ICSA
INTERNATIONAL

MANAGEMENT ACCOUNTING
JUNE 2009

SUGGESTED ANSWERS AND EXAMINER'S COMMENTS

IMPORTANT NOTICE

When reading these answers, please note that they are not intended to be viewed as a definitive "model" answer, as in many instances there are several possible answers/approaches to a question. These answers indicate a range of appropriate content that could have been provided in answer to the questions. They may be a different length or format to the answers expected from candidates in the examination.

EXAMINER'S GENERAL COMMENTS

- *Candidates' performance in the June 2009 examination was on a par with that in the previous examination diet in November 2008.*
- *In Section A of the examination (the ten short answer questions that test a broad range of the syllabus), student performance was generally good in both technical and discursive questions.*
- *However, candidates performed less well in answering questions in Section B. The longer questions and the more technical aspects created problems for many candidates.*
- *As in past examinations, many candidates reduced their chances of passing by failing to answer sufficient questions and by failing to answer all parts of a question. A number of candidates answered fewer than the required three questions in Section B. Additionally, they frequently failed to answer all parts of those questions that they did attempt.*
- *Where candidates had prepared fully for a particular part of a question, performance was generally good. This suggested that overall performance would be improved if all sections of the study text were fully studied and the examples worked through.*
- *As in previous examination diets, it is pleasing to comment that the majority of candidates showed their workings and this helped them gain marks for the application of correct principles even where the figures were incorrect.*
- *The standard of presentation, especially the tabular presentation of figures, was good.*

Lessons from this paper for future candidates are:

(i) Ensure that you prepare thoroughly for the examination by revising the study text, working through the examples and also working through past papers.
(ii) Answer the correct number of questions and ensure that you fully answer all parts of each question so that you maximise the marks.
(iii) Ensure that you read each question carefully and answer the question fully.

SECTION A

(Compulsory - answer all parts of this question)

1. Cais Ltd is a publisher that specialises in minority language and ethnic books. It has been in business for 55 years. Currently it publishes an average of one new book per fortnight, and it has an extensive back catalogue. The company has four divisions: commissioning, pre-press, book production and distribution. The company's year-end is 31 March.

The following short-answer questions relate to the company:

(a) Define the term 'notional cost', and provide two examples of such a cost. *(4 marks)*

SUGGESTED ANSWER

A notional cost is a cost used in product evaluation, decision-making and performance measurement to represent the cost of resources that have no conventional `actual cost´. For example, notional interest may be charged in the residual income measure. Another example of notional cost is the rent charged to departments for the use of office space that is owned by the organisation.

EXAMINER'S COMMENTS

The concept of 'notional cost' was properly described by most candidates, but fewer were able to provide more than one example.

(b) Cais Ltd currently uses a marginal costing system. Identify four limitations of such a system. *(4 marks)*

SUGGESTED ANSWER

Four limitations of marginal costing are:

(i) As more and more production costs become fixed, materials have become the only significant short-term variable production cost. This tends to limit the applicability of marginal costing.
(ii) It makes linear or straight-line assumptions about the behaviour of total revenue and total variable costs, and these assumptions may be invalid in practice.
(iii) Fixed costs are unlikely to be constant over the whole output range but step up or down as volume changes, for example, the introduction of a two shift system as output increases.
(iv) Using marginal costing as a basis for setting selling prices can be dangerous as all costs, including fixed costs, must be covered if a business is to be profitable.

EXAMINER'S COMMENTS

This question was fully answered and the issues are covered in the Management Accounting study text chapter 5.6.

(c) The output and cost figures for the book production division for the past year demonstrate the following high and low cost, and output figures:

Month:	**January**	**May**
Output (books)	**80,000**	**120,000**
Costs	**£540,000**	**£700,000**

Using the above figures, estimate the total production costs for July 2009 when the planned output is 115,000 books. *(4 marks)*

SUGGESTED ANSWER

	Output	Cost £
High (May)	120,000	700,000
Low (January)	80,000	540,000
Change (high-low)	40,000	160,000
VC per unit = £160,000/40,000 = £4 per unit		
Fixed cost (May) = £700,000 – (120,000*£4)= £220,000		
July = £220,000 + (115,000*£4) = £680,000		

EXAMINER'S COMMENTS

This question was very well-answered.

(d) The directors of the company are considering replacing the existing marginal costing system with an activity based costing (ABC) system. Suggest four areas where an ABC system can generate useful information. *(4 marks)*

SUGGESTED ANSWER

An ABC system can generate useful information in the following areas:

- It can be used to provide the costs needed for charging common services to users.
- The cost drivers used for ABC can be treated as non-financial performance indicators.
- By linking the costs of an activity to the cost drivers delivered, it forms an excellent basis for securing efficiency improvements and cost reduction.

- It can be used for securing more useful overhead budgets as these may be built up rationally by multiplying the planned volumes by the planned quantity of each cost driver consumed.

EXAMINER'S COMMENTS

This question was fully answered and the material is covered in the study text in chapter 9.

(e) Cais Ltd invested £80,000 in a desktop publishing system on 10 April 2009. Such investments qualify for the following capital allowances: a 40% initial allowance, and 20% annual writing down allowance. You are required to:

(i) Calculate the capital allowances that Cais Ltd can claim in each of the four years 2009/2010 – 2012/2013 to the nearest £.
(ii) If the system was to be scrapped in 2012/2013 with a zero disposable value, what would be the capital allowances in that year?
(iii) If the system was to be sold in 2012/2013 for £33,000, what would be the capital allowances in that year? *(4 marks)*

SUGGESTED ANSWER

(i)

Year	Calculation	Capital allowance	Written down value
	£	£	£
2009/2010	40% of 80,000	32,000	48,000
2010/2011	20% of 48,000	9,600	38,400
2011/2012	20% of 38,400	7,680	30,720
2012/2013	20% of 30,720	6,144	24,576

(ii) If the machine was to be scrapped in 2012/2013 with a zero disposal value, the balancing allowance would be (£30,720-£0) £30,720.

(iii) If the machine was to be sold in 2012/2013 for £33,000, the balancing charge would be (£30,720-£33,000) £2,280.

EXAMINER'S COMMENTS

Answers were variable. Generally, the first part was completed correctly but arithmetic errors underpinned many answers to the second and third parts. The subject is dealt with in chapter 18.7 of the study text.

(f) Cais Ltd binds hardback books in a stiff cloth cover that is cut from a sheet. The standard use of the stiff cloth cover per book is 0.1 square metres at a standard cost of 65 pence. Each sheet measures one metre by two metres. Output during April 2009 was 90,000 books, and 4,600 sheets were used at a cost of £12 per sheet during the month.

Calculate the material price and usage variances for April 2009.

(4 marks)

SUGGESTED ANSWER

Material price variance

Standard price per sheet = 65p*2sqm/0.1sqm = £13
(standard price per sheet – actual price per sheet)* actual number of sheets
= (£13 - £12) * 4,600 = £4,600 (F)

Material use variance

Standard number of sheets = (0.1 sq.m. * 90,000 books) / 2 sq.m. = 4500
(Standard number of sheets – actual number of sheets) * standard price per sheet
(4,500-4,600)*£13 = £1,300 (A)

EXAMINER'S COMMENTS

The methodology of the variance calculations was generally correct but several candidates committed some basic arithmetic errors in calculating the standard number of sheets.

(g) The directors of the company are interested in target costing, and have requested that you set out the main steps in the introduction of a target costing system. *(4 marks)*

SUGGESTED ANSWER

The main steps in target costing are:

(i) A product's market share is specified before it is designed.
(ii) The selling price necessary to capture the target market share is identified by market share.
(iii) The required profit margin is subtracted from target price to obtain the maximum acceptable long-term cost.
(iv) Technical effort plus value analysis and cost reduction techniques are employed in designing a product and production processes so as to achieve the target cost.

EXAMINER'S COMMENTS

There were many good answers but a proportion of candidates appeared to be ignorant of the key features of target costing. This is fully covered in chapter 17.4 of the study text.

(h) The company's summarised financial results for the year ended 31 March 2009 were:

	£000's
Sales	**7,053**
Operating profit	**2,010.6**
Capital employed	**8,170**
Cost of capital	**12%**

Using the figures in the table, calculate the company's return on capital employed %, net margin %, asset turnover rate, and residual income. *(4 marks)*

SUGGESTED ANSWER

ROCE = £2,010,600/£8,170,000* 100 = 24.6%
Net margin % = £2,010,600/£7,053,000 *100 = 28.5%
Asset turnover rate = £7,053,000/£8,170,000 = 0.86
Residual income = £2,010,600 – (0.12 * £8,170,000) = £1,030,200

EXAMINER'S COMMENTS

This question was well-answered.

(i) State four limitations of standard costing and variance analysis. *(4 marks)*

SUGGESTED ANSWER

Four limitations are:

(i) Standard costing does not fit in with the modern idea of continuous improvement. Standard costing emphasises the achievement of a targeted level of efficiency rather than the achievement of the highest level of efficiency.
(ii) The standard costing information process is slower to provide useful signals to production management than those obtained from the direct monitoring of production activity.
(iii) One danger is that the pursuit of favourable cost variances may result in the loss of quality.
(iv) Expressing deviations from plan in money terms may make it harder for managers to identify what corrective action is necessary.

EXAMINER'S COMMENTS

This question was well-answered and is fully covered in chapter 15.4 on page 280 of the study text.

(j) The company is considering producing and selling a monthly Welsh language magazine. The monthly fixed costs would be £3,500, with variable costs per copy amounting to £0.70. The selling price of each magazine would be £1.50, and budgeted sales are 5,000 copies per month. The company will invest £15,000 in this, and requires a 20% return on capital employed per year.

Calculate the monthly break-even level of output, the monthly output required to achieve the 20% return on capital employed, and the % margin of safety at the budgeted level of output. *(4 marks)*

SUGGESTED ANSWER

Unit contribution = £1.50 -£0.70 = 80p
Monthly break-even = Fixed costs/unit contribution = £3,500/80p = 4,375 copies

Monthly target return = (£15,000 * 0.2)/12 = £250
Monthly sales to achieve this return = (£3,500+£250)/80p = 4,688 copies
% margin of safety = (5,000-4,375)/5,000 *100 = 12.5%

EXAMINER'S COMMENTS

Almost all candidates calculated the monthly break-even correctly but some seemed to have difficulty with the calculation of the monthly target return, failing to divide the annual return by 12.

SECTION B

(Answer THREE questions from this section)

2. Braxia Steel Ltd is the main steel producer in the Kingdom of Braxia. The company is divisionalised, and its Steel Production Division is considering the construction of a new blast furnace that would replace the existing plant which currently produces 500,000 tons of steel per year at a variable cost of 50 Braxias (B) per ton, and an average cost of B80 per ton. The existing blast furnace has come to the end of its life as its production costs are high and its techniques outdated, and it is proposed to replace it. The Steel Production Division transfers 400,000 tons per year to the Tinplate Division at full cost of production, and it is assumed by the Steel Production Division that this arrangement will continue in the future. The remainder of its output is sold on the open market at B100 per ton.

Design work has already taken place for the new blast furnace and has cost B120, 000. If the new blast furnace is constructed, then the existing blast furnace will be closed, and one year after the new blast furnace is commissioned and seen to be producing steel reliably, the existing blast furnace will be demolished and the scrap parts sold for B500, 000. The new blast furnace will cost B40 million to construct and equip, and its annual output will be 720,000 tons. 400,000 tons will be transferred to the Tinplate Division at the new plant's average cost, and the remainder will be sold on the open market at B100 per ton. Its annual costs of production are estimated as follows:

	B000's	B000's
Variable costs:		
Materials	**11,000**	
Other variable costs	**21,000**	**32,000**
Fixed costs:		
Depreciation	**4,000**	
Other fixed costs	**14,760**	**18,760**
		50,760

Depreciation is based on a straight-line calculation over ten years. The blast furnace is expected to have a productive life of ten years.

It is intended to run down the stocks of raw materials in the existing plant. In consequence, it will be necessary to spend an additional B500,000 on stocks of raw materials before steel can start being produced in the new plant. At the end of the project, it is estimated that the additional stock of raw materials will generate cash proceeds of B500,000.

The company's profits are taxed at 20%, payable one year in arrears of the profits being earned. There are no capital allowances, but straight-line depreciation is accepted as a legitimate taxation expense by the authorities.

The company's cost of capital is 10%, and it requires all investments to be evaluated using net present value.

Recently, the Managing Director (MD) of Braxia Steel has completed an MBA course and, following this, has written the following memorandum to the Managing Directors of the Steel Making Division and the Tinplate Division:

Memorandum

To: ***S. Davies, MD Steel Making***
H. Higgins, MD Tinplate
From: ***T. Griffiths, MD***
Subject: ***Transfer Pricing***
Date: ***3 May 2009***

Currently, steel is transferred to the Tinplate Division at the budgeted full cost of production. However, I can see company-wide benefits in using a different transfer price, for example, the variable cost of production.

Can you let me have your views on this?

Present value factors r = 10%

Years hence	1	2	3	4	5	6	7	8	9	10	11
PV factor	.9091	.8264	.7513	.6830	.6209	.5645	.5132	.4665	.4241	.3855	.3505

Present value of annuity factors r = 10%

Years hence	1	2	3	4	5	6	7	8	9	10	11
PV annuity factor	.9091	1.7355	2.4868	3.1698	3.7907	4.3552	4.8684	5.3349	5.7590	6.1445	6.4950

REQUIRED

(a) Carry out an appraisal of the new plant over a ten-year period using net present value (NPV). Assume that 400,000 tons of steel are transferred to Tinplate at full cost. *(10 marks)*

SUGGESTED ANSWER

Year	Narrative	B000's	NCF B000's	10% factor	PV
0	Construction cost	-40,000			
	Stocks	-500	-40,500	1	-40,500
1	Sale of obsolete plant	500		.9091	454.55
1-10	Annual NCF				
	Revenue				
	Market 320,000*B100	32,000			
	Tinplate 400,000*B70.5	28,200			
		60,200			
	Costs	50,760			
	Net profit	9,440			
	Add back depreciation	4,000	13,440	6.1445	82,582.08
2-11	Taxation (9,440*0.2)		-1,888	5.5859	-10,546.18
11	Stock reduction	500		.3505	175.25
	NPV				32,165.7

Workings

Full cost = B50,760,000/720,000 = B70.5
Variable cost = B32,000,000/720,000 = B44.44
PV annuity Years 2-11 = 11 yr annuity – 1 yr annuity = 6.495-.9091 = 5.5859

EXAMINER'S COMMENTS

Most of the candidates who answered this question correctly calculated most aspects of the appraisal. Some failed to take out depreciation although this is, of course, a non-cash cost. Some also ignored the cash released by the stock reduction in year 11.

(b) Determine the impact on the NPV if steel is transferred to the Tinplate Division at the variable cost of production. *(5 marks)*

SUGGESTED ANSWER

If steel is transferred at VC: VC = B32000/720 = B44.44

	B000's
Original tinplate sales	28200
Sales at VC = 400,000 * B44.44	17777
Annual loss in sales	-10423
10 year annuity factor	6.1445
PV of loss in sales	-64044.12
Reduction in tax 0.2* 10423*5.5859	11644.37
NPV of loss in sales	-52399.75
NPV of project in a)	32165.7
Revised NPV of project	-20234.05

EXAMINER'S COMMENTS

Although many who attempted the question made a good attempt at part (a), very few attempted part (b). Of those who did, a minority attempted to calculate the effect.

(c) Write a reply to the MD of Braxia Steel, on behalf of the Steel Production's MD, dealing with the issues that he refers to in his memorandum of 3 May, 2009. *(5 marks)*

SUGGESTED ANSWER

The points that should be raised in the memo include:

Full cost transfer

The problem with this approach is that there is little incentive for the producing department to keep costs down, as it is able to charge the buying department with the full cost of producing the transferred products. Therefore, the costs of any production inefficiencies would be transferred from the selling division to the buying division. However, in this case, the market exerts a discipline on Steel Production as the division sells its additional production in order to earn a profit. In this case, full cost is B70.50 whilst market price is B100, providing a healthy profit margin of 29.5%.

Also, the full cost transfer price will convert the fixed costs of the seller into the variable costs of the buyer so that any break-even calculations by the buying division are incorrect when viewed from a company-wide perspective.

Variable cost transfer

This approach is unlikely to lead to efficient production unless budgeted costs are used. The approach will result in losses in the selling division as it will be impossible for it to make a profit. Indeed, in this case, this approach to pricing would convert the NPV of the proposed new blast furnace from B32.166 million to a negative B20.234 million. The losses on the transfer at variable cost to the Tinplate Division swamp the profits made by selling 320,000 tons of steel a year at a profit margin of 29.5%.

Additionally, there is a danger that the buying division may set prices at too low a level so that the revenue obtained may be insufficient to cover the group's costs.

EXAMINER'S COMMENTS

The answers to this question were weak even though the subject matter is covered fully in the study text in chapter 19, on pages 372 and 373. In consequence, many candidates who answered question 2 only gained marks on part (a) of the question.

3. Blackpress plc is a manufacturing business that specialises in the manufacture and sales of equipment for pets. Its latest model is the 'Homelocate 1', a miniaturised satellite navigation system that is fitted to pet dogs and cats so that owners can easily locate their lost pets. The company has set up a separate profit centre for the Homelocate 1 product. The standard cost per unit is shown in the following table:

Standard cost per unit:	£
Microchip circuitry	15
Transmitter	32
Direct labour: one hour at £10	10
Variable overheads: one hour at £5	5
	62

Fixed overheads are estimated at £190,000 per month, and these costs include depreciation of £11,000 per month. Additionally, machinery is leased at a cost of £13,000 per month.

Unit sales over the ten-month period from March 2009 to December 2009 are as follows:

Month	Units	Month	Units
March	9,500	August	10,500
April	9,000	September	9,500
May	9,500	October	9,000
June	10,000	November	9,000
July	10,000	December	9,000

The selling price is £80, with a discount of 5% being offered to customers paying within one month. All accounts are expected to be settled in two months. Receipts are expected to be phased as follows:

	%
Month of sale	55
One month after sale	45

Finished goods stocks are valued on a marginal costing basis, and amounted to 2,000 units at the end of May 2009. Company policy is to aim for stocks of finished goods at the end of each month to equal 20% of the following month's expected sales.

Raw materials stocks are estimated to be 5,000 microchip circuitry units and 5,000 transmitter units at the end of May 2009. It is company policy to aim for stocks at the end of each month to be equivalent to 40% of the following month's production requirements.

Creditors for raw materials are paid at the end of the month following the month of purchase. Direct wages are paid in the month in which they are incurred. Variable overheads are expended 50% in the month of production,

and 50% in the month after. Fixed overheads are all paid in the month following the month in which they are incurred.

Other balances at 31 May 2009 are:

	£
Creditors:	
Microchip circuitry	**142,500**
Transmitter	**304,000**
Variable overheads	**23,750**
Fixed overheads	**179,000**
Debtors	**326,125**
Cash and bank balances in hand	**45,000**

The company sells to a range of customers including pet shops and supermarkets. It has established itself in the market as a supplier of a range of products noted for their quality and reliability. The company sends out its representatives to visit its customers on a regular basis, and it has noticed that some of its customers are much more profitable than others.

REQUIRED

(a) Prepare monthly cash budgets for the three months from June 2009 to August 2009, to the nearest £. *(13 marks)*

SUGGESTED ANSWER

Production Budgets (units)

	June	July	Aug	Sep
Sales	10,000	10,000	10,500	9,500
Add closing stock	2,000	2,100	1,900	1,800
	12,000	12,100	12,400	11,300
Less o/ stock	2,000	2,000	2,100	1,900
Production	10,000	10,100	10,300	9,400
Purchases *				
Production	10,000	10,100	10,300	
Add c/stock	4,040	4,120	3,760	
	14,040	14,220	14,060	
Less o/stock	5,000	4,040	4,120	
Purchases	9,040	10,180	9,940	
	£	£	£	
Purchase Unit cost	47	47	47	
Total purchases £	424,880	478,460	467,180	
Month paid	July	Aug	Sep	

* The purchases of both raw materials are combined here.

	June	July	Aug
	£	£	£
Variable overhead	50,000	50,500	51,500
Payable			
in month	25,000	25,250	25,750
previous month's	23,750	25,000	25,250
	48,750	50,250	51,000
Sales			
cash in month	418,000	418,000	438,900
Previous month's*	326,125	360,000	360,000
Receipts	744,125	778,000	798,900

*June's previous month is given by the 'debtors' figure but some candidates took 45% of May sales, which was accepted in marking.

Cash Budget	June	July	Aug
	£	£	£
Receipts	744,125	778,000	798,900
Payments			
Materials	446,500	424,880	478,460
Wages	100,000	101,000	103,000
Variable overhead	48,750	50,250	51,000
Fixed overhead	179,000	179,000	179,000
Lease	13,000	13,000	13,000
	787,250	768,130	824,460
Net cash flow	-43,125	9,870	-25,560
Balance b/fwd	45,000	1,875	11,745
Balance c/fwd	1,875	11,745	-13,815

EXAMINER'S COMMENTS

A high proportion of candidates answered this question and some produced very accurate cash flow statements. A common mistake was the failure to undertake the prior stages before the cash budget: that is, the preparation of production budget and purchases budget prior to the cash budget. The adjustments required for the sales receipts and overheads were calculated correctly by the majority of candidates.

(b) Discuss customer profitability analysis, and explain the benefits that Blackpress plc could derive from assessing customer profitability.

(7 marks)

SUGGESTED ANSWER

Customer Profitability Analysis (CPA) may be defined as the analysis of the revenue streams and service costs associated with specific customers or customer groups. Shapiro et al. (1987) have suggested that costs involved with individual customers can be analysed into the following causes: pre-sale costs (e.g. level of sales effort required), production costs (e.g. order size), distribution costs (e.g. the required rapidity of delivery), and post-sales costs (e.g. providing after-sale staff training).

Once a company knows which of its customers are most and least profitable it can set about improving overall profitability by:

(i) Directing sales effort to high profit customers with the aim of retaining them.
(ii) Taking action to improve the profitability of low profit customers. Again this may be achieved by focussing aspects of marketing on them.
(iii) Loss making customers can be identified and can be charged more in an effort to make them profitable, knowing that if they go elsewhere we will not lose too much. Additionally, it may be possible to reduce expenditure on this group, thereby converting into profitable customers.

It can also make use of activity based costing to help it identify the main cost drivers and thereby the costs of dealing with specific customer groups.

EXAMINER'S COMMENTS

Answers to this question were very mixed in quality, yet the subject is covered fully in the study text chapter 16, pages 303-306.

4. RRE Ltd re-surfaces Class A roads for a range of local authorities, but the number of new contracts won by the firm has fallen in recent years. In response to this disappointing trend, a new Managing Director, Joe McAdam, has been appointed to increase contract volumes.

The budgeted surfacing area for April 2009 was 16,000 square metres, and the standard cost card per 100 square metres of Class A road resurfaced was as follows:

	£
Material (200 litres at £6 per litre)	1,200
Labour (80 hours at £8 per hour)	640
Variable overheads, including plant operating costs (80 hours at £4 per hour)	320
Fixed overheads (80 hours at £12 per hour)	960
	3,120
Average contract price per 100 square metres	3,600
Standard profit per 100 square metres	480

Overheads are absorbed on the basis of labour hours, and the company uses total absorption costing.

The original budgeted surfacing area for April was 16,000 square metres, but Mr McAdam was able to gain additional contracts that raised the actual surfacing area to 20,000 square metres. However, he did not alter the standard cost card. Staffing was not increased as Mr McAdam was of the view that past budgets had been set at levels that were easy for employees to achieve. In his view, budgets should motivate employees by challenging them with higher output targets. He also sourced raw materials from a different supplier, who promised just-in-time delivery, in an attempt to reduce waste. He has also started to reduce the company's fixed overheads.

The actual results for April 2009 were as follows:

	£
Material (39,000 litres at £6.20 per litre)	241,800
Labour (15,200 hours at £8 per hour)	121,600
Variable overheads	61,000
Fixed overheads	155,100
	579,500
Revenue	720,000
Net profit	140,500

REQUIRED

(a) Calculate the variances for April in as much detail as the figures permit. Using your variances, prepare a statement reconciling the budgeted profit to the actual profit for April 2009. *(10 marks)*

SUGGESTED ANSWER

Variances

		£	£
Materials			
Price	(£6-6.20)*39,000	7,800 (A)	
Use	(40,000-39,000)*£6	6,000 (F)	1,800(A)
Labour			
Rate	(£8-£8)	0	
Efficiency	((80*200)-15,200)*£8	6,400 (F)	6,400(F)
Variable ohd.	(200*£320) - £61,000		3,000(F)
Fixed ohd.	(200*£960) - £155,100		36,900(F)
Total cost vce.			44,500(F)
Sales variances			
Price	(£3,600-£3,600)	0	
Volume	(200-160) * £480	19,200(F)	19,200(F)
Total variances			63,700(F)
Reconciliation			
Budgeted profit	(£480* 160)		76,800
Variances			
Favourable		71,500(F)	
Adverse		7,800(A)	63,700(F)
Actual profit			140,500

EXAMINER'S COMMENTS

Many of the candidates who tackled this question were able to calculate most of the variances correctly.

(b) Discuss Mr McAdam's view on the motivational aspects of budgets.

(4 marks)

SUGGESTED ANSWER

- Budgets and budgetary control are not neutral in that they are intended to modify managers' behaviour to achieve the aims of the organisation.
- Certainly, the higher targets for the period may well stimulate employees' attitudes and help raise their aspiration levels.
- The variances for the period are almost wholly significant and favourable and they should reinforce the positive impact of higher aspiration levels.
- This organisation appears to be authoritarian and so the top-down approach may well be appropriate for setting budget targets. It is unlikely that a participative style of budgeting would succeed in this organisation as such an

approach requires a democratic style of management with high levels of mutual trust.

EXAMINER'S COMMENTS

Answers were generally weak. The issues surrounding the motivational aspects of budgets are discussed on pages 242-245 of the study text.

(c) Using the information in the question, and your results in part (a), comment on the possible causes of the variances. *(6 marks)*

SUGGESTED ANSWER

The material price variance is unfavourable and this may reflect the contract with the new supplier. The higher price may reflect the superior just-in-time service now received.

The material usage variance is favourable and this is consistent with a reduction in waste, one of McAdam's objectives in changing supplier.

The labour efficiency variance is favourable, which reflects the higher levels of efficiency achieved in completing 20,000 square metres rather than the usual 16,000 square metres. This is the result of McAdam's increase in the monthly target.

The favourable fixed overhead variance reflects the higher level of output with more fixed overhead being absorbed than was budgeted for the period. The actual fixed overhead incurred is higher than the budget so it does not appear that McAdam has been able to reduce fixed overheads.

The sales volume variance is favourable – for the same reason, the higher levels of output achieved in order to gain the additional contracts.

EXAMINER'S COMMENTS

Those candidates who attempted this question generally commented appropriately on the possible causes of the variances.

5. The Suburbia Health Centre was opened in 2004, and provides health services for the population of Suburbia. The Health Centre is substantially funded by the government.

Detailed information relating to the Health Centre for the year to 31 March 2009 is as follows:

The Health Centre was open for five days per week throughout the year, but closed for a total of ten public holidays, leaving it open to the public for 250 days in 2008/2009. It employed three doctors, three nurses, one practice manager, and two part-time administrators/receptionists.

The centre covers a registered patient population of 6000, with a patient mix as follows:

Children (<18)	**20%**
Adults (18-<60)	**50%**
Senior citizens (60+)	**30%**

On average, each doctor treats 17 patients per day when on duty. It has been established that the maximum number of patients that a doctor can treat in a day is 20, but only for short periods of time. Doctors take 30 leave days per year, in addition to the ten public holidays per year.

Statistical information on patient services during 2008/2009 is as follows:

Vaccinations	
Proportion of patients requiring vaccinations during the year	**17%**
Number of these in respect of children or senior citizens	**275**
Consultations	
Number of consultations with a doctor at the centre in 2008/09 (excluding vaccinations and health screening initiatives)	**11000**
Prescriptions	
Number of prescriptions written (in 2007/08, 3500 prescriptions were written)	**3200**
Number of these in respect of children or senior citizens.	**1500**

The nursing staff undertake vaccinations and health screening.

Income during the year was as follows:

The Health Centre received the bulk of its income from the Suburbia Assembly Government, using the following tariffs:

£40 per registered patient.
£37 per doctor/patient consultation (excluding screening and vaccinations).
£20 per vaccination of children and senior citizens.
£10 per written prescription.
£15 per prescription in respect of any reduction in the number of prescriptions as compared with the previous year.

£25 per prescription penalty for any increase in the number of prescriptions as compared with the previous year.
A £20,000 health screening initiative aimed at the early detection and prevention of heart disease and Type B diabetes. 500 patients attended these sessions in 2008/09.

Additionally, the Health Centre charges each adult £25 per vaccination and £8 per prescription.

Costs for the year are shown in the following table:

	£
Staff costs	**Annual salary**
Doctor	**75,000**
Nurse	**37,000**
Practice manager	**48,000**
Part-time administrators/receptionists	**14,000**
Additionally, employers' national insurance and superannuation contributions add a total of 22% to staff costs.	
Office costs	**95,000**
Materials and consumables (including vaccinations and health screening.)	**49,500**
Depreciation	**23,500**

The net assets of the Health Centre are £470,000, and the practice manager seeks a return on capital employed (after depreciation) of 12% per year.

REQUIRED

(a) Prepare a summary profit and loss account for the Suburbia Health Centre for the year ended 31 March 2009, and the return on capital employed. *(9 marks)*

SUGGESTED ANSWER

Suburbia Health Centre
Profit and Loss Account for year ended 31 March 2009

Revenue	£	£
Government		
Registered patients (£40*6,000)	240,000	
Consultations (£37*11,000)	407,000	
Vaccinations (£20*275)	5,500	
Prescriptions (£10*3200)	32,000	
Prescription reduction (£15*300)	4,500	
Health screening initiative	20,000	709,000
Private		
Vaccinations (£25 * ((17%*6,000)-275))	18,625	
Prescription (£8*1,700)	13,600	32,225
		741,225
Costs		
Staff: Doctors £75,000*3*1.22	274,500	
Nurses £37,000*3*1.22	135,420	
Manager £48,000*1.22	58,560	
P/T £14,000 * 2* 1.22	34,160	502,640
Office costs	95,000	
Materials & consumables	49,500	
Depreciation	23,500	168,000
		670,640
Net profit		70,585
ROCE = 70,585/470,000 * 100 = 15%		

EXAMINER'S COMMENTS

Answers to part (a) were very mixed. Some candidates did very well but others found difficulty with some of the calculations, particularly relating to the vaccination income and the calculation of total staff costs.

(b) Explain five non-financial performance indicators that may be used to assess the quality of service provided by the Health Centre. *(5 marks)*

SUGGESTED ANSWER

The non-financial performance indicators that may be used are:

(i) The length of time that patients have to wait before they can see a doctor.
(ii) The reception area, its ambience and the friendliness and professionalism of reception staff.
(iii) The percentage of patients who leave the centre for another practice may indicate dissatisfaction with the quality of the service.
(iv) The centre's success rates in treating patients.

(v) The percentage of appointments that were rearranged at the request of the health centre. Patients may regard rearranged appointments as an indicator of a lower level of service.

EXAMINER'S COMMENTS

The subject of non-financial indicators is discussed in chapter 16 of the study text.

(c) One of the doctors has announced his intention to retire on 30 September 2009. Determine the extent of service shortfall available for the remainder of the year, when doctors may treat up to 20 patients per day for short periods of time.

The Health Centre could appoint a part-time doctor at £500 per day (inclusive of national insurance and superannuation), or a replacement full-time doctor at a salary of £60,000 per year with effect from 1 October 2009. What are the financial and non-financial issues that the practice manager should consider in making this decision? *(6 marks)*

SUGGESTED ANSWER

Number of consultations in 2008/2009	11000
Consultations per day	11000/220 = 50 per day
From 30 September	50 per day
2 Doctor workload	34 per day
Shortfall	16 per day
2 Doctors working at 20 per day each	40 per day
Shortfall	10 per day

Clearly, additional staff are required.

The two options are to appoint a new doctor or make use of part-time staff. The demand indicated in the table suggests that an average of 50 consultations per day will continue in the long-term, so the staff requirement is a long-term one. A replacement doctor would cost £60,000 * 1.22 = £73,200 in a full year. Part-time staff would cost £500 * 220 days = £110,000. On financial grounds, part-time staff are too expensive on a long-term basis, so the centre should recruit a new doctor.

Additionally, a full-time permanent doctor would provide more continuity with patients.

EXAMINER'S COMMENTS

Very few candidates answered this part of the question; those who did generally discussed the key issues.

6. CUPC Ltd is a retailer that specialises in the sales of computers and IT software. It also offers a home-based installation system and carries out repairs.

Budgeted average selling prices and variable costs are as follows:

	Computer sales	IT sales	Installation	Repairs
Average selling prices	**£450 per computer**	**£110 per package**	**£150 per installation**	**£60 per hour**
Variable costs				
Purchases	**£320**	**£80**		**£10 per hour**
Sales commissions	**10%**	**12%**	**15%**	
Labour costs			**£55 per unit**	**£25 per hour**
Budgeted monthly sales units	**300**	**240**	**120**	**280 hours**

Monthly fixed costs are:

Business rates, heat and light £8,000.
Sales staff basic salaries £12,000.
Management and administrative costs £8,500.

The remuneration systems for different groups of staff are as follows:

Sales staff are employed on a basic salary, plus a commission related to sales value.
Installation is carried out by staff who are paid a fixed fee per installation.
Repair staff are paid at a fixed rate per hour for the time spent on repair work.

The company's budgeted capital employed is £862,500, and its cost of capital is 13% per annum.

REQUIRED

(a) Prepare a budgeted monthly operating statement in a marginal costing format. *(10 marks)*

SUGGESTED ANSWER

Budgeted Monthly Operating Statement

	Computers	IT	Installation	Repairs	Total
Quantities	300	240	120	280	
	£	£	£	£	£
Sales	135,000	26,400	18,000	16,800	
Variable costs					
Purchases	96,000	19,200		2,800	
Commission	13,500	3,168	2,700		
Labour			6,600	7,000	
Total VC	109,500	22,368	9,300	9,800	
Contribution	25,500	4,032	8,700	7,000	45,232
Fixed costs					
Bus. Rates etc.				8,000	
Sales staff salaries				12,000	
Management & admin.				8,500	28,500
Net Profit					16,732

EXAMINER'S COMMENTS

This question was answered well by most of the candidates who attempted it. Some failed to calculate the product contribution although this would have been of value to management.

(b) Calculate the company's budgeted annual return on capital employed and residual income. *(4 marks)*

SUGGESTED ANSWER

Budgeted ROCE = (annual profit/capital employed*100)
= (16,732*12=200,784/862,500*100) = 23.3%

Budgeted residual income = annual profit – (capital employed * cost of capital)
= £200,784 – (£862,500*.13) = £200,784-£112,125 = £88,659

EXAMINER'S COMMENTS

This question was well-answered and is covered in the study text on pages 361-366.

(c) Set out the advantages and disadvantages of residual income as a divisional performance measure. *(6 marks)*

SUGGESTED ANSWER

Advantages:

- Residual income is calculated by charging an investment centre with the cost of capital that it employs i.e. a notional or imputed interest charge is made. The division's performance can then be measured by comparing the profit it makes, after the interest charge, with a pre-set target, and is therefore more consistent with the NPV criteria.

- It is more difficult to manipulate than ROCE and should, therefore, encourage closer congruence between the goals of divisional managers and those of the company. This is because divisional managers will be encouraged to seek out those investments that return more than the cost of capital.

Disadvantages:

- However, the measure will not encourage managers to dispose of obsolete but fully written down assets unless the capital charge is calculated on the replacement cost of the fixed assets concerned.

EXAMINER'S COMMENTS

The answers to this question were very disappointing. The topic is very fully covered in the study text on pages 361-366.