

MANAGEMENT ACCOUNTING

FORMATION 2 EXAMINATION - APRIL 2017

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.

MANAGEMENT ACCOUNTING

FORMATION 2 EXAMINATION - APRIL 2017

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. Brothers Joe and Bill Plaid have recently won a design award for their 'Pro-Hiker' walking boots and have established a company, JB Plaid Ltd, to commence production of the footwear. The 'Pro-Hiker' boots have an innovative design and are made of a resilient, cushioning material, which reduces the possibility of injury. Joe has just read a newspaper article about the importance of cash budgets in highlighting the finances required for business operations. Consequently, he has asked for your assistance in preparing a cash budget for the first four months of operations, from May to August 2017. The following information has been obtained from a planning meeting with the Plaid brothers:

1. 'Pro-Hiker' boots are produced for men and women. Details of selling prices and projected sales for the four-month period are shown below.

Type of boots	Selling price	Pairs of boots			
		May	June	July	August
Men's	€80	2,000	2,400	3,000	3,200
Women's	€70	1,400	1,800	2,400	3,000

2. It is expected that all sales will be on credit to department stores and shops specialising in outdoor wear. The brothers estimate that 30% of customers will pay within one month while the remaining customers will take two months to pay.
3. Production of the 'Pro-Hiker' boots is based on sales demand. The company requires a closing inventory of 200 pairs of women's boots and 400 pairs of men's boots at the end of each month. As the company is just commencing operations there are no opening inventories of boots.
4. The boots comprise cushioning fabric and specially treated rubber for the sole. The materials and labour required to make each pair of boots are shown in the following table.

Type of boots	Cushioning fabric @ €28 per metre	Rubber @ €8 per metre	Labour @ €14 per hour
Men's	0.4m	0.15m	0.25 hours
Women's	0.3m	0.10m	0.20 hours

5. Both of the materials are supplied by one company based in Malaysia. This supplier requires that 50% of the purchase total is paid for in cash with the order, and allows one month's credit for the remaining amount. Labour costs are paid in the month incurred.
6. Each pair of boots produced will be packed in a biodegradable cardboard box using environmentally friendly packaging costing, in total, €1.85 per box. The company will buy the packaging materials from an Irish company based in Cork and it has agreed one month's credit for these purchases.
7. The company has signed a rental agreement for the production facility. The total factory rent for the year will be €360,000, which will be paid in equal monthly instalments. A security deposit amounting to €25,000 must also be paid in May. Other operational costs including power, insurance, and administration expenses, which must be paid monthly, are expected to be €93,600 for the year.
8. To promote the walking boots a marketing campaign for television, radio, newspaper and social media has been organised. The total cost of the marketing campaign has been agreed at €33,600 for the four-month period payable in equal instalments from May 2017. A commission of 5% of projected sales is also payable one month in arrears.
9. Joe and Bill Plaid will introduce capital of €50,000 at the commencement of the company's operations.

REQUIREMENT:

- (a) Prepare a cash budget for JB Plaid Ltd on a monthly basis, for the four-month period commencing 1 May 2017. (22 marks)
- (b) Explain the meaning of the following terms:
- (i) Master budget.
 - (ii) Flexible budget.
- (3 marks)

[Total: 25 Marks]

ANSWER PART (A) OR PART (B)

2.

- (A) Stone & Co. is a well-established reputable firm of Certified Public Accountants that prides itself on its excellent staff. A number of the firm's students have won awards in professional examinations and this success is attributed to generous study leave and high quality revision materials. Trainee CPAs are encouraged to develop suitable briefing notes on various examination topics that may be shared within the firm. As a trainee working in Stone & Co. you have been asked by your manager to write a briefing note on inventory management, specifically economic order quantity (EOQ) and just in time (JIT) systems.

REQUIREMENT:

Prepare a briefing note that:

- (a) Explains how EOQ operates, highlighting its limitations. (6 marks)
- (b) Describes JIT inventory management system including its advantages and disadvantages. (8 marks)

Format and Presentation (1 mark)

[Total: 15 Marks]

OR

- (B) Glorious Soup Ltd commenced production six months ago making wholesome soups that are sold in supermarkets throughout Ireland. The company is hoping to grow substantially over the next few years but the managing director feels that this may be quite difficult as the food industry is very competitive, particularly in terms of pricing. He has asked your advice in relation to establishing product costs.

REQUIREMENT:

Draft a memorandum for the managing director of Glorious Soup Ltd that:

- (a) Outlines and explains how process costing operates. (7 marks)
- (b) Describes how process costing differs from job costing. (4 marks)
- (c) Discusses the suitability of process costing for the company. (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. If production volume increases then:

- (a) Total variable cost decreases while variable cost per unit is constant.
- (b) Variable cost per unit is constant while total variable cost increases.
- (c) Total variable cost remains constant while variable cost per unit increases.
- (d) Variable cost per unit decreases while total variable cost is constant.

2. Enzo Ltd had the following information relating to sales volume and expenses:

	July	November
Sales in units	45,200	65,820
Sales commission expenses	€ 110,420	€ 150,629

The sales commission cost per unit (to nearest two decimal places) is:

- (a) €2.44
- (b) €2.29
- (c) €3.33
- (d) €1.95

3. Which of the following statements is NOT an assumption underlying cost-volume-profit (CVP) analysis:

- (a) Profits are calculated on a variable costing basis.
- (b) CVP analysis may be applied to any time horizon.
- (c) CVP assumes a single product or a constant sales mix.
- (d) Costs may be accurately divided into their fixed and variable elements.

The following information extracted from the books of Jay Ltd relates to Questions 4, 5 and 6:

Selling price per unit	€45
Variable cost per unit	€27
Total fixed costs	€45,252
Expected sales for March	3,270 units

4. The break-even point in units (to nearest whole unit) is:

- (a) 1,676
- (b) 2,514
- (c) 1,006
- (d) 2,105

5. The margin of safety in % (to nearest %) is:

- (a) 49%
- (b) 69%
- (c) 23%
- (d) 7%

6. To achieve a target profit of €16,400 Jay Ltd must sell (to nearest whole unit):

- (a) 1,603 units
- (b) 3,425 units
- (c) 2,283 units
- (d) 3,877 units

7. Which of the following statements is CORRECT?

- (a) If production exceeds sales, absorption costing produces higher profits.
- (b) If sales exceed production, absorption costing produces higher profits.
- (c) If production exceeds sales, variable costing produces higher profits.
- (d) If sales exceed production, variable costing produces lower profits.

8. Which of the following is NOT CORRECT?

- (a) Relevant costs are future costs.
- (b) Incremental costs are relevant costs.
- (c) Relevant costs are avoidable.
- (d) Sunk costs are relevant costs.

[Total: 20 Marks]

4. The management accountant of Blu Spotz Ltd is finding it difficult to cope with increasing demands for information and has asked for your help. You have been asked to prepare variance analysis information for the March board meeting. You have been provided with budgeted and actual information as shown below.

Budgeted information for the month of March:

Production in units	25,000
Direct materials (250,000 Kgs)	€362,500
Direct labour (87,500 hours)	€1,089,375
Variable production overheads	€271,250

Actual results achieved for the month of March:

Production in units	27,000
Direct materials (263,250 Kgs)	€394,875
Direct labour (97,200 hours)	€1,190,700
Variable production overheads	€306,180

Notes:

1. Actual fixed production overheads for March amounted to €172,400.
2. Budgeted fixed production overhead is €175,000 per month.
3. Variable production overheads are applied to products based on budgeted labour hours.

REQUIREMENT:

- (a) Prepare a cost statement showing the original budget, flexed budget and actual results. (6 marks)
- (b) Calculate relevant variances in as much detail as the information permits. (12 marks)
- (c) Briefly explain the meaning of the following terms:
- (i) Ideal standard costs.
 - (ii) Attainable standard costs. (2 marks)

[Total: 20 Marks]

5. Legal Eagles is a reputable law partnership offering a variety of legal services to clients. The managing partner has recently sought advice in relation to improving the accuracy and efficiency of its billing system. The advisor, Janet Darcy CPA, suggested the introduction of activity based costing (ABC) to replace the existing traditional overhead costing method used by Legal Eagles. The current costing method allocates overhead costs to clients based on total labour hours (for partners, junior clerks and secretarial support). Clients are billed based on cost plus a mark-up of 60%. In order to introduce ABC the managing partner assigned a team, comprising one partner and two junior clerks, to ascertain the cost and activity relationships, and corresponding cost data, and this is shown below.

Cost activity relationships:

Cost pool

Legal search
Documentation
Office administration (telephone, postage, etc.)

Cost driver

Number of searches conducted
Number of pages printed/copied
Secretarial support time spent on case

Cost and activity data:

Partner salary cost	€386,400
Junior clerk wages cost	€184,320
Secretarial support wages cost	€52,256
Legal search costs	€18,180
Printing and stationery costs	€48,300
Office administration costs	€36,616
Partner labour hours	6,440
Junior clerk labour hours	7,680
Secretarial support labour hours	3,680
Total number of searches conducted	1,212
Total number of document pages printed/copied	1,610,000

Details relating to two legal cases:

	<i>Case 1406</i>	<i>Case 2655</i>
Number of searches	5	1
Partner time spent on case	2 hours	1 hour
Junior clerk time spent on case	5 hours	3 hours
Document pages printed/copied	215	86
Secretarial support time spent on case	1 hour	1 hour

REQUIREMENT:

- (a) Calculate the total cost of each of the cases noted above using:
- (i) The existing costing method;
 - (ii) Activity based costing. (17 marks)
- (b) Comment briefly on your answers at (a) (i) and (ii) above. (3 marks)

[Total: 20 Marks]

6. AAA Shedz Ltd manufactures customised garden sheds. The sheds are available in a variety of materials and are made to be functional but also to blend in with the garden landscape. The company has just received an order for a large shed from a customer based in Galway. To facilitate production and costing each order is given a job number and the management accountant at AAA Shedz Ltd has coded the new order as Job G170. Production information relating to this job is provided below.

Direct Materials

The company uses a first in first out (FIFO) system for pricing material issues to production.

Opening inventory:

40 type L steel panels @ €80 each

3 size Q doors @ €104 each

25 XX hinge and lock sets @ €44 each

Purchases:

11 May: 100 type L steel panels @ €86 each

25 May: 20 size Q doors @ €110 each

26 May: 50 XX hinge and lock sets @ €42 each

Issues to production (Job G170):

14 May: 49 type L steel panels

29 May: 6 size Q doors

29 May: 6 XX hinge and lock sets

Direct Labour (Job G170)

Assembly 18 hours @ €16.50 per hour

Finishing 4 hours @ €15 per hour

In placing the order the customer specifically requested that the shed would be delivered to Galway by 31 May. To meet this deadline four of the hours worked in the assembly department were overtime. The company pays overtime at a rate of one and a half times the normal hourly rate.

Overheads

The company absorbs overheads using a traditional approach based on labour hours.

	Assembly	Finishing	Total
Production overheads	€151,680	€15,744	€167,424
Direct labour hours	19,200	7,680	26,880
Machine hours	400	50	450

Pricing policy

It is company policy to price all customer orders using a mark-up of 40%.

REQUIREMENT:

- (a) Compute the total cost of Job G170. (15 marks)
- (b) Calculate the price that the company will charge for the new customer order. (2 marks)
- (c) In terms of pricing materials issues, explain TWO differences between the weighted average (average cost) method and last in first out (LIFO) method. (3 marks)

[Total: 20 Marks]

END OF PAPER

SUGGESTED SOLUTIONS

THE INSTITUTE OF CERTIFIED PUBLIC ACCOUNTANTS IN IRELAND

MANAGEMENT ACCOUNTING

FORMATION 2 EXAMINATION - APRIL 2017

SOLUTION 1 - JB Plaid Limited

Workings

(W1) Receipts from customers

Sales

Men's boots

Women's boots

Total sales

Received:

- Due within 1 month (30% of total)

- Due after 2 months (70% of total)

Total receipts from customers

May	June	July	August
€	€	€	€
160,000	192,000	240,000	256,000
98,000	126,000	168,000	210,000
258,000	318,000	408,000	466,000
	77,400	95,400	122,400
		180,600	222,600
0	77,400	276,000	345,000

(W2) Production required

Men's boots (in pairs of boots)

Closing inventory

Plus sales

Total inventory required

Opening inventory

Production required

May	June	July	August
400	400	400	400
2,000	2,400	3,000	3,200
2,400	2,800	3,400	3,600
0	400	400	400
2,400	2,400	3,000	3,200

Women's boots

Closing inventory

Plus sales

Total inventory required

Opening inventory

Production required

200	200	200	200
1,400	1,800	2,400	3,000
1,600	2,000	2,600	3,200
0	200	200	200
1,600	1,800	2,400	3,000

(W2) Material purchases required

Cushioning fabric

Men's boots (production required x 0.4m x €28)

Women's boots (production required x 0.3m x €28)

May	June	July	August
€	€	€	€
26,880	26,880	33,600	35,840
13,440	15,120	20,160	25,200
40,320	42,000	53,760	61,040

Rubber

Men's boots (production required x 0.15 x €8)

Women's boots (production required x 0.1 x €8)

2,880	2,880	3,600	3,840
1,280	1,440	1,920	2,400
4,160	4,320	5,520	6,240

Total material purchases (Cushioning fabric & Rubber)

44,480	46,320	59,280	67,280
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Payable in cash (50%)

Payable after one month (50%)

Total material purchase payments

22,240	23,160	29,640	33,640
	22,240	23,160	29,640
22,240	45,400	52,800	63,280

(W3) Labour costs

Men's boots (production required x 0.25hr x €14)

Women's boots (production required x 0.2hr x €14)

Total labour costs payable in month

May	June	July	August
€	€	€	€
8,400	8,400	10,500	11,200
4,480	5,040	6,720	8,400
12,880	13,440	17,220	19,600

(W4) Packaging costs

Men's boots produced and packaged (required production x €1.85)

Women's boots produced and packaged (required production x €1.85)

Total packaging costs

4,440	4,440	5,550	5,920
2,960	3,330	4,440	5,550
7,400	7,770	9,990	11,470

Payable after one month

0	7,400	7,770	9,990
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(W5) Marketing campaign costs

Fixed monthly fee (€33,600/4 months) - payable in month

Commission - 5% of total monthly sales - one month in arrears

Total packaging costs

8,400	8,400	8,400	8,400
	12,900	15,900	20,400
8,400	21,300	24,300	28,800

(a) Cash Budget for the five months commencing 1st May 2017

		May	June	July	August
		€	€	€	€
Cash receipts					
Total receipts from customers	(W1)	0	77,400	276,000	345,000
Total cash receipts		0	77,400	276,000	345,000
Cash payments					
Total material purchases payable	(W2)	22,240	45,400	52,800	63,280
Labour costs	(W3)	12,880	13,440	17,220	19,600
Packaging costs	(W4)	0	7,400	7,770	9,990
Marketing campaign costs	(W5)	8,400	21,300	24,300	28,800
Rent of production facility (incl €25,000 deposit in May)		55,000	30,000	30,000	30,000
Other operational costs		7,800	7,800	7,800	7,800
Total cash payments		106,320	125,340	139,890	159,470
Net cash flow		-106,320	-47,940	136,110	185,530
Opening cash balance		50,000	-56,320	-104,260	31,850
Closing cash balance		-56,320	-104,260	31,850	217,380

(22 marks)

(b) Explain the following terms:

Master Budget

This is the overall plan of action for the whole organisation and normally includes a budgeted profit and loss account and balance sheet. It is analysed into subsidiary budgets which detail responsibility for generating sales and controlling costs.

Flexible Budget

A flexible budget is one which, by recognising the difference in behaviour between fixed and variable costs in relation to fluctuations in output, turnover, or other variable factors such as number of employees, is designed to change appropriately with such fluctuations.

(3 marks)

[Total: 25 marks]

SOLUTION 2

(A) BRIEFING NOTE

(a) Economic order quantity (EOQ)

The economic order quantity (EOQ) is a mathematical model that addresses the question, 'in order to minimise cost how much inventory should be ordered?' The EOQ formula, shown below, may be used to compute an optimum inventory order size thus minimising the total inventory costs comprising holding costs and ordering costs.

$$EOQ = \sqrt{\frac{2DO}{H}}$$

Where EOQ = Optimum inventory order size

D = Annual demand

O = Cost to place one order

H = Annual cost of holding one unit in inventory

The EOQ was developed based on a number of assumptions and these are limitations to the application of the model in a particular business situation. The assumptions/limitations are:

- Sales demand is certain, constant and continuous.
- Holding cost per unit remains constant.
- The average balance in inventory equals half of the order quantity.
- If safety stocks are maintained, they remain the same regardless of order size.
- Inventory may be purchased in exactly the quantities required.
- Any other limitations

If a company in a particular industry wishes to use the EOQ to determine the optimal inventory size, these assumptions must hold/apply, otherwise the EOQ will not minimise total inventory costs.

(6 marks)

(b) Just in time (JIT) inventory management system

The just in time inventory (JIT) management system was developed in the 1970s by Toyota in Japan. It is different to other inventory management systems which are based on a 'push' production flow system whereby products are made and placed in inventory awaiting sales orders from customers. JIT is based on a 'pull' system. This means that a product is not made until a customer requests it and components are not produced until they are required in the next stage of manufacturing. If a company is operating a full JIT system, almost no inventory is maintained; no raw material or finished inventory but there may be a small amount of work in progress inventory.

JIT inventory management seeks to eliminate any waste arising in the manufacturing process as a result of using inventory. JIT purchasing applies the JIT principles to material deliveries from suppliers. There are a number of advantages of using JIT and similarly there are some disadvantages.

Advantages of JIT

JIT seeks to eliminate waste at all stages of the manufacturing process by improved workflow planning that emphasises quality control.

It builds a strong relationship between seller and buyer of goods. The seller benefits from secure, regular orders ensuring future business. The buyer benefits from lower inventory holding costs, lower investment in inventory and less inventory management problems. The buyer may also obtain bulk purchase discounts or lower purchase costs.

JIT emphasises quality control in the production process and this will reduce scrap, re-working and set-up costs. This results in a smooth flow of material and work through the production process with no queues or idle time.

Any other advantages.

Disadvantages of JIT

JIT allows little flexibility so that unforeseen delays or errors in delivery times may cause significant problems in production.

The buyer is heavily dependent on the supplier to maintain the quality of goods delivered and on time delivery.

The buyer is relying on the supplier not to increase price without due notification and negotiation as it may be difficult to find an alternative source of supply at short notice.

Any other disadvantages.

(8 marks)

(Format and presentation 1 mark)

[Total: 15 marks]

(B) MEMORANDUM

To: Managing Director, Glorious Soup Limited

From: A Management Accountant

Subject: Process Costing

Date: April 2017

Further to your request for assistance, the information regarding budgeting is presented below. This memorandum outlines how process costing systems operate. Next, it describes what process costing is, differentiating it from job costing. Finally, it comments on the suitability of process costing for Glorious Soup Limited.

(a) *The operation of a process costing system*

In process costing, costs are accumulated for each identifiable process and these process costs are then divided by the output of the accounting period to provide the average cost per unit. Where a process has opening or closing inventories of incomplete units there are two methods that may be used to value subsequently completed units and closing inventory, weighted average (or average) and first in first out (FIFO).

The weighted average (or average) method assumes that it is not possible to separately identify the opening inventory and the units introduced during the period. Cost per unit is obtained by dividing total production costs (opening inventory cost plus production cost incurred during the period) by the total number of equivalent units (completed production plus equivalent units of closing inventory).

Conversely, the FIFO method assumes that the first group of units to be completed in the process during the period is the opening inventory; it assumes that units of opening inventory may be separately identified from the units from the units introduced during the period. In this case cost per unit calculations are more complex. Cost per unit is calculated based only on current period costs divided by the units completed in the period (i.e. total units completed less opening inventory).

Process costing is appropriate for industries which produce mass volumes of similar products or services in a continuous production process. Examples of industries where the use of process costing is appropriate include oil refining, chemical processing, paint manufacturing, food processing and brewing

Other relevant points.

(8 marks)

(b) *Process costing and job costing*

Where products are manufactured in bulk and where outputs may not be separately identifiable until the end of the production process, it is difficult to assign costs to individual units of product. In these situations, rather than assigning costs as the product progresses through the manufacturing process, process costing is applied. In process costing the cost per unit is obtained by dividing the costs incurred in respect of a particular process by the output from that process. In the opposite situation, where the individual cost unit is readily identifiable throughout the production process, job costing may be applied. With job costing the costs incurred in respect of a particular job or order may be easily identified and accumulated through the various stages of manufacture.

(3 marks)

(c) *The suitability of process costing for the company*

It is most likely that Glorious Soup Limited produces in bulk and uses a number of production processes and as such process costing is much more suitable for costing products than job costing.

However, in order to facilitate the calculation of reliable unit costs, process costing systems require accurate information relating to costs incurred and output levels for each accounting period. The company needs to ensure that it has a reliable accounting system in place to gather the necessary cost and output data.

Additionally, it is essential that costing information is as accurate as possible so that prices established for products are realistic and competitive. As the company has only been in operation for a short period of time it will be important to build a loyal customer base and pricing may be a significant factor in achieving this.

Other relevant points.

(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 **(b)** Variable cost per unit is constant while total variable cost increases.

2. Answer **(d)** €1.95

	Sales units	Sales commission expenses
July	45,200	€110,420
November	<u>65,820</u>	<u>€150,629</u>
Change	20,620	€40,209

Variable cost per unit = €40,209/20,620 units = €1.95 per unit

3. Answer **(b)** CVP analysis may be applied to any time horizon.

4. Answer **(b)** 2,514 units.

$$\begin{aligned}\text{Break-even point (units)} &= \text{Total fixed costs/contribution per unit} \\ &= €45,252 / (€45 - €27) \\ &= 2,514 \text{ units}\end{aligned}$$

5. Answer **(c)** 23%

$$\begin{aligned}\text{Margin of safety in \%} &= \frac{\text{Expected sales} - \text{break-even sales}}{\text{Expected sales}} \times 100 \\ &= \frac{3,270 - 2,514}{3,270} \times 100 = 23.12\% \text{ or } 23\%\end{aligned}$$

6. Answer **(b)**

$$\begin{aligned}\text{Units required to achieve target profit} &= \frac{\text{Total fixed costs} + \text{target profit}}{\text{Contribution per unit}} \\ &= \frac{€45,252 + €16,400}{(€45 - €27)} = 3,425.11 \text{ or } 3,425 \text{ units}\end{aligned}$$

7. Answer **(a)** If production exceeds sales absorption costing produces higher profits.

8. Answer **(d)** Sunk costs are relevant costs.

[Total: 20 marks]

a) Cost statement

Workings

Standard cost card for one unit of product

	€
Direct materials 10kg x €1.45 per kg	14.50
Direct labour 3.5 hours x €12.45 per hour	43.575
Variable production overhead 3.5 hours x €3.10	10.85
Variable product cost	68.925

Units	25,000 <u>Original budget</u> €	27,000 <u>Flexed budget</u> €	27,000 <u>Actual results</u> €
Direct materials	362,500	391,500	394,875
Direct labour	1,089,375	1,176,525	1,190,700
Variable production overhead	271,250	292,950	306,180
Total variable costs	1,723,125	1,860,975	1,891,755
Fixed production overhead	175,000	175,000	172,400
Total production cost	1,898,125	2,035,975	2,064,155

(6 marks)

b) Variance calculations

Direct materials

Price variance

$(SP - AP) \times AQ$

$= [€1.45 - (€394,875/263,250)] \times 263,250 = -13,162.5 \text{ A}$

Usage variance

$(SQ - AQ) \times SP$

$= [(10 \times 27,000) - 263,250] \times €1.45 = 9,787.5 \text{ F}$

Direct labour

Rate variance

$(SR - AR) \times AH$

$= [€12.45 - (€1,190,700/97,200)] \times 97,200 = 19,440 \text{ F}$

Efficiency variance

$(SH - AH) \times SR$

$= [(3.5 \times 27,000) - 97,200] \times €12.45 = -33,615 \text{ A}$

Variable production overhead

Expenditure variance

$(SR - AR) \times AH$

$= [€3.10 - (€306,180/97,200)] \times 97,200 = -4,860 \text{ A}$

Efficiency variance

$(SH - AH) \times SR$

$= [(3.5 \times 27,000) - 97,200] \times €3.10 = -8,370 \text{ A}$

Fixed production overhead

Expenditure variance

$(BFO - AFO)$

$= [175,000 - 172,400] = 2,600 \text{ F}$

(12 marks)

SOLUTION 4

(c) Briefly explain the meaning of the following terms

Ideal standard costs

Standard costs based on ideal conditions i.e. 100% efficiency is expected of workers, machinery and management.

Attainable standard costs

Standard costs are more realistic than ideal standard costs. As long as all the factors of production are made as efficient as possible before standards are set, they represent realistic figures that are capable of being met.

(2 marks)

[Total: 20 marks]

SOLUTION 5

(a)

(i) Total cost of each case using existing costing method

Workings

W1 Labour rates per hour

	Partner	Junior clerk	Secretarial Support
Total labour cost (x)	€ 386,400	€184,320	€52,256
Total labour hours (y)	6,440	7,680	3,680
Labour rate per hour (x/y)	€60.00	€24.00	€14.20

W2 Overhead rate per hour

	€
Legal search costs	18,180
Printing and stationery costs	48,300
Office administration costs	36,616
Total overhead cost	103,096
Total labour hours (partner, junior clerk & secretarial support)	17,800
Overhead rate per labour hour	€5.79

Cost of cases using existing overhead costing system

	<u>Case 1406</u>	<u>Case 2655</u>
	€	€
Partner labour cost (@ €60 per hr) (W1)	120.00	60.00
Junior clerk labour cost (@ €24 per hr) (W1)	120.00	72.00
Secretarial support labour (@ €14.20 per hr) (W1)	14.20	14.20
Overheads based on total labour hours (@ €5.79 per hr) (W2)	46.32	28.95
Total case cost	300.52	175.15

(8 marks)

(ii) Total case cost using activity based costing

W3 Calculation of cost per driver

Activity	Cost driver	Cost	Total of drivers	Cost
		€		
Legal search	No of searches	18,180	1,212	
Documentation	No of pages printed	48,300	1,610,000	
Office administration	Secretarial time	36,616	3,680	
		103,096		

W4 Calculation of total overhead cost for each job

	<u>Case 1406</u>	<u>Case 2655</u>
	€	€
Legal searches (@€22.50 per search (W3))	75.00	15.00
Documentation (@€0.03 per page (W3))	6.45	2.58
Office administration (@€9.95 per hour (W3))	9.95	9.95
Total overhead cost	91.40	27.53

Calculation of total job cost

	<u>Case 1406</u>	<u>Case 2655</u>
	€	€
Partner labour cost (as for (a) (i))	120.00	60.00
Junior clerk labour cost (as for (a)(i))	120.00	72.00
Secretarial support labour cost (as for (a)(i))	14.20	14.20
Overheads (W4)	91.40	27.53
Total case cost	345.60	173.73

(9 marks)

(b) Comment on your answers

	<u>Traditional/ Existing approach</u>	<u>ABC approach</u>	<u>Difference</u>
	€	€	€
Case 1406	300.52	345.60	-45.08
Case 2655	175.15	173.73	1.42

As the figures in the above table show, ABC is a more accurate method of allocating overheads. In relation to the 2 cases the existing approach has undercosted case 1406 by €45.08 and overcosted case 2655 by €1.42.
Given that clients are billed based on cost plus a mark up on cost, it is essential that costs are as accurate as possible. Any under or over costing of cases may lead to a reduction in profit or possible loss of future business if the bill is considered to be too high.

Any other relevant comments.

(3 marks)

[Total: 20 marks]

SOLUTION 6

AAA Shedz Ltd.

(a) Total cost of Job G170

Workings

Materials - using FIFO

Steel panels

Date	Receipts			Issues			Inventory		
	Quantity	Unit cost	Total	Quantity	Unit cost	Total	Quantity	Unit cost	Total
		€	€		€	€		€	€
Opening	40	80.00	3,200				40	80	3,200
11th May	100	86.00	8,600				140	86	11,800
14th May				40	80	3,200			
				9	86	774	91		7,826
						<u>3,974</u>			

Doors

Date	Receipts			Issues			Inventory		
	Quantity	Unit cost	Total	Quantity	Unit cost	Total	Quantity	Unit cost	Total
Opening	3	104	312				3	104	312
25th May	20	110	2,200				23	110	2,512
29th May				3	104	312			
				3	110	330	17		1,870
						<u>642</u>			

Hinge and lock fittings

Date	Receipts			Issues			Inventory		
	Quantity	Unit cost	Total	Quantity	Unit cost	Total	Quantity	Unit cost	Total
Opening	25	44	1,100				25	44	1,100
26th May	50	42	2,100				75	43	3,200
29th May				6	44	264	69		2,936
						<u>264</u>			

Total materials cost 4,880

Labour

Assembly : normal hourly rate 18 hrs @ €16.50 =	€	297.00
: overtime premium 4 hrs @ €8.25 =		33.00
Finishing: normal hourly rate 4 hrs @ €15 =		60.00
Total labour cost		<u>390.00</u>

Overheads

	Assembly	Finishing	Total
	€	€	€
Production overheads (x)	151,680	15,744	167,424

Overhead base

Direct labour hours (y)	19,200	7,680
Overhead absorption rate (x/y)	<u>€7.90</u>	<u>€2.05</u>
	Per labour hour	

Total cost of Job G170

	€
Direct materials	4880.00
Direct labour	390.00
Production overheads	
- Assembly: 18 hours @ €7.90	142.20
- Finishing: 4 hours @ €2.05	8.20
Total cost	<u>5420.40</u>

(15 marks)

(b) Price charged to customer for Job G1705

	€
Total job cost from (a) above	5420.40
Add 40% mark-up	2168.16
Selling price charged to customer	<u>7588.56</u>

(2 marks)

(c) Main differences between Weighted Average and LIFO

Any TWO of the following:

Using the weighted average method each time inventory is purchased an average cost per unit is calculated and this is used in pricing issues to production.

In periods of rising prices the weighted average method produces a higher profit figure than the LIFO method.

In periods of rising prices the weighted average method produces a higher inventory value than LIFO.

The weighted average method of inventory valuation is allowed by IAS 2.

Using LIFO the last inventory items purchased are first to be issued to production.

In periods of rising prices the LIFO method produces a lower profit figure than weighted average method.

In periods of rising prices the LIFO method produces a lower inventory value than weighted average method.

Any other relevant point.

(3 marks)

[Total: 20 marks]