Management accounting has grown and become more important as a result of the following factors:

- *Global market* – with improvements in transportation and communication the market for customers has expanded and so too have company operations. Management accounting enables cost information to be provided and analysed across divisions, segments and countries to support overall activities of the company.
- *Changing cost structures* – in the past materials and labour comprised the highest product costs but this has changed, overheads are now more significant and need to be carefully monitored. Management accounting facilitates the monitoring and control of costs.
- *Increased competition* – it is now more important than ever to have accurate cost information as companies are competing not just in terms of product price but also other factors such as product quality and customer service. Access to accurate product cost information allows companies to focus attention away from pricing to other significant factors.
- *Internet opportunities* – the arrival of the internet has brought more opportunity to buy and sell products and services more easily, and to monitor competitors and consumer trends. Management accounting may be implemented to gather cost information from all sources easily.
- *Changing customer needs* – customers have become more discerning and it is now more important to have pertinent information relating to customers and their profitability to a business. Management accounting allows companies to use cost information and techniques to obtain data on the cost of providing services to customers.
- *Changing product lifecycles* – due to intense competition and changing customer needs product lifecycles are becoming shorter. Companies need to be ready and able to introduce new products quickly and management accounting can facilitate this process by providing essential information for costing and decision making.
- *Any other relevant point*

(4 marks)

- (c) As part of his/her role the management accountant provides information to facilitate a range of activities including:

Allocation of costs between cost of goods sold and inventories

It is important to allocate costs to products as accurately as possible in order to establish the profitability of the business. The management accountant ensures that cost information is collected and correctly allocated to cost of sales or inventories as appropriate. The management accountant may use techniques such as activity based costing to allocate overheads to products or the first in first out (FIFO) method to value inventory.

Planning and controlling

To carry out their roles effectively the various managers in a business require information to assist them in planning and controlling the operations of the organisation. Planning involves translating goals and objectives into the specific activities and resources that are required to achieve the goals and objectives. The management accountant is involved in the preparation of both long term and short term plans. Budgets are short-term plans that are prepared in more detail than longer term plans. Control involves the process of ensuring that actual outcomes conform to planned or expected outcomes. Budgets may be used to support the controlling of activities by providing a measure against which actual performance may be compared.

Performance measurement

The management accountant generates periodic reports, which compare actual performance to plan, and provides these to managers enabling them to determine if operations are proceeding as expected and to identify where corrective action may be required. These periodic reports also allow managerial performance to be evaluated and provide incentives for managers to try to achieve favourable results.

Decision making

Managers also require information to assist them with routine and non-routine decision making. Routine decisions relate to issues such as assessing the profitability of different segments of an organisation such as products, services and customers. Non-routine decisions are made infrequently and may relate to strategic issues such as the introduction of new products or services. The information provided by the management accountant to support these decisions may be financial or non-financial in nature, depending on what best meets the needs of management. In many instances cost information accumulated by the management accountant is relied upon to inform decisions, and therefore it is critical that such information is of a high quality.

(6 marks)

(Format and presentation 1 mark)

[Total: 15 Marks]

(B)

MEMORANDUM

To: Denis Flynn, DF Biscuits Limited

From: A Management Accountant

Subject: Budgets

Date: April 2016

Further to your request for assistance, the information regarding budgeting is presented below. This memorandum describes what budgeting is, differentiating between functional budgets and cash budgets. It presents the benefits that may accrue to a business by preparing budgets but also identifies potential problems that may arise from the process.

(a) Description of budgets

A budget is a plan expressed in monetary terms and prepared for a specific period of time. It usually shows expected income to be generated and expenditure to be incurred during the period, and the capital to be employed to achieve a given target. Generally, budgets are developed within the context of an ongoing business and based on previous decisions that have been made within the long-term planning process.

An organisation will produce a sales budget and from that production and inventory budgets, culminating in a series of expenditure budgets (direct materials, direct labour, factory overheads, selling and administration expenses etc.). These budgets are known as functional budgets. Once all of the various budgets have been prepared, reviewed, revised and agreed a budgeted profit and loss account and balance sheet are prepared and this is called the Master budget.

A cash budget shows the cash inflows and outflows for an organisation for a specific period of time. It is usually prepared on a monthly basis but may be prepared quarterly or weekly or as required. The cash budget highlights any cash shortfalls or surpluses expected to occur within a given period allowing the organisation to plan the measures necessary to deal with these situations.

(4 marks)

(b) The benefits that may arise from budgeting include:

- *Planning*: budgeting facilitates planning for future operations as managers become aware of the long range objectives of the company. It also encourages managers to anticipate potential problems that may occur and plan their resolution.
- *Co-ordination*: there is better co-ordination of the various functions of the business as managers examine the operations of their departments relative to other departments.
- *Communication*: the budgeting process requires that all levels of the organisation are informed of long range plans, providing and receiving feedback throughout the budgeting process.
- *Motivation*: a budget, if it is realistic and prepared with the participation of managers, provides a standard of performance that managers will strive to achieve. However, if a budget is set by higher level managers and imposed on lower level managers it may be resisted and cause dissatisfaction and demotivation.
- *Control*: a budget assists managers in controlling the activities for which they are responsible by allowing them to compare actual performance with expected or budgeted performance. Any significant differences may then be investigated and inefficiencies highlighted for remedial action.
- *Performance evaluation*: a manager's performance may be evaluated by reference to how well budgeted results are achieved. Budgets thus allow managers to gauge how well they are meeting targets that they have been involved in setting.

(7 marks)

(c) As a consequence of the budget setting process some problems may arise such as:

Lack of commitment to achieve budgets

All managers must be involved in the budget-setting process to ensure that they are committed to achieving their targets.

Unsuitable budget targets

It is important to ensure that budget targets are not too difficult as if they are seen to be unattainable they may cause staff to become demotivated. However, budget targets must be challenging as if they are too easily attainable this may also cause demotivation and result in poor use of resources.

Lack of goal congruence

It is important that there is good communication and co-ordination during the budgeting process. This will ensure that managers develop budgets to achieve organisational goals rather than focusing on their own individual departmental goals.

(3 marks)

If you have any questions relating to information contained in this memorandum I will be pleased to provide further clarification.

Yours sincerely,
A Management Accountant

(Format and Presentation 1 mark)

[Total: 15 Marks]

SOLUTION 3

1. Answer (c) €9.95
 Prime Cost = Direct material cost + direct labour cost + direct expenses cost
 Prime Cost = €8.00+€1.20+€0.75 = €9.95

2. Answer (a) On 30 April inventory valuation using LIFO is €22,100

Using LIFO

	Receipts	Issues	Quantity	Balance Value €
08/04 Purchase	4,000 x €5		4000	20,000
15/04 Issue		3,900 x €5	100	500
19/04 Purchase	1,200 x €6		1,300	7,700
21/04 Issue		1,100 x €6	200	1,100
24/04 Purchase	2,800 x €7.50		3,000	22,100

3. Answer (c) On 21 April value of issue using FIFO is €6,500

Using FIFO

	Receipts	Issues	Quantity	Balance Value €
08/04 Purchase	4,000 x €5		4000	20,000
15/04 Issue		3,900 x €5	100	500
19/04 Purchase	1,200 x €6		1,300	7,700
21/04 Issue		100 x €5 1,000 x €6	200	1,200
24/04 Purchase	2,800 x €7.50		3,000	22,200

4. Answer (a) On 30 April inventory valuation using (weighted) average is €22,185

Using (Weighted) Average	Receipts/(Issues)	Purchase Price	Value €	Weighted Average Price €
08/04 Purchase	4,000	5	20,000	5
15/04 Issue	(3,900)		(19,500)	5
	100		500	5
19/04 Purchase	1,200	6	7,200	
	1,300		7,700	5.923
21/04 Issue	(1,100)		(6,515)	
	200		1,185	5.925
24/04 Purchase	2,800	7.50	21,000	
	3,000		22,185	7.395

5. Answer (c)
 Profits are higher under absorption costing when production is greater than sales as some fixed production overhead relating to this period is included in inventory and will be charged against revenue in a subsequent period.
6. Answer (b)
 Fixed costs can be relevant costs in situations where some fixed costs can be saved or incurred as a result of a decision.
7. Answer (b) €1.01
 Time saved = 40 – 25 = 15 mins
 Bonus in minutes = 15 mins x 45% = 6.75 mins
 Bonus value = 6.75/60 x €9 = €1.01

8. Answer (a) €2.60
December overhead cost before inflation = €198,660/1.05 = €189,200

	Units produced	Total overhead costs
January	36,000	€173,600
December	42,000	€189,200
Change	6,000	€15,600

Variable cost per unit = €15,600/6,000 units = €2.60 per unit

[Total: 20 Marks]

SOLUTION 4

(a) Production capacity to meet demand

	Sales demand	Labour hours required	Machine hours required
Blouse	30,000	7,500	9,000
Skirt	18,000	4,500	3,600
Dress	15,000	7,500	3,750
		19,500	16,350
Total hours available		20,000	15,000
Excess/(shortfall) of hours		500	-1,350

The company does not have enough machine hours in the current year to meet sales demand (4 marks)

(b) Compute the optimal production plan and total profit for the year

Calculate the contribution per unit of limiting factor
Limiting factor = machine hours

	Blouse €	Skirt €	Dress €
Selling price per unit	54	80	105
Less: variable costs per unit			
Direct material @ €6 per metre	9	7.5	15
Direct labour @ €12 per hour	3	3	6
Variable overhead: 150% Direct labour cost	4.5	4.5	9
Total variable costs per unit	16.5	15	30
Contribution per unit (x)	37.5	65	75
Machine hours per unit (y)	0.3	0.2	0.25
Contribution per machine hour (x/y)	125	325	300
Ranking	3	1	2

Optimal production plan

Garment	Contribution per unit €	Production in units	Machine hours per unit	Total Machine hours required	Contribution €
Skirt	65	18,000	0.20	3,600	1,170,000
Dress	75	15,000	0.25	3,750	1,125,000
Blouse	37.5	25,500*	0.30	7,650	956,250
				15,000	
Total contribution					3,251,250
Less fixed production overheads					1,142,400
Selling and administrative expenses					512,000
Profit					1,596,850

* This represents the number of blouses that may be produced using the remaining machine hours i.e.
15,000 - 3,600 - 3,750 = 7,650 hours/0.3 hours per blouse = 25,500 blouses

(13 marks)

(c) Explain the following terms:

Opportunity cost

Where an organisation has a number of possible courses of action/options, opportunity cost represents the cost of the benefit that is lost/sacrificed when the choice of one course of action requires that the next best course of action is given up.

Limiting factor

A limiting factor arises in the context of decision making in a business. It is a resource that is in short supply such that it restricts the ability of the organisation to provide and sell more of its products or services. For example, labour hours, machine hours, key raw material etc.

(3 marks)

[Total: 20 Marks]

SOLUTION 5

(a) Cost statement

Units	10,000 Original budget €	9,500 Flexed budget €	9,500 Actual results €
Direct materials			
- Reclaimed oak	385,000	365,750	375,345
- Oak dowels	40,000	38,000	41,496
Direct Labour	150,000	142,500	139,650
Variable production overhead	34,500	32,775	29,925
Fixed production overhead	51,000	51,000	50,100
Total production cost	<u>660,500</u>	<u>630,025</u>	<u>636,516</u>

(5 marks)

(b) Variance calculations

Direct materials

Reclaimed oak

$$\text{Price variance } (SP - AP) \times AQ = [€22 - (€375,345/17,100)] \times 17,100 = 855 \text{ F}$$

$$\text{Usage variance } (SQ - AQ) \times SP = [(1.75 \times 9,500) - 17,100] \times €22 = -10,450 \text{ A}$$

Oak dowels

$$\text{Price variance } (SP - AP) \times AQ = [€0.25 - (€41,496/159,600)] \times 159,600 = -1,596 \text{ A}$$

$$\text{Usage variance } (SQ - AQ) \times SP = [(16 \times 9,500) - 159,600] \times €0.25 = -1,900 \text{ A}$$

Direct labour

$$\text{Rate variance } (SR - AR) \times AH = [€20 - (€139,650/6,650)] \times 6,650 = -6,650 \text{ A}$$

$$\text{Efficiency variance } (SH - AH) \times SR = [(0.75 \times 9,500) - 6,650] \times €20 = 9,500 \text{ F}$$

Variable production overhead

$$\text{Expenditure variance } (SR - AR) \times AH = [€4.60 - (€29,925/6,650)] \times 6,650 = 665 \text{ F}$$

$$\text{Efficiency variance } (SH - AH) \times SR = [(0.75 \times 9,500) - 6,650] \times €4.60 = 2,185 \text{ F}$$

Fixed production overhead

$$\text{Expenditure variance } (BFO - AFO) = [(10,000 \times 5.10) - 50,100] = 900 \text{ F}$$

$$\text{Volume variance } (AP - BP) \times SR = (9,500 - 10,000) \times €5.10 = -2,550 \text{ A}$$

(12 marks)

(c) **Two reasons to explain the direct labour variances**

Any 2 reasons (one for each variance):

Rate variance [€6,650 A]

- When establishing the standard labour rate the company may have excluded the effect of a pay increase
- It may have been difficult to get staff and the company may have had to pay a higher rate to attract workers
- Any other relevant point

Efficiency variance [€9,500 F]

- The company paid a higher wage rate so perhaps they attracted better experienced staff who were more efficient
- The company may have changed the production process/factory layout that enabled staff to work more efficiently
- Any other relevant point

(3 marks)

[Total: 20 Marks]

SOLUTION 6

(a) **Total cost of each of the orders using ABC**

W1 Calculation of cost per driver

Activity	Cost driver	(x) Cost €	(y) Total drivers	(x/y) Cost per driver €	
Requisition costs	Orders placed	30,960	36,000	0.86	Per order
Design costs	No of machine set ups	133,110	76,500	1.74	Per set up
Production Scheduling costs	No of machine set ups	78,030	76,500	1.02	Per set up
Quality control costs	No of inspections	52,779	57,840	0.91	Per inspection
Sundry finishing costs	Finishing department labour hours	5,550	7,500	0.74	Per labour hour
		<u>300,429</u>			

W2 Calculation of total overhead cost for each order

	Order 1203 €	Order 4569 €
Requisition costs	0.86	0.86
Design costs	5.22	10.44
Production Scheduling costs	3.06	6.12
Quality control costs	1.83	3.65
Sundry finishing costs	0.15	0.15
Total overhead cost	<u>11.12</u>	<u>21.22</u>

Calculation of total product cost

	Order 1203 €	Order 4569 €
Direct materials	4.10	6.25
Direct labour	2.50	2.95
Overheads (W3)	11.12	21.22
Total product cost	<u>17.72</u>	<u>30.42</u>

(13 marks)

(b) Selling price to charge for the two orders

	Order 1203	Order 4569	Proportion of SP
	€	€	
Total product cost from (a) above	17.72	30.42	0.55
Margin 45% of selling price	14.50	24.89	0.45
Selling price (SP)	<u>32.22</u>	<u>55.32</u>	1.00

(3 marks)

(c) Two advantages and two disadvantages of ABC compared to traditional overhead costing

Advantages

Any TWO of the following:

- ABC uses more bases/drivers than traditional costing in tracing overhead costs to products
- ABC provides more detailed information about cost behaviour than traditional costing systems and facilitates better understanding of costs
- ABC is better at directing managerial attention to the causes of costs
- By tracing costs more carefully, ABC produces more realistic product costs than traditional overhead costing systems

Disadvantages

Any TWO of the following:

- ABC requires greater understanding of costs and cost drivers which may be time consuming to obtain
- It may not be possible to allocate all overhead costs to specific activities
- There may be common costs i.e. costs that relate to many cost pools so that it is difficult to allocate them to specific functions
- It may be very difficult and expensive to develop an activity based costing system due to the time involved in establishing cost pools and drivers

(4 marks)

[Total: 20 Marks]